

Kurt W. Alt has established a comprehensive system of kinship analysis which makes use of the abundance of odontologically recordable features. This is useful for prehistorical analysis of biological and sociological reconstructions of populations as well as for contemporary forensic medical evaluations. I only wish that this valuable book were available in English, and not only in German, because it deserves to be read by a worldwide population of researchers in anthropology and forensic medicine.

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DIE EVOLUTIONE DER ZÄHNE: PHYLOGENIE, ONTOGENIE, VARIATION (in German). Edited by Kurt W. Alt and Jens C. Türp. Berlin, Chicago, London/Sao Paulo, Tokyo, Moscow, Prague, Warsaw: Quintessenz Verlags-GmbH paperback, 1997. 764 pp. ISBN 3-876-5259-0X. \$110.00, Dm 198 (paper).

This voluminous and comprehensive book, written in the German language, covers a wide field of odontology by dealing with the complex subject of the evolution of the teeth with particular emphasis on phylogenetic, ontogenetic, and morphological variations. Not including the introduction, the text is arranged in seven major parts: 1) theoretical fundamentals of evolution, 2) phylogeny, 3) functional and constructional morphology, 4) odontogenesis, 5) phylogenesis and ontogenesis of the mandibular joint, 6) population studies and dental anthropology, and 7) archaeozoology. Each part contains several articles written by different authors. The profundity of these articles varies.

The first part contains four articles. K.W. Alt and J.C. Türp report on comparative odontology and dental anthropology. Their article gives a general overview of the international research in this field and provides information on important new literature. The second article deals with the historic development of odontology and dental anthropology (K.W. Alt), and gives perspectives for further scientific research. In the third article U. Wolf informs the readers about the interactions between ontogenesis and phylogenesis. However, although this contribution takes a very serious approach and is an important contribution to the field, the information is not very specific to the evolution of the teeth. W.F. Gutmann, who wrote the fourth article, gives us the theory of the Frankfurt Model. The principles of the construction of the organism are discussed and explained according to the current views of evolution. The drawings in this article are very clear and informative.

The second part has four articles. T. Bollinger describes the development of the mammals on the basis of the fossil record. The next three articles are closely connected. M. Morlo reports on the phylogenesis of the teeth in vertebrates. In two articles W. Henke and H. Rothe deal with the phylogenesis of the non-human primates and the hominids. Both articles have been diligently and thoroughly researched and include results of recent work. However, the quality of some line drawings (e.g. fig. 3, page 283; fig. 35, page 338) could be improved.

The third part, which deals with functional and constructional morphology, contains four contributions. Using very clearly arranged, impressive line drawings, W.F. Gutmann shows how the evolution of some of the morphological constructions (e.g. branchia, central nervous system, jaws, and teeth) took place in different chordata. H.-U. Pfretzschner discusses the biomechanics of the dental enamel. This relatively short, but important, contribution is very well presented. T. Martin conscientiously describes the microstructure of the dental enamel in mammals. This article is illustrated by line drawings and very good quality black and white photographs which clearly represent the different structures of the dental enamel. The last article of this part is another contribution from H.-U. Pfretzschner. It deals with the adaptation of dental morphology to nutrition in recent and fossil mammals. This instructive article gives a reliable view on the different kinds of dentitions, but includes only a few citations.

The fourth part, whose subject is odontogenesis, contains the most contributions in this volume. J.C. Türp and K.W. Alt review well known methods and features and report on the basic knowledge of odontogenesis with emphasis on topography, terminology, and classification. G.-H. Schumacher describes the macroscopic morphology of human teeth and R.J. Radlanski presents the micromorphological aspects in human teeth. Both articles summarize well known results. However, R.J. Radlanski presents his creative theory on the structure of the enamel, which is

convincingly demonstrated by excellent scanning electron microscopic photographs. Structure, shape, size, and number of the human teeth influenced by genetics are outlined by W.R. Harzer. The development of human teeth in the fetus age is summed up by R.J. Radlanski. The last article of this part, written by H.S. Duterloo, deals with the development of human teeth after birth and describes their eruption and the secondary dentition.

The fifth part, which contains information on the phylogenesis and ontogenesis of the mandibular joint, consists of only two articles. J.C. Türp, K.W. Alt, and G.-H. Schumacher report on the phylogenetic development of the mandibular joint, whereas J.C. Türp, A. Obrez, and R.J. Radlanski discuss the anatomy and the odontogenesis of the human mandibular joint.

Three articles, all written by K.W. Alt, make up the sixth part of this volume, whose subject is population studies and dental anthropology. The first of these articles, which only cut into the subject, deals with categories and concepts of dental anthropological studies. The second article gives a general and relatively brief view on odontological analyses in populations. The third article is rather theoretical. It represents an attempt to combine theory with practical use and emphasis on the differentiation between human populations through the use of dental characteristics.

The last part of this book, entitled Archaeozoology, could be regarded as an addendum. It consists of only one article, which was written by S. Pichler. This contribution is a very brief, but worthwhile, introduction into dental remains excavated at archaeological sites.

This comprehensive book is helpful for students and scholars of anthropology and anatomy. All articles are accompanied by comprehensive literature. The printing of the book is more or less fine, but the quality of the binding is poor. In summary, this is a very useful book. It combines all features dealing with dental anthropology and contains much interesting information and specific details. The editors carried out a careful selection among the various topics of dental anthropology.

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SOUTH ASIA: INDIA AND SRI LANKA. HOMINID REMAINS, AN UP-DATE N°8. Edited by Kenneth A.R. Kennedy and Alison A. Elgart. General editors Rosine Orban and Patrick Semal. Bruxelles, Belgium: Royal Belgium Institute of Natural Sciences and Direction de l'Enseignement supérieur et de la Recherche Scientifique de la Communauté Française de Belgique, 1998. 96 pp. ISBN 2-87047-021-5 (paper).

This volume is the latest addition to the updating of *CATALOGUE OF FOSSIL HOMINIDS* (Oakley and Campbell 1967; Oakley et al., 1971, 1975). For the most part the book has new information that builds on that originally reported by Kennedy et al. (1975a,b) in Part III of the original series (Oakley et al., 1975).

This book contains data for eight sites in India and four sites in Sri Lanka versus information for 13 sites in India and five in Sri Lanka in Kennedy et al. (1995). The reason given for the differential is that the purpose of the book is an update. Sites which lack new data and whose remains are no longer thought to be hominid have been omitted. In contrast sites with recently discovered Middle Pleistocene (Hathnora in the Narmada Valley) and early Holocene materials (Damdama and Mahadaha in Uttar Pradesh) have been added. Especially interesting to dental anthropologists is the number of teeth and their provenance, institutes of curation, and bibliographic references that are given for six sites in India and four sites in Sri Lanka.

The textual format of the book is similar to that set out for the original series (Oakley and Campbell, 1967). Under each site catalogued is a listing of information, such as location, hominid remains, and bibliographic references. *SOUTH ASIA: INDIA AND SRI LANKA* and the preceding seven books in the updated series have a major improvement over the three volumes of the original series: a textual heading for each item in the outline of data for each site. The headings for the data in the books of the original series were numerically coded, with the codes explained in the introduction. In the updated series the reader no longer has to remember the meanings of 18 codes in order to decipher the information.