

Preface



Contemporary biological anthropology is a dauntingly broad field. It studies humans in the same way that zoologists study their subject species—from a perspective that includes *all* aspects of the species' biology and that emphasizes the interrelationships among those aspects. In addition to encompassing the traditional topics of the human fossil record and human biological variation, bioanthropology includes primatology, modern technologies in molecular genetics, human demography, disease and medical issues, development of the individual, life histories, and such applications as forensic anthropology. Bioanthropology also appreciates that our cultural behavior is an integral part of our behavior as a species.

No wonder, then, that I (and others I have spoken to) have had difficulty in covering the entire field in a one-semester course. We have ended up leaving out important aspects (or paying them little more than lip service), or we have sacrificed the sense of bioanthropology as an integrated whole for a rushed and encyclopedic inventory of all the field's current topics.

As modern bioanthropology increased in breadth and complexity over the past several decades, so too did the size and detail of introductory texts. Several are now more than 600 pages long. Attempts to produce shorter introductory texts have consisted of simply cutting out parts of these tomes, resulting in rather uneven, sometimes oddly organized, presentations of the field.

I wrote this text in order to present a diverse scientific field to beginning students. Here are the major assumptions that guided my writing:

- Because this is a text for introductory courses, I have tried to reduce the field to its most basic information. No part of the discipline has been left out; instead, I have achieved brevity by managing the level of detail and including only the information necessary to clearly and accurately convey the basic themes, theories, methods, and facts of bioanthropology.

- The text assumes that students have limited background knowledge of the material and little understanding of what science is and how it works. The text *explains* rather than simply itemizes facts and ideas, and it does so, as much as possible, in a narrative format. A lesson from the study of folklore is that a story is far more easily understood and retained than is a list of facts.
- I want students to feel that they are reading a text written by a real person who has participated in the field. I have tried to achieve a balance between informal and formal styles, and I have not shied away from the occasional colloquialism or personal comment.

FEATURES

I've included a number of features that I hope will make this text a more useful learning tool for students.

- *I use the scientific method as a theme throughout the book to demonstrate the integrity and nature of bioanthropology.* I describe the scientific method and then, because this is anthropology, compare science with knowledge garnered from belief systems, discussing the relationship of these two spheres of inquiry within cultures. I try to show specifically how scientific reasoning has provided us with the knowledge we have about the topics in bioanthropology. For example, I present extended discussions of bipedalism and the issue of modern human origins by posing questions, suggesting answers, and then testing the logic of and evidence for those answers.
- *The text is organized to help students navigate their way through what is still a fairly hefty amount of information.* To help students feel a little less at sea in the midst of new facts and ideas, I regularly refer back to previous topics and ahead to topics that will be covered. The headings I use as signposts are as descriptive as possible (for example, "Natural Selection: The Prime Mover of Evolution").
- *Within chapters, a consistent format helps students better understand material new to them.* Each chapter starts with an **introduction**, which sets the stage and context for what's to come, followed by a series of **questions** that the chapter will answer. Because science proceeds by asking and answering questions, this format is also used within the body of the text. A **Contemporary Reflections** box examines a topical application of each chapter's themes and ideas. **Key terms** are boldfaced in the text and defined in the margins at their first appearance. Each chapter concludes with a list of key terms and a **summary**

that not only recaps the important points of the chapter but also provides some new ideas and thoughts that help put the chapter into context within the whole discipline. Also concluding each chapter are **questions for further thought**, which are designed to help students explore the real-world ramifications of the chapter's topics. And a list of **suggested readings**, made up mostly of nontechnical works, tells interested students where to find more information on the material discussed.

- There is an Appendix that focuses on population genetics and an Exercises section that allows students to try their hand at applying the concepts of Mendelian genetics, taxonomy, skeletal identification, and population genetics.
- *Two glossaries, a reference list, and a comprehensive index make information more accessible.* A Glossary of Human and Nonhuman Primates, with pronunciations for each term, defines and describes the taxonomic groups discussed in the text. In addition to the running glossary within chapters, a comprehensive Glossary of Terms appears at the back of the book. The References section contains complete sources for the suggested readings and also lists technical works referred to within the text. The Index helps students access information quickly.
- *The text's visual appeal enhances its readability.* Detailed, colorful charts and drawings, as well as full-color photographs, underscore significant points in the text. Captions for the artwork add information rather than simply label the pictures.

WHAT'S NEW IN THIS EDITION?

- Chapter 1, "Biological Anthropology," includes an improved and clarified discussion of the nature and process of science.
- Chapter 2, "The Evolution of Evolution," carries the history of evolutionary thought into the twentieth century.
- Chapter 3, "Evolutionary Genetics," updates information on the human genome.
- Chapter 5, "The Origin of Species and the Shape of Evolution," now has a discussion of evolutionary developmental biology ("evo-devo") and how it may contribute to our understanding of evolutionary change.
- Chapter 7, "The Primates," explains my acceptance of a cladistic taxonomy for the primates, with a focus on the use of *hominin* for humans and our ancestors, the bipedal primates.

- Chapter 8, "Primate Behavior and Human Evolution," includes some new studies of behavior and behavior diversity in chimpanzees.
- Chapter 9, "Studying the Human Past," adds some detail to the discussion of dating techniques and better organizes the table listing those techniques. There are also some updates in the discussion of the genetic differences between humans and our closest relatives.
- Chapter 10, now "Evolution of the Hominins," reorganizes the discussion of early fossils to separate well-accepted taxa from the more controversial ones. Most notably, I suggest in the last section of the chapter, "Putting It All Together," that our early fossil record might be more complex than we had thought and that there might be bipedal forms not directly connected to hominin evolution. New information on the nature of human bipedalism and bipedalism in chimpanzees is discussed in support of this suggestion.
- Chapter 11, "Evolution of Genus *Homo*," includes new finds of *H. erectus* from Kenya and alternate classifications of some other fossils. There is also a discussion of *Homo floresiensis* from Indonesia.
- Chapter 12, "The Debate over Modern Human Origins," streamlines the discussion of the evidence for and against the two major models, and the section on the so-called Mostly-Out-of-Africa model has been rewritten to better explain that model as a reasonable resolution to the debate.
- The sections of Chapter 13, "The Study of Living Peoples," have been reordered to make for a more logical sequence of a seemingly disparate set of topics. Data on population size and diseases have been updated.
- Chapter 14, "Human Biological Diversity," includes new data on the degree and pattern of our genetic diversity.
- The glossaries have been updated and the References section has forty-four new entries, thirty-four from 2005 and 2006.

SUPPLEMENTARY MATERIAL

Visit our Online Learning Center Web site at www.mhhe.com/parkba5.

Resources for instructors include the Instructor's Manual, with chapter overviews, suggested activities, and key terms; a Computerized Testing Program with multiple-choice and short-answer/essay questions; and chapter-specific PowerPoint lecture slides. Resources for students include numerous self-quizzes and other interactive aids.

Physical anthropology is eminently visual. Available to students and instructors on the Online Learning Center Web site are fossil images that make the course more vivid and interactive, reinforcing concepts and content students learn in the course.

ACKNOWLEDGMENTS

Thirty-three years now since leaving Indiana University, I still feel a profound debt to my first teachers there in bioanthropology, Robert Meier, Paul Jamison, and Georg Neumann. This book, I trust, reflects some of the knowledge and inspiration I received from them.

It was Jan Beatty who first brought me to Mayfield Publishing Company over eighteen years ago. She was the sponsoring editor of ten editions of my books before Mayfield joined forces with McGraw-Hill. It is an understatement to say that her knowledge of all aspects of publishing, combined with her understanding of anthropology and the needs (and quirks) of us academic types has been a major influence on all my written work. Although I consider this book the result of a collaboration of many capable people over the years, it owes its heart (in every way) to Jan.

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