

# Biological Anthropology: Concepts and Connections, 3e

Agustin Fuentes

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## Detailed List of New Features

- Updated discussion of genetics, genomics and epigenetics in Chapter 3.
- Updated information about the fossil record in Chapter 8.
- Updated discussion of human diversity and ancestry testing in Chapter 11.
- Updated discussions on human art, symbols and material culture in Chapter 9.
- Updated lists for resources in several chapters.

## Retained Features

- Strong scientific explanation of evolution, human biology, and heredity in chapter 1-4.
- Connection boxes linking anthropology to students' lives throughout every chapter.
- "What We Know/Questions that Remain" sections list key facts and still-unanswered questions in the field at the end of every chapter.

## Chapter by Chapter Changes

### Throughout:

- updated what we know and questions that remains to reflect updated content and changes in the field
- clarified/revised/replaced text in many places (averaging over 100 changes per chapter) for better flow and accessibility
- updated/replaced/revised references and recommended readings
- updated and swapped out weblinks as needed

### Introduction:

Modified and updated text, added Rosalind Franklin to pantheon of scientists related to DNA, and added Peter's Projection world map and a brief discussion about how map presentations can change the way we see the world and ourselves.

### Chapter 1:

- Added a connections box about the role of women in evolutionary theory/history and in science in general, pointing out their frequent (undeserved) absence from the general narratives.
- Added connections box about "fake news" and related it to the topics of this text

- updated discussions about teaching/understanding evolution and added recent polls and surveys
- Added new stop and think box on teaching evolution
- Updated and expanded on the role of Lamarck and connected to contemporary evolutionary theory
- Changed imagery used in history of evolutionary theory section
- Updated Darwin and Wallace discussions

#### **Chapter 2:**

- Added a stop and think box about blood
- improved/updated some of the figures
- added improved interactivity links

#### **Chapter 3:**

- Made 177 changes to text and content of this chapter- a significant revision and improvement based on the advances and changes in genomic approaches, research, and perspectives in recent years...but without losing the accessibility and core content of the chapter.
- Added revised and expanded section on “Does DNA cause certain behaviors?” and the GxE (gene by environment) model
- Added additional introductions to and discussions of epigenetics and key locations throughout chapter
- Added in contemporary discussions about the total number of genes in the human genomes, the roles of viral DNA, and the enhanced study of proteins (the “proteome”).

#### **Chapter 4:**

- Added substantial text and a new section to update treatment of Contemporary Evolutionary Theory and make sure terminology, theory, and content are up to date
- Further clarified genetic drift and the natural selection/“filtration” example
- Added to developmental systems section
- Expanded and augmented niche construction section

#### **Chapter 5:**

- Updated/revised text in light of patterns and changes in primate studies in the past decade
- Added section on niche construction in primates
- Added brief section on life history
- Revised section on general behavior and evolution/phylogeny
- Expanded sections on macaque and chimpanzee sexual behavior
- Added recent updates on chimpanzee hunting

#### **Chapter 6:**

- Revised and streamlined some text and updated some references and a few details in regards to recent fossil primate data.

#### **Chapter 7:**

- Added brief section on Australopithecus deyiremeda.
- Added section on the Lomekwian tools (the earliest stone tools and recently discovered) and modified subsequent discussions of stone tool technologies
- Expanded Australopithecus section
- Added new fossil footprint data
- Added brief text about the gender assumptions that go in to reconstructions of the Australopithecines
- Added a number of new references

#### **Chapter 8:**

- Added/expanded four new sections:
- scavenging behavior and its implications
- initial discussion of Homo naledi in the context of the other fossils
- specific in-depth discussion of the patterns and process of Acheulean tool making

- the early appearance of potentially symbolic material items and their implications
- Added the details about Homo naledi to tables and comparisons
- Revised discussions and evaluations of hominin phylogenies in light of contemporary diversity in Pliocene-Pleistocene fossils, including recent suggestion/evidence of interbreeding and the potential role of hybridization in Human evolution
- Expanded the sections of tool-making and use throughout
- Greatly expanded/revised references and suggested readings list

#### **Chapter 9:**

- Made 341 changes to the text and content of this chapter, this is an up-to-date and theoretically rich treatment of the terminal Pleistocene record of our genus
- Added/expanded five new sections:
- the new perspectives on Neanderthals, Denisovans, and other “archaic” Homo in the list of archeological and genetic evidence
- a new section on Archaic human “art” and “symbol”
- an expanded discussion of the patterns and processes of material complexity in the terminal Pleistocene (last 120,000 years or so)
- a section on sedentism and domestication, and a fuller discussion of the “hybrid origins” model
- Expanded discussion of the Neanderthals and Homo naledi, other late Homo and their potential relationships to contemporary humans...revisions/alterations to the traditional models (recent African origin, multiregional, lattice) and the introduction of new twists/options
- Expanded discussion of the material record from ~400,000 years ago
- Greatly expanded/revised references and suggested readings list

#### **Chapter 10:**

- Updated examples and content, focused on the theme “How do we know that “race” as we commonly use it is not a biological category, but that racism can have biological effects?”
- Added new section/connection box on ancestry testing
- Added clarification and context for discussion of race as a “social construct”
- Enhanced the connectivity of the separate sections to the main theme
- Expanded/clarified Biocultural approach section
- Added note on structural violence to patterns of disease section
- Updated references and suggested readings

#### **Chapter 11:**

- Substantial text additions and update to reflect contemporary debates and descriptions in standard evolutionary approaches, evolutionary psychology, cultural evolution, and contemporary evolutionary theory in the “How do we Study Human Behavioral Evolution” section
- Updated disease examples
- Added in text on climate change
- Added in text on future impact of gene editing technologies such as CRISPR

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