

# Preface

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Recent political, religious, ethnic, and racial conflicts, as well as mass disasters, have significantly helped to bring to light the almost unknown discipline of forensic anthropology. This science has become particularly useful to forensic pathologists because it aids in solving various puzzles, such as identifying victims and documenting crimes. On topics such as mass disasters and crimes against humanity, teamwork between forensic pathologists and forensic anthropologists has significantly increased over the few last years. This relationship has also improved the study of routine cases in local medicolegal institutes. When human remains are badly decomposed, partially skeletonized, and/or burned, it is particularly useful for the forensic pathologist to be assisted by a forensic anthropologist. It is not a one-way situation: when the forensic anthropologist deals with skeletonized bodies that have some kind of soft tissue, the advice of a forensic pathologist would be welcome.

Forensic anthropology is a subspecialty/field of physical anthropology. Most of the background on skeletal biology was gathered on the basis of skeletal remains from past populations. Physical anthropologists then developed an indisputable “know-how”; nevertheless, one must keep in mind that looking for a missing person or checking an assumed identity is quite a different matter. Pieces of information needed by forensic anthropologists require a higher level of reliability and accuracy than those granted in a general archaeological context. To achieve a positive identification, findings have to match with evidence, particularly when genetic identification is not possible. Forensic anthropology can also be essential in providing details about identification, even if a DNA profile is compiled.

As a consequence, both the potential and limits of forensic anthropology have to be equally taken into account in forensic investigations. However, this perspective is seldom covered in the current forensic literature.

Forensic medicine is a known branch of medicine whose origin is difficult to pinpoint, but is surely at least two or three centuries old. Often considered the “medicine of the dead,” it is, however, much more, and today, as in the past, it offers an unquestionable social value to the community, as illustrated in *Forensic*

*Anthropology and Medicine: Complementary Sciences From Recovery to Cause of Death*. Nevertheless, forensic pathology is undoubtedly the most well-known branch of this specialty, and the one that touches most deeply the aim of *Forensic Anthropology and Medicine: Complementary Sciences From Recovery to Cause of Death*. This is true for many reasons, but it is certainly owing to a recent, successful “marriage” of forensic pathology to forensic anthropology.

There are many textbooks of forensic medicine and pathology, as well as forensic anthropology; however, it is hard to find a reference text that covers all three areas. *Forensic Anthropology and Medicine: Complementary Sciences From Recovery to Cause of Death*, located on the border between forensic anthropology and forensic pathology, aims to fill this gap. It also claims to strengthen the contribution of forensic anthropologists in all the main stages of forensic work, namely recovery, identification, and determination of the cause of death. These goals will be enhanced when fulfilled within multidisciplinary teams. Crossing over these two fields of knowledge will obviously lead to mutual benefits. This enables forensic pathologists to grasp the anthropological background beneath a routine autopsy, and then to increase their knowledge.

Furthermore, we wish *Forensic Anthropology and Medicine: Complementary Sciences From Recovery to Cause of Death* to be a methodological bridge between different countries of Europe and America. We believe that there is an acute need for spreading knowledge of and expertise in its many powerful techniques and methods across continents.

*Forensic Anthropology and Medicine: Complementary Sciences From Recovery to Cause of Death* is geared particularly toward postgraduate students and researchers in forensic medicine and pathology, forensic anthropology, law sciences, and the police. The topics discussed range from individual recovery and autopsy to specific contexts, such as crimes against humanity and mass disasters.

Part I presents both disciplines—forensic anthropology and forensic medicine focused specially on forensic pathology—starting with a brief historical background leading up to the point where both sciences meet. Chapter 1 also clarifies their goals, quantifies their collaboration, analyzes both professional careers, and discusses the challenges of a common future. The difference between the medicolegal systems and organization of forensic medicine and pathology is debated in Chapter 2, which discusses their pros and cons in order to justify the situation of forensic pathology in many parts of the world.

The presentation of forensic anthropology in Europe (Chapter 3) takes into account the variety of expertises, cases, backgrounds, training, and accreditation in comparison with the United States.

Part II deals with age estimation of living individuals for reasons of imputability, which is one of the growing subfields of forensic anthropology requiring cooperation between forensic physicians and forensic anthropologists. Chapter 4 explores the whole range of techniques and methods available.

The chapters in Part III discuss all the steps of forensic analysis, precisely from recovery to the cause of death. Before starting such an investigation, one must have a comprehensive understanding of the different ways a body can change after death. Among others, a relevant interpretation of the events surrounding a death depends on mastering body decomposition and taphonomic processes. Chapter 5 reviews the states of preservation/decomposition, and through well-illustrated cases, emphasizes both what a forensic pathologist can obtain from a mummified or saponified body, and what a forensic anthropologist can obtain from skeletonized remains.

The recovery scene, where every examination should start, is discussed in Chapter 6, which underlines the importance of an archaeological background, particularly if the remains are dry bones. The presence of forensic anthropologists and/or pathologists should be required in scene examination.

When facing a cadaver that is neither preserved nor completely skeletonized, or is unrecognizable, teamwork (forensic pathologist plus forensic anthropologist) is requested, as are appropriate methodologies to carry out the specific autopsy or examination. Chapter 7 presents a multidisciplinary approach to this issue and the best practices in conducting an investigation, benefiting from the experience the authors gained in different settings.

Chapter 8, which closes Part III, describes in detail the different types of traumatic bone lesions—blunt, sharp, or gunshot wounds—which are discussed as differential diagnoses. The relevance of these injuries to establish the cause of death, and through it, as evidence of crimes against humanity, genocide, and torture, is emphasized.

The main attributes of biological identity are gender, age, stature, and ancestry. Part IV reviews the state of knowledge on assessing these four parameters from skeletal remains. The reliability, accuracy, and limits of the methodologies are covered, and the best approach in legal contexts is recommended. Because the previously mentioned generic factors of identification are, in most instances, not sufficient to achieve identification, the next step is to search for other factors of individualization. Chapter 14 deals with this issue, in particular, with pathological alterations of bones.

Part IV ends with a very useful summary chapter (Chapter 15), which reviews several related points and discusses the advantages and disadvantages of the several methods usually accepted as proof of identification.

Recently, an increasing number of systematic investigations have been launched worldwide following crimes against humanity. The variable preservation of cadavers or body parts requires contributions of both forensic pathologists and forensic anthropologists to provide evidence on the cause and manner of death. This combined effort is also required for expertise on the context of catastrophes, whether natural and/or caused by humans, where identification is the main issue. These crimes against humanity and mass disasters are examined in Part V, which analyzes their different problems. In mass disasters, the cause of death is frequently known, and all efforts are then focused on victims' identification, which is also a key issue for crimes against humanity, where the research of cause of death still remains very important.

Within this context, Chapter 16 presents useful and relevant recommendations for forensic professionals, examining their links with international organizations in the field, such as the United Nations, the Red Cross, or Interpol, whose actualized protocols are displayed.

Although the very beginning of any scientific issue is hard to define, it is undeniable that the South American anthropologists, particularly the Equipo Argentino de Antropología Forense, are among the world's pioneers in investigating crimes against humanity. Through practical cases, one of this organization's members presents the adequate methodology to investigate these crimes profiting from the group's vast experience on the subject.

Chapter 18 uses a practical case to discuss the organization and procedures that are needed whenever a forensic intervention is necessary in the context of mass disasters.

In all, Part V is a clear example of the real value of a multidisciplinary investigation in these types of cases, showing the pros and cons and reassuming the spirit of *Forensic Anthropology and Medicine: Complementary Sciences From Recovery to Cause of Death*, which is to build a bridge between two complementary sciences—forensic anthropology and forensic medicine—that will grow and develop very closely in the future, whenever humans and humanity have the need.

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Forensic Anthropology and Medicine  
Complementary Sciences From Recovery to Cause of  
Death

Schmitt, A. (Ed.)

2006, 480 p. 197 illus., Hardcover

ISBN: 978-1-58829-824-9

A product of Humana Press