

Forensic Anthropology: Contemporary Theory and Practice

Debra A. Komar and Jane E. Buikstra

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Forensic anthropology plays a vital role in medicolegal investigations of death. Today, forensic anthropologists are intimately involved in many aspects of these investigations; they may participate in search and recovery efforts, develop a biological profile, identify and document trauma, determine postmortem interval, and offer expert witness courtroom testimony. However, few forensic anthropology textbooks include substantial discussions of our medicolegal and judicial systems. *Forensic Anthropology: Contemporary Theory and Practice*, by Debra A. Komar and Jane E. Buikstra, not only examines current forensic anthropology from a theoretical perspective, but it also includes an introduction to elements of our legal system. Further, the text integrates these important concepts with bioanthropological theories and methods.

Komar and Buikstra begin with an introductory chapter that traces the history of forensic anthropology in the United States. The careers of several founding members of the American Board of Forensic Anthropology are recognized for their contribution to advancing the profession. We are reminded that the field has evolved through the years from biological anthropologists doing forensic anthropology to modern students, who need training in both the medical and physical sciences, as well as traditional foundations in biological anthropology.

In Chapters Two and Three, the authors introduce the reader to the medicolegal and judicial systems respectively. They present the medicolegal system with interesting discussions of important topics such as jurisdiction, death investigations, cause and manner of death, elements of a crime (*actus reus* and *mens rea*), and postmortem examinations. The chapter on the judicial system begins with the different classifications and interpretations of evidence, followed by an overview. Key components of this chapter include the rules governing expert witness testimony and scientific evidence in the courtroom. The authors also review the United States Supreme Court landmark decision, *Daubert v. Merrell Dow Pharmaceuticals* 1993, which established more stringent criteria that federal judges must follow regarding the admissibility of scientific evidence in federal courtrooms.

The authors note that in the *Daubert* decision, the Supreme Court modified the “*Frye* test”, removing the general acceptability criterion formerly required. In light of the *Daubert* ruling, the authors demonstrate the need for anthropologists to refine techniques and continue to develop biological profiling methods that will meet the rigorous

Daubert standards. Anthropology is not alone among the forensic sciences that seek to refine methods and techniques. For example, forensic odontology has recently come under scrutiny in cases where defendants have been wrongfully convicted based on bite mark evidence (Saks and Koehler 2005). Additionally, Saks and Koehler also remark upon 86 DNA exoneration cases and note that 63% of these wrongful convictions are attributed to forensic science testing errors.

Chapter Four takes a comprehensive look at the role of forensic anthropologists during death investigations. The authors note that “the participation of forensic anthropologists can be invaluable to the proper handling of the death scene” (p. 65). To this end, the chapter includes discussions of identifying remains of medicolegal and nonmedicolegal significance, jurisdiction issues, search strategies, and proper handling of evidence. Readers may find the detailed treatment of differentiating human from nonhuman material particularly useful.

The following two chapters deal with developing a biological profile, and pathology and trauma. A detailed review of sex and age estimation for both juvenile and adult skeletal remains is provided, as well as an assessment of the estimation of ancestry and stature. A welcome discussion on scientific testing and the error rates of different methods is highlighted throughout their ‘reference’ packed discussion. In their critical review of biological profile development, Komar and Buikstra discuss the various estimation methods; they note that more recent techniques may need testing on additional skeletal samples to survive potential challenges under the *Daubert* ruling. We also are reminded that in forensic science, flawed methods may result in the false imprisonment of innocent persons, therefore an emphasis is placed on developing and refining techniques that improve both the accuracy and reliability of biological profile estimates. Students will find that the descriptions and discussions of the different categories of both pathology and trauma assessments are beneficial for understanding postmortem examinations. One also may find that the reviews of blunt and sharp force trauma, gunshot wounds, and fracture terminology are particularly useful.

Komar and Buikstra continue their remarkable book with a chapter focusing on forensic taphonomy. They begin with an introduction and an outline of the goals of forensic taphonomy which includes time since death estimation, mechanisms of bone modification, and reconstructing perimortem events. The reader is drawn to the case studies that

emphasize the value of having a forensic anthropologist at the scene. In one case, a medical investigator initially identified burned human remains as dogs—until the forensic anthropologist correctly determined that they were actually human!

There are several features of the chapter on personal identification that the reader will find both informative and current with the *Daubert* standards, such as the adoption of classification standards of the frontal sinus for identification purposes. The authors discuss how identification is established and continue with the methods of positive identification, which include fingerprinting, DNA, forensic odontology, and medical imaging. The authors also include an overview of radiology and dedicate several helpful pages on the general guidelines for radiographic identification.

Chapter Nine provides an overview of mass death and human rights investigations. Komar and Buikstra note that forensic anthropologists have become more involved with mass death investigations, which includes natural and mass disasters and armed conflicts. The chapter includes sobering discussions of genocide crimes and the complexities surrounding the recovery of individuals from mass graves that are frequently commingled. The final chapter touches on biohistory. Komar and Buikstra discuss histori-

cal investigations that have “forensic significance,” such as the identity of remains attributed to Nazi war criminal Josef Mengele. Non-forensic biohistorical investigations answer questions of historical figures, such as the location of an individual’s remains (e.g., Billy the Kid), establishing identity, and cause of death.

Overall, this book is a valuable resource for teaching advanced undergraduate and graduate students. It has an excellent bibliography that contains over eight hundred references, which students, instructors, and professionals will find especially useful. The case studies, illustrations, tables, and extensive glossary all complement the well-written and easy to read text. The success of this book can be attributed to the authors’ combined decades of experience, careful review of the literature, and dedication toward improving the discipline of forensic anthropology. Komar and Buikstra’s commitment to both the education and training of forensic practitioners is impressively conveyed in this comprehensive work.

REFERENCE

- Saks, M.J. and J.J. Koehler. 2005. The coming paradigm shift in forensic identification science. *Science* 309: 892–895.