

Book Reviews

Orthodontic Materials. Scientific and Clinical Aspects (2000)

Editors: William A. Brantley and Theodore Eliades
Publisher: George Thieme Verlag, Stuttgart, Germany
Price: DEM 178; €91.01
ISBN: 3-13-125281-2

The pace of development of dental materials can be bewildering, and orthodontic materials are no exception. The appearance of this book is therefore timely. It is a specialized, though not overlong book, that deals with the fundamentals of the subject, in 15 chapters written by individual experts drawn from across the world.

The book begins with what is effectively an introduction to materials science, though it has been wisely entitled *Structures and properties of orthodontic materials*. It is followed by chapters on a range of topics, including mechanical testing, instrumental techniques, wires, cements, and so on. There is also an excellent chapter covering

the principles of biocompatibility, and another on allergies and related safety issues.

The book is beautifully presented, up-to-date, well illustrated and highly readable. My reviewer's copy is already becoming well thumbed, a sure indication of its usefulness. The book can be recommended to all those with an interest in the development of orthodontics, and should certainly become the text of choice in post-graduate education within this field. The editors and authors are to be congratulated on their excellent work.

John Nicholson

Biological Anthropology of the Human Skeleton

Editors: M. Anne Katzenberg and Shelley R. Saunders
Publisher: John Wiley & Sons Ltd, Chichester, West Sussex, UK
Price: £61.50
ISBN: 0-471-31616-4

This book has not been written for orthodontists, but much of the content will be relevant to those interested in skeletal biology and throughout the text, orthodontists will certainly find issues with which they can identify. The two editors are Canadian anthropologists and most of the contributors are anthropologists of various types, from the USA and Canada. Their objective and that of this book is to learn about people's lives, through evidence provided by their bones and teeth. The book describes the various problems encountered in achieving this. It is divided into five parts and begins with a consideration of the ethical problems encountered in trying to analyse bones and the 'use' of human remains; as museum attractions, as sources of

veneration or as deterrents, and even in macabre fashion, as a form of decoration. The early chapters focus on forensic anthropology and interestingly, include work by W. M. Krogman. There is a discussion on facial reproduction techniques, with estimation of facial soft tissue thicknesses by techniques such as ultrasound and magnetic resource imaging.

Part II is concerned with a variety of analytical techniques, as well as bone biomechanics. Bone rigidity has clearly decreased since the male's role as hunter-gatherer has passed through the agriculturist phase to the industrial! There is a chapter on dental morphology, which contains very useful advice by Mayhall, an oral anatomist from Toronto, including the correct use of

callipers when measuring tooth dimensions. Not many orthodontists may be aware that the oft-quoted Dahlberg was in fact a dental anthropologist who worked in the 1950s and 1960s on variations in dental morphology amongst different populations and his work is referred to in this book. One of the co-editors, Shelly Saunders, discusses some of the practical problems in analysing the bones of children, in particular, in determining both age and sex, and it is interesting to note that dental age estimation seems to be a better indication of chronological age than skeletal age, particularly through radiographs showing stages of dental formation. At the microscopic level, Fitzgerald and Rose discuss how dentine and enamel structure can be useful as a means of estimating the age of children, essentially through the study of incremental lines such as the brown striae of Retzius, or the Andresen lines of dentine.

Paleo-pathology is the 'study of ancient suffering' and its development as a subject is discussed in part III, along with various techniques such as radiography and computer technographic scanning. Part IV contains a fascinating chapter on the use of isotope studies by co-editor Anne Katzenberg and, in particular, their value in determining the dietary habits of a population. For example, stable nitrogen isotope studies from fingernail material have apparently shown

that the development of earthenware vessels seems to have been quite fundamental in allowing earlier cessation of breast feeding, thus enhanced fertility and ultimately, population expansion! Ancient DNA analysis is highly topical and Anne Stone describes the process, as well as some of its uses, for example in determining an individual's sex, the relationship between individuals and indeed, the migration of whole populations. The final part of the book deals with statistical interpretation. It is interesting to note that statisticians such as Pearson used skeletal measurements to develop new statistical procedures. The author comments on the vast accumulation of measurement data that has taken place over many years and clearly feels that much of it is fairly useless, providing 'an answer for which there was no question'. Some readers may perhaps identify with this perception!

This book has been extremely well edited and the authors of each chapter relate to each other clearly. Much of the content deals with relative influence of genetic versus environmental factors, which will be familiar ground to orthodontists. Whilst perhaps not essential reading to members of our speciality, it has great educational value.

R. Edler