

BOOK REVIEW

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A Review of Forensic Osteology, Advances in the Identification of Human Remains

REFERENCE: Reichs, K. J., Ed., *Forensic Osteology, Advances in the Identification of Human Remains*, Charles C Thomas, 2600 South First, Springfield, IL 62717, 1986, \$50.25, 326 pp.

Reviewing the papers presented in this volume from the keyword in the book title, "Advances," the contributions range from excellent to a repetition of data published elsewhere. This compilation of articles contains some papers with new material, or variations and ramifications of previously described methods of identification. Alternately, there are a few articles that are only reviews of the literature or overviews of well-known techniques. In the Introduction, Reichs divides the 16 chapters into 3 stages with some subdivision: Stage I: Field Recovery; Stage II: Laboratory Analysis, Osteological Aspects—Age, Sex, Race; Stage III: Laboratory Analysis, Forensic Aspects—Time and Manner of Death, Individuation. Then she considers the contributions made through the data analyses or presentation by the authors, with a brief review of the relevant literature.

Chapters 1 and 2 would have been improved through citations of prior publications on these topics. Figures 6 and 7 in Chapter 1 are not to scale: a dog humerus is the same size as a human humerus, as are cross sections of a bird bone humerus, "Large Mammal," and a human humerus, which does *not* help the process of comparative identification.

Suchey and her coworkers have in part detailed a review of previously published techniques of age determination based on changes in the pubic symphysis. They then proceed to a thorough evaluation of the utilization of these methods on a documented age-at-death male series and derive modified techniques from the McKern-Stewart and Todd age estimation methodologies. İşcan and Loth summarize the results of their prior publications on estimating age at death through the morphological changes in the costal end of the sternal rib. Included is a proposal for the determination of sex through measurements of the rib that is not too clear. Weaver summarizes and analyzes the literature on the estimation of age and sex in fetal and neonatal skeletons. He not only presents the data, but suggests additional information that can provide better results. Chapter 6 combines two previously published techniques for sex determination in the femur and tibia by İşcan and Miller-Shaivitz and updates the ongoing testing of their accuracy by comparing results from the Hamann-Todd and the Terry medical school skeletal collections.

Reichs in Chapters 7 and 11 describes the potential use of skeletal pathologies to assist in the determination of sex and race. Both contain reviews of the literature on pathology, including recent publications, but the stronger paper relates frequencies of particular patholo-

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gies to males or females. The suggestion is not that these methods will identify sex or race, but can aid where other evidence is not present. Unfortunately, the photographs of X-rays are not clear and could have been improved by arrows drawing attention to the characteristics of each pathological trait.

Assisted by literature reviews and descriptions of their methods of race determination, both Chapters 9 and 10 do tend to expand or apply published concepts. Gill's technique involves several measures of the upper craniofacial region, while Pickering's amplifies greatly those that are usually taken on the calcaneus. DiBennardo and Maples, Chapters 10 and 16, are concerned with new methods of analyses using computers to implement interpretation of discriminant function. These chapters relate to the practical application of the derived data which eventually may result in forensic identification. Trauma analysis as proposed by Maples, Chapter 12, would use the osteological expertise of the forensic anthropologist in supporting the pathologist's decision on cause of death, through describing "very specific information" on skeletal trauma.

The real contribution of Caldwell's section on facial reproduction is not just the thorough review of the literature, but the details of the methods proposed and warnings against those she considers give unreliable results. In conclusion, she reviews the six questions most frequently asked concerning facial reproduction and summarizes the answers or lack thereof. Chapter 14 describes techniques for comparison or superimposition of smiling face photographs (exposing the anterior dentition) with the teeth of a forensic science case. Webster et al. have also matched antemortem orthodontic casts against maxillary or mandibular bites. Apparently these authors are not aware of the Frankfort plane utilized in anthropology to place the skull and mandible in the correct anatomical position, as is obvious in several of the photographs. Kennedy and his coauthors present an interesting problem in identifying a historic Egyptian mummy. In particular, the discussion demonstrates the use and comparison of multivariate techniques as an aid in racial identification.

Despite the problems mentioned for certain chapters in this book, and the uneven quality of the presentation, many of the contributions should prove helpful in amplifying anthropological methods of forensic science identification. Other sections involve good literature reviews, including up-to-date publications in applied or forensic physical anthropology, that will provide insights to this field for those working in different areas of the forensic sciences.