

The Evolution of Modern Humans in Africa: A Comprehensive Guide

Pamela R. Willoughby

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The Evolution of Modern Humans in Africa: A Comprehensive Guide has two main objectives—to reassess the role of Africa in the later stages of human evolution and to re-evaluate the African evidence for the earliest modern humans on its own merit. These are laudable goals considering, as Willoughby notes in her preface, that the African evidence has traditionally played a minor role in debates surrounding the origins and evolution of our own species. Willoughby sets the stage in Chapter 1 (A People Without History) with a general overview of major topics currently debated in human origins research, such as how best to define anatomical *versus* behavioral modernity, and issues surrounding the origin of language and symbolism. She compares attempts to understand the earliest humans to the early anthropological treatment of non-Western peoples who were judged solely by comparison to European civilizations. Of course they never measured up, just as the earliest evidence for *Homo sapiens* in Africa is not best served by judging it against standards set by the European Upper Paleolithic.

The rather recent shift in anthropological thought from viewing Africa as a supporting actor in the story of our origins to that of the lead player is succinctly summarized in Chapter 2 (Historical Perspectives: The Place of Humans in Nature). Following these two introductory chapters, the book is organized according to the different lines of evidence that contribute to studies of human evolution, including chapters on palaeoenvironments, dating methods, genetics, fossils, and archaeology. The sheer density of technical background material combined with the site-by-site, region-by-region approach gives this book an encyclopedic feel that may not appeal to a non-specialist audience hoping for a story-book account of modern human evolution, yet it is sufficiently detailed to be used as a text in paleoanthropology courses.

Whether Willoughby aimed for a general or student audience, certain sections could have benefited from a tighter focus. For example, Chapter 3 (The Palaeoenvironmental Context) provides a lengthy discussion on Quaternary environmental change in Africa, yet it is only in the final paragraphs of the chapter that the reader is finally confronted with the question of how such environmental fluctuations could have affected humans across the landscapes of Africa. To a non-specialist or a student new to the discipline the relevance may not be readily obvious; the wealth of information presented is at times overwhelming without direct and frequent ties to the central topic of the book—modern human evolution in Africa. An inter-

disciplinary approach to the study of human evolution is surely required and Willoughby is to be commended for not skimping on the supporting details of the plot, but the manner in which these data relate to the story of our origins should not lie buried in the tail end of a chapter.

In Chapter 4 (The Chronological Framework) Willoughby provides an excellent review of chronometric dating methods. These are nicely described in a manner that can be readily understood without a degree in physics. She also explains how specific advances in methodology over the past two decades have shaped our present views of human evolution—a key addition that will surely help students to place into context some older publications they may encounter. With Chapter 5 (Out of Africa: When and How Many Times?) the book moves away from the background evidence to more direct evidence of human evolution, that is, genes, bones, and stones. As an introduction, Willoughby reviews the major models of modern human origins, briefly addressing the entire spectrum of models as well as the two polarized extremes—Recent Out-of-Africa and Multiregionalism. Chapter 6 (Mitochondrial Eve and the Middle Stone Age) contains a concise and informative review of a wide array of genetic evidence gathered in recent years, including studies of the genetic diversity found among and across living populations, analyses of ancient DNA from both early modern humans and Neandertals, research on Y-chromosomes, and even the genetics of a few parasites closely associated with humans. Throughout this chapter Willoughby highlights the huge variety of genetic studies that have recently been conducted. Amidst this wealth of information, the take home message this time is made abundantly clear—Africa has contributed substantially to all living human populations.

The following four chapters demonstrate that there does exist a wealth of evidence for early humans in Africa, as long as one takes the time to search through over a century's worth of dusty publications and site reports as Willoughby has obviously done. The book is worth a look merely for its comprehensive list of localities across all regions of Africa, including often over-looked central and west Africa. Some of the sites will be well-known even to non-specialists thanks to recent media attention, while others contain material that seems to have been mostly forgotten by the greater palaeoanthropological community. In a few instances, such as Mumbwa Cave in Zambia (Pearson et al. 2000) and Lukenya Hill in Kenya (Gramly and Rightmire 1973), the presence of human remains was not noted even though the archaeological evidence from these sites

was discussed. The early Late Pleistocene site of Sea Harvest in Saldanha Bay, South Africa (Grine and Klein 1993) was excluded altogether. Yet overall omissions were few and far between; this book succeeds in presenting a truly comprehensive guide to the African sites relevant to discussions of modern human evolution.

While the site-by-site approach within the fossil (Chapter 7: The Fossil Hominin Evidence) and archaeology (Chapter 8: The Archaeological Evidence from North Africa, Chapters 9 and 10: The Archaeological Evidence from Sub-Saharan Africa) sections seems, at first glance, reasonable and convenient given the large volume of material discussed in the book, in practice it drowns the pertinent questions and makes it difficult for readers to synthesize the information. Numerous sites contribute both fossils and artifacts to the story of modern humans in Africa, but by giving each of these a separate treatment in different chapters it becomes difficult to form the big picture of what was going on across the continent within any specific time interval. Willoughby herself acknowledges “the need to look at information from many allied sciences” (p. 322), but merely accumulating this information between the covers of one book is not enough. This book heads down the path of integration in paleoanthropology, but fails by succumbing to the easier (and more traditional) division of bones and stones, elements that lie at the very heart of our discipline. The result is a comprehensive site list for the African continent supplemented by discussions of supporting evidence, instead of a comprehensive synthesis of later human evolution in Africa.

The book concludes with a brief review of the issues inherent in defining behavioral modernity. As Willoughby points out, regardless of how culture is defined and of what proxies or traits are used to identify culture in the more distant past, the key feature of humanity seems to be our capacity for diversity of culture. Here the journey comes full circle as Willoughby explains, as others have before her, that it is unwise to use a single culture (i.e., the European Upper Paleolithic) to understand the origins and evolution of this defining aspect of our species. Instead we should look for signs of cultural flexibility across the landscapes of Africa’s dynamic past. While the book makes the point that a wealth of bones and stones has already been unearthed across Africa, it also serves to remind us that “there are still many regions of the continent that have never been visited by archaeologists or palaeontologists, let alone studied in detail” (p. 330–331).

In the age of readily available tools such as Google Earth®, it was a nice touch to include the geographic coordinates for the sites. Overall the site descriptions and

supporting evidence are well-referenced and up-to-date throughout the book. The inclusion of page numbers accompanying each citation will surely be appreciated by serious readers who wish to delve deeper into a specific topic. However this habit became cumbersome at times, notably within site descriptions where it is frequently the case that a site is documented by a single publication. Another minor criticism is the frustratingly poor quality of the black and white photographs, especially those of sites and archaeological remains. In a typical example in Figure 9.4 (p. 266), one can barely see the Mlambalasi rock-shelter in the upper image or differentiate the stone flakes from the surrounding leaf litter in the lower image. This undoubtedly represents an attempt to make the book more affordable, but in many cases it would have been preferable to omit photographs altogether. The vegetation maps in Chapter 3 were similarly unclear with only the faintest difference in shades of gray used to demarcate vegetative zones. Also given the heavy focus on individual sites, an index organized by site name would have been a welcome addition, enhancing the functionality of the book as a desk reference or student text.

These minor qualms aside, Willoughby has pulled together a large body of evidence that firmly puts to rest the notion that Africa did not contribute significantly to the story of modern human evolution. *The Evolution of Modern Humans in Africa: A Comprehensive Guide* does not disappoint as a truly comprehensive guide to the African fossil and archaeological record of later human evolution. Moreover, the substantial background chapters on paleoenvironments, dating, and genetics, combined with an exhaustive review of sites, make this a suitable textbook, and a helpful starting point for more in-depth studies, as well as a useful desk reference for the specialist who might occasionally need to refresh his or her memory regarding the basic details of a site (or two).

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