

BOOK REVIEW

What Teeth Reveal About Human Evolution. Debbie Guatelli-Steinberg. Published in Cambridge by Cambridge University Press, 2016. pp. 287. Illus. Indexed. ISBN 978-1-118-84543-1, Price: US\$54.99 (paperback); ISBN 978-1-107-44260-3.

As some of the most durable tissues of the skeleton, teeth are often better preserved than much of the rest of the body and represent more common fossil finds at paleoanthropological sites. In addition, they provide a plethora of information about biological or phylogenetic relationships, dietary reconstruction, growth and development, and decay. “What Teeth Reveal about Human Evolution” is an accessible account of what we can, and have, learned from studying teeth across the fossil and skeletal record of our hominin ancestors. Writing in a friendly and personal style, Debbie Guatelli-Steinberg presents the long history of the human lineage from the earliest hominins to modern humans through their teeth. The book is laced with her understanding of this extensive and often contested history and is informed by her own work throughout.

The book is divided into two sections based on broad temporal or genera distinctions, that is, early versus late hominins, or Australopithecines (and *Paranthropus*) versus *Homo* species. Within these major divisions each of the ten chapters addresses the defining characteristics and primary information that teeth have informed us about fossil species, crafting the larger story of the interpretations about the evolution of hominins. Chapter 1 builds the background about what teeth can tell us from fossil specimens and introduces the broad sweep of our evolutionary history. This is followed by a focus on the Australopithecines and Paranthropines, how they lived, and what they ate. Chapter 3 pays special attention to the issue of canines, and what they mean in these early species with regard to diet, jaw architecture, and sexual selection. Chapter 4 closes out the first part of the book by delving into how we know that juvenile growth periods were much faster among early hominins than among modern humans. The second part of the book opens with a similar introduction and outline for the evolution of the genus *Homo*. Chapter 6 focuses on the interrelationships between tooth size, diet, and the beginning of an evolution of culture across early *Homo* species.

Chapter 7 again returns to issues of development as among the Australopithecines, but also introduces longevity for early *Homo*. Chapters 8 and 9 focus on the diversity of information gained from studying Neanderthal and modern *Homo sapiens* teeth respectively. These chapters address issues like origins and phylogeny, diet and dental disease, and adaptations and life history. The final chapter serves to summarize the book’s main points and bring Dr. Guatelli-Steinberg’s appreciation for, and perspective on, our dental evolution to the present, and into the future for dental paleoanthropology.

The book is designed for undergraduates and non-professionals, but I think that it provides sufficient detail across the breadth of hominin dental studies that it would also offer a good reference piece for professionals and academics that focus on related research topics. “What Teeth Reveal about Human Evolution” is ambitious in its consideration of a significant diachronic perspective (~7 my), the ability to introduce and integrate the variety of perspectives that paleo-dental studies can provide, and the capacity to translate and collate that information for an audience generally lacking specialized knowledge. This book would work well in undergraduate courses on human evolution and as a supplementary companion to graduate seminars in related topics.

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