

Colyer's Variations and Diseases of the Teeth of Animals Second Edition.
Revised by A.E.W.Miles and C. Grigson. Cambridge University Press,
Cambridge, United Kingdom. 1990. IX - 672 pp. 814 Half-tones and 48
Line diagrams. Retail price: 390.00.

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Sir Frank Colyer (1866-1954) published the first edition of Colyer's Variations and Diseases of the Teeth of Animals in 1936 and it quickly became an indispensable reference. The book was a major contribution to the field of odontology and continues to be widely used and cited. It has, however, been out of print for many years, since much of the original plates and text was destroyed in an air raid in 1940. Subsequently, it was decided to produce a new and totally revised edition, rather than publish a facsimile edition. The authors have preserved the original framework of the book and nearly all of the original figures, while adding many new figures and references commensurate with the advances in knowledge over the past 55 years. The main substance of revision in this new edition consists of Colyer's text rearranged taxonomically.

The book consists of four Sections and 25 Chapters. Chapter 1 is a new General Introduction which contains much conceptual material (i.e. morphogenetic fields, supernumerary teeth, connate teeth, and genetic and environmental influences on dental variation), that helps the reader to understand the causes and significance of the more factual material that follows. In general, the text assumes some knowledge of tooth structure, processes of tooth development, and comparative dental anatomy.

Section 1 contains Chapters 2 to 8, and deals with Variations in Number, Size, and Shape of Teeth. Chapter 2 is a short introduction to the remainder of the Section and presents the material taxonomically. The chapter begins with an excellent discussion of the primates (pp. 19-61) before considering in detail the carnivores, seals, whales ungulates, rodents, rabbits, insectivores, bats, and marsupials. In Section 2, Variations in Positions, the order of presentation is the same, beginning with primates (pp. 161-237) and ending with marsupials. These two Sections make up the first half of the book and contain something for anyone interested in mammalian odontology.

Section 3, Abnormalities of Eruption, is the shortest Section of the book. However, the Section contains a wealth of interesting and fascinating information garnered from a wide range of mammals. One of the most striking examples of the overgrowth of a tooth (mandibular central incisor) of an American beaver (*Castor fiber*) that I have ever seen, is found in Fig. 17.1, p. 356. Incidentally, one can see the original specimen, which was collected by John Hunter, in the Hunterian Museum of the Royal College of Surgeons.

Section 4, Other Disorders of the Teeth and Jaws, is the final and longest Section of the book. The eight chapters of this Section contain comprehensive information on a variety of subjects including jaw injuries, injuries of the teeth, enamel hypoplasia, dental caries, tooth destruction from causes other than caries, dento-alveolar abscesses, periodontal diseases, and odontomes.

This marvelous tome, while mainly concerned with the dentition of living mammals, contains some mention of the paleontological literature. Moreover, whereas the original book was restricted to mammals, the authors of this edition have thought the non-mammals to be

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of too much interest and importance to ignore completely. As a result, comments and observations concerning the dentitions of fishes, amphibia, and reptiles are made in appropriate places.

The figures, both drawings and photographs, are generally quite clear. As a result, the reader has no problem in locating a small tuberculum sextum on the mandibular third molar in *Macaca nigra* or supperation in the mandible below the site of fodder wedging in *Equus caballus*. The index is well organized and, considering the enormous amount of data presented in this book, the reader will be most grateful for this attention. The References have been brought up to date and include the latest information in the field of comparative mammalian odontology. I counted them. There are 1380 references!

Colyer's Variations and Diseases of the Teeth of Animals is, at long last, available again. It should continue to have a wide readership from anthropology to zoology, including dentists, veterinarians, and of course, dental anthropologists. The only complaint will be the price. Even today, with our inflated economy, the price is beyond most of our pocket books.

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