

Essentials of Physical Anthropology

Robert Jurmain
Harry Nelson
Lynn Kilgore
Wenda Trevathan



FOURTH EDITION

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ESSENTIALS OF Physical Anthropology

Robert Jurmain

San Jose State University

Lynn Kilgore

Colorado State University

Harry Nelson

Emeritus, Foothill College

Wenda Trevathan

New Mexico State University



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Preface

Over the more than two decades that we have been preparing textbooks in physical anthropology, we have been guided by one major objective: To make physical anthropology accessible to introductory students. From our own teaching experience we have long recognized that introductory physical anthropology courses usually attract students coming from diverse educational backgrounds. Some students have had college courses in biology, while others had such a course in high school. But a significant portion of undergraduate students has not had any biology background prior to taking physical anthropology.

It is recognition of this wide diversity of student experiences and expertise that has shaped our approach to text content and organization. In order to make the material technically accurate and up-to-date, while at the same time engaging, we have organized the text to provide a step-by-step discussion of topics.

Since physical anthropology is a *biological science*, it is necessary to present background information concerning basic biological processes. These topics are often-times highly challenging for students with little prior background. Accordingly, we make every attempt to present *scientific* concepts using a minimum of jargon (and definitions of key terms appear both in a running glossary in the margins when they are first presented as well as at the back of the text).

Additionally, and most basic to our entire approach, the writing style is carefully designed to be clear and understandable, while not insulting the intelligence of college-level readers. Moreover, the text organization provides students various types of aids to promote comprehension (see section below). Fundamental to all these efforts is the authors' conviction that the best text is one written with the students' perspective always in mind.

Features

As mentioned, *Essentials of Physical Anthropology* contains a number of features designed to encourage student learning. In summary:

- **Chapter outlines** at the beginning of each chapter, list all major topics covered.
- A **running glossary** in the margins provides definitions of terms immediately adjacent to the text, when the term is *first* introduced. A full glossary is provided at the back of the book.
- **Line drawings** and **photographs**, most in full color, are carefully selected and placed to directly support discussion in the text.
- **Photo essays** introduce topics (e.g., Tools and Techniques of Physical Anthropology: Paleopathology) to stimulate student interest in contemporary applied research done by physical anthropologists.

- **Full bibliography** at the end and citation of complete sources throughout the text demonstrate to students how standard referencing is used in scientific/scholarly presentation and provide an example for students preparing their own research papers.
- The **concluding chapter**, “Lessons from the Past, Lessons for the Future,” is unique to this text and challenges students to use an *evolutionary perspective* when considering contemporary issues such as population growth, global warming, habitat destruction, and loss of biodiversity.

Organization of the Fourth Edition

To those familiar with the third edition of *Essentials of Physical Anthropology*, the fourth edition contains two major organizational changes. First, rather than 16 chapters, the current edition has 15 (accomplished by combining two chapters on Plio-Pleistocene hominids into one comprehensive chapter, Chapter 8). Second, the materials on modern human variation and adaptation (formerly Chapters 5, 6, and 7) have been moved to the back of the book (Chapters 12, 13, and 14) where they precede our concluding chapter (Chapter 15, “Lessons from the Past, Lessons for the Future”). Moreover, all three of these chapters have been somewhat re-focused as reflected in new chapter titles for each: Chapter 12 (“Microevolution in Modern Human Populations”); Chapter 13 (“Human Variation and Adaptation”); Chapter 14 (“The Anthropological Perspective on the Human Life Course”). Finally, so as to synthesize information more clearly with this new chapter order, Chapter 4 has been reorganized to integrate materials on heredity and evolution better (as reflected in a new chapter title, “Heredity and Evolution”).

What’s New in the Fourth Edition?

In order to stay abreast of new developments in physical anthropology, several updates have been incorporated into this edition. Chapter 4 includes expanded coverage of the Human Genome Project. We have also significantly updated the materials on fossil hominids, including recent discoveries of Plio-Pleistocene species (*Ardipithecus*; *Australopithecus garhi*) in Chapter 8; new discoveries of *Homo erectus* (or contemporaries) from Spain and Italy (Chapter 9); and recent finds of Neandertals or early modern *H. sapiens* from Portugal, France, and Croatia (Chapter 10). In addition, since many contemporary scholars recognize considerable complexity in the evolution of *Homo*, a new section in Chapter 10 presents varied interpretations and species designations (i.e., *H. rudolfensis*, *H. ergaster*, *H. heidelbergensis*, *H. neanderthalensis*).

The exciting new attempts to extract and sequence Neandertal DNA are also covered in Chapter 10. In fact, emerging molecular technologies utilized by physical anthropologists are covered in more depth; new materials reflecting this research have been added to the photo essays.

Chapter 14 expands the focus on infectious disease with an emphasis on HIV/AIDS. The discussion of infectious disease also deals with the role of cultural factors such as population growth, human-induced climate change, and overuse of

antibiotics in the reemergence of some infectious diseases. Chapter 15 focuses more fully on the application of an explicit anthropological perspective to understand the human life course, and this more holistic interpretation is further integrated with discussions found throughout earlier chapters. Finally, we have added a new appendix (Appendix C, “Sexing and Aging the Skeleton”). This extensively illustrated new section is designed to provide students with an appreciation of some of the basic skeletal techniques used by osteologists and forensic anthropologists.

Multimedia Learning Aids

This edition also allows students easier access to multimedia learning aids. A major new addition is the systematic integration of links with the *Virtual Laboratories for Introductory Physical Anthropology* CD-ROM, Second Edition, prepared by John Kappelman of the University of Texas at Austin. In the margins throughout the text there are icons linking the concepts discussed in the book with specific virtual labs on the CD-ROM.



Archaeology is discussed in Virtual Lab 11 and includes many 3-D animations of stone tools.

Internet Exercises Another expanded feature of the fourth edition is the addition of Internet exercises at the end of each chapter. Incorporating specific sites on the Internet, these exercises are designed to help students become more competent in using the Internet.

InfoTrac College Edition Exercises Also new to this edition are exercises utilizing the *InfoTrac® College Edition*, a comprehensive on-line library. Tracey O’Rourke of San Jose State University prepared both the Internet and InfoTrac exercises.

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Robert Jurmain
Harry Nelson
Lynn Kilgore
Wenda Trevathan

Supplements

Supplements for Instructors

Instructor's Manual with Test Bank Written by the text authors, the manual includes concept outlines, chapter overviews, learning objectives, and lecture suggestions. The Test Bank includes multiple choice and short answer/essay questions.

ExamView Computerized and Online Testing from Wadsworth/Thomson Learning Create, deliver, and customize tests and study guides (both print and online) in minutes with this easy-to-use assessment and tutorial system.

Wadsworth's Physical Anthropology Transparency Acetates A set of four-color acetates is available to help prepare lecture presentations.

Slides Color slides of art found in the text are available.

PowerPoint Available free to adopters, this book-specific PowerPoint presentation can be viewed and downloaded from our Web site at <http://anthropology.wadsworth.com/instructor/>. A user name and password are available from your Wadsworth/Thomson Learning sales representative.

AnthroLink AnthroLink CD-ROM is an easy-to-use presentation tool that permits instructors to integrate media from this CD-ROM digital library into their lecture presentations. AnthroLink contains hundreds of pieces of graphic art from Wadsworth anthropology textbooks, photographs, and short video segments as well as the software to edit, sequence, and present customized lectures which can be saved and even posted to the Web.

Wadsworth Anthropology Video Library Qualified adopters may select full-length videos from an extensive library of offerings drawn from such excellent educational

video sources such as *NOVA*, *Films for the Humanities and Sciences*, *The Disappearing World*, and *In Search of Human Origins*.

CNN Physical Anthropology Today Video Series, Volumes I, II, and III The *CNN Physical Anthropology Today Videos* is an exclusive series jointly created by Wadsworth and CNN for the physical anthropology course. Each video in the series consists of approximately 45 minutes of footage originally broadcast on CNN within the last several years. The videos are broken into short two- to seven-minute segments, which are perfect for classroom use as lecture launchers, or to illustrate key anthropological concepts. An annotated table of contents accompanies each video with descriptions of the segments and suggestions for their possible use within the course.

Web-Based Resources

Anthropology Online: Wadsworth's Anthropology Resource Center <http://anthropology.wadsworth.com> At Wadsworth's Anthropology Resource Center, you will find surfing lessons (tips to find information on the Web), a career center, anthropology Web surfing links, InfoTrac, News, and an online forum.

At http://anthropology.wadsworth.com/texts/jurmain_essen.html you will find text-specific resources for *Essentials of Physical Anthropology*, Fourth Edition. Here you can access online quizzes, flashcards, Internet projects, hyper-contents, and more.

InfoTrac College Edition Ignite discussions or augment your lectures with the latest developments in anthropology. *InfoTrac College Edition* (available as a free option with this text) gives you and your students four months' free access to an easy-to-use online database of reliable, full-length articles (not abstracts) from hundreds of top academic journals and popular sources. Among the journals which

are available 24 hours a day, seven days a week, *American Anthropologist*, *Current Anthropology*, *Evolution and Science*. Contact your Wadsworth/Thomson Learning representative for more information.

Supplements for Students

Virtual Laboratories for Physical Anthropology CD-ROM, Second Edition, by John Kappelman The new version of this Interactive CD-ROM provides students with a hands-on computer component for doing physical anthropology lab assignments at school or at home. It encourages students to actively participate in their physical anthropology lab or course through the taking of measurements and the plotting of data; it also tests their knowledge of important concepts. It contains full-color images, video clips, 3-D animations, sound, and more. In addition, students can link between the CD and Wadsworth Anthropology Resource Center to access additional online quizzes.

Study Guide Prepared by Denise Cucurny and Marcus Young Owl Chapter-by-chapter resources for the student, including learning objectives, fill-in-the-blank chap-

ter outlines, key terms, and extensive opportunities for self-quizzing.

WebTutor This Web-based distance learning tool helps professors take the physical anthropology course beyond classroom boundaries to an interactive online, anywhere, anytime environment. Students access study tools, which correspond chapter by chapter and topic by topic with the book, including flashcards (with audio), online quizzes, and tutorials. Professors can use WebTutor's discussion forums and online communication tools to provide virtual office hours, post syllabi, set up threaded discussions, and track student progress on the quizzes. WebTutor is easily customizable to specific course needs.

Lab Manual and Workbook for Physical Anthropology, Fourth Edition, by Diane L. France, Colorado State University By emphasizing human osteology, forensic anthropology, anthropometry, primates, human evolution, and genetics, this lab manual provides students with hands-on lab assignments to help make the concepts of physical anthropology clearer. It contains short-answer questions, identification problems, and observation exercises.

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