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BOOK REVIEW

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Review of: *Age Estimation of the Human Skeleton*

REFERENCE: Latham KE, Finnegan M. Age estimation of the human skeleton. Springfield, IL: Charles C Thomas Publisher, LTD, 2010, 277 pp.

"Age determination is ultimately an art, not a precise science" (1, p. 323), and yet as anthropologists we continue to strive to transform the art into a discipline that offers precise and accurate results. The research contained within this book can be added to a long list of moderately successful attempts to improve upon this science. The book is comprised of a compilation of the most recent scientific research on age estimation that has been conducted and presented at scientific forums within the past 2 years. It includes papers on all stages of life including fetal development through the degenerative processes associated with old age. The book is divided into three sections (dental aging techniques, osteology aging techniques, and histological and multifactorial aging techniques) proceeded by an introductory chapter that provides the reader with a historical background on aging methodologies, beginning as early as the late 1800s. The body of the book consists of a variety of papers that mainly seek to validate current aging methods and/or determine best practice through the comparison of commonly used single variable methods as well as the evaluation of multifactorial techniques. Many of the validation studies also offer "tweaked" procedures to improve upon estimates such as population specific formulae, altered prediction intervals, and/or simplified scoring techniques. A few new aging methods are also described.

The dental section is prefaced with a chapter that offers a review of aging techniques specific to dental analysis. This chapter is followed by multiple papers on the evaluation of root transparency, including both a backlighting method as well as a sectioning method that utilizes both single and double rooted teeth. The section concludes with a study evaluating the efficacy of commonly utilized dental aging charts on modern American children.

The nature and sources of error responsible for our inability to exactly predict chronological age from the skeleton is thoroughly analyzed and discussed in the opening chapter on osteological aging. Other chapters within this section include studies that seek to validate methods utilizing macromorphological analysis of the sacrum and acetabulum as well as techniques that assess ossification of the thyroid and costal cartilages. Multiple pubic symphyseal aging methods are also compared and tested. In addition to the research based papers there is a unique chapter that describes errors associated with the notably few fetal collections in existence as well as a paper that describes recent advances in the estimation of age at death of immature bone.

Histological chapters contained within this book include a paper that compares multiple methods of histomorphometric analysis of the femoral and rib cortices, as well as a chapter that revisits histological examination of the frontal bone. A new method that considers the histological development of the subadult rib was also described. Multifactorial efforts that consider commonly utilized indicators of age such as the pubic symphysis, iliac auricular surface, sternal rib ends, and cranial sutures were also appraised. The section concluded with a paper that examines the performance of a new aging software package that utilizes transition analysis to calculate its estimation called the ADBOU Age Estimation program (ADBOU refers to the University of Southern Denmark's Institute of Forensic Medicine, Department of Anthropology). Results obtained from its use of a component scoring system of the pubic symphysis were then compared to other commonly derived pubic symphyseal methodologies.

In conclusion, this book fails to produce any remarkable methodological or statistical advances that improve the precision or accuracy of estimating chronological age. What it does do however, is to provide a plethora of papers that have subjected various age estimation techniques to rigorous statistical analysis on samples outside of the original data set to provide an honest measure of error rates, inaccuracies, biases, etc. During the age of the *Daubert* ruling, this is becoming increasingly critical if such evidence is to be admissible in a court of law. Although not all of the methods display high performance, the book can also be applauded for inclusion of some less commonly utilized age markers which provides the practitioner with a wide array of possible material in the event of incomplete or fragmented remains. For these reasons, I would conclude that the book provides useful material to add to the practitioner's library as well as those interested in conducting further research into the estimation of age from the human skeleton.

Reference

1. Maples WR. The practical application of age-estimation techniques. In: Iscan MY, editor. Age markers in the human skeleton. Springfield, IL: Charles C. Thomas Publishers, 1989;319–24.

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