

## BOOK REVIEW

Walter F. Rowe,<sup>1</sup> Ph.D.

### Review of *Introduction to Forensic Anthropology: A Textbook*

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**REFERENCE:** Byers SN. *Introduction to forensic anthropology: a textbook*, Allyn and Bacon, Boston, Massachusetts, 2002, 444 pp.

This is a very good book. In 1998 Steven Byers started to teach an undergraduate course in forensic anthropology. He quickly came to the conclusion that no suitable text for this purpose existed. While there are a number of excellent texts that have been published in this field, virtually all are directed at graduate students or experienced physical anthropologists. I can attest to the accuracy of this assessment. In the undergraduate course in forensic science that I teach I have been forced to rely on materials that I have prepared myself, supplemented by journal articles and by information available on internet websites.

The book starts with a brief history of forensic anthropology, with emphasis on American forensic anthropologists. This introductory chapter concludes with an introduction to methodologies for data collection and analysis (i.e., decision tables, range charts, indices, discriminant functions and regression equations). The next chapter provides a basic introduction to human osteology and odontology. This chapter uses numerous diagrams and photographs to depict the bones of the human skeleton. The structure of bone and the process of bone growth are also summarized. With these preliminaries out of the way, the book moves to the distinctly forensic part of forensic anthropology: distinguishing human from non-human bone, processing of death scenes (with a detailed overview of grave excavation), estimating postmortem interval, preparing recovered remains for detailed examination and assessing population ancestry (race), sex, age at death, and stature. After an overview chapter on skeletal trauma and its relationship to determination of cause and manner of death, separate chapters are devoted to skeletal trauma caused by projectiles, blunt force, and sharp force. Succeeding chapters take up antemortem skeletal conditions (bone pathologies and anomalies) and postmortem modifi-

cation of bone. A chapter is devoted to the more controversial aspects of individualization of human skeletal remains: facial reconstruction, assessment of handedness and estimation of body weight. The penultimate chapter covers identification of human remains using antemortem records, such as antemortem radiographs and dental records. The final chapter examines the ethical responsibilities of the forensic anthropologist, the preparation of final reports and courtroom testimony. An eight-page bibliography, covering virtually every significant book and journal article in the field, rounds out the book.

I was impressed with this book on two levels. The first was the pedagogical. The large number of excellent photographs makes this book particularly attractive for use as a textbook. The "photo essay" on the various modifications of the pubic symphysis used in the estimation of age is quite the best treatment of this topic I have ever encountered. I was also impressed on an intellectual level. The tendency for writers of undergraduate science textbooks is to concentrate on the "gee whiz" aspects of their science and leave the deficiencies, ambiguities, and gaps in knowledge for advanced texts directed at graduate students. Byers has done an admirable job of critically evaluating the standard methods in his field. One example among many is his six-page discussion of stature estimation from long bones using the regression equations of Trotter and Gleser. He points out problems with how certain measurements were made (specifically tibia lengths), the impact of these measurement anomalies on the resulting regression equations (the invalidation of Trotter's multiple regression equations), problems with secular trends in measurements stemming from the skeletal samples used and common statistical errors in assessing the confidence intervals of stature estimates.

This is an excellent textbook for an undergraduate course in forensic anthropology. I would also strongly recommend this book as an addition to the professional libraries of crime scene investigators, forensic pathologists, and forensic science educators.

<sup>1</sup> Professor, Department of Forensic Sciences, The George Washington University, Washington, DC.