Review of Current Literature

ERNEST MYER, D.D.S., M.S.

HAROLD J. NOYES, B.S., D.D.S., Ph.B.

Bone Changes Incident to Orthodontic Tooth Movement in Man

B. L. HERZBERG, D.D.S.

The Journal of the American Dental Association, October, 1932. Pages 1777 to 1788.

The author gives a brief outline of the various theories of tooth movement and some of the work done on experimental animals. The assumption in the past has been that tooth movement in man is similar to that in experimental animals. To find the actual results of orthodontic tooth movement in man, the author secured a female patient eighteen years of age, for whom, in the course of treatment, two upper first premolars were to be extracted. The upper right first premolar was moved lingually, two millimeters, the upper left first premolar was used as a control. After the desired movement had taken place, both upper first premolars were removed, with some of their supporting tissues. These teeth were then sectioned and studied microscopically. The changes found in the moved tooth were similar to those found by Oppenheim in his monkey experimentation. It is then assumed that orthodontic tooth movement in man is similar to that found in experimental animals.

Critical Review of Gottlieb and Orban's "Die Veranderungen Der Gewebe Bei Uebermaessiger Beanspruchung Der Zahne"

CHARLES F. BODECKER, D.D.S., F.A.C.D.

New York, N. Y.

The International Journal of Orthodontia, Oral Surgery and Radiography. September, 1932. Pages 895 to 917.

In this article Dr. Bodecker has attempted to give a critical review of Gottlieb and Orban's "Die Veranderungen Der Gewebe Bei Uebermaessiger Beanspruchung Der Zahne". This book contains 227 illustrations mostly of microscopic sections. The work started in 1925 with observations on 33 dogs. The durations of individual experiments lasting from twelve hours to thirteen months. C. Brietner experimented on five monkeys, of which

the observations are incorporated in this book. Bodecker, in this article, has attempted to give his version of the book's contents by making diagrams based on the book's many illustrations. Imaginary pressures were applied to the tooth and the changes of the peridental membrane, alveolus, and the cementum were noted. The use of a mild, continuous pressure on the tooth caused reactions similar to those Oppenheim brought out. The authors disagree slightly with Oppenheim regarding the use of excessive pressure on the teeth. The application of these various pressures on the peridental membrane, alveolar bone and cementum are given considerable explanation in this article.

An Introduction to Growth of the Human Face from Infancy to Adulthood

MILO HELLMAN, D.D.S.

New York, N. Y.

The International Journal of Orthodontia, Oral Surgery and Radiography. August, 1932. Pages 777 to 798.

Dr. Hellman gives an introductory report on measurements made on 1,196 individuals. Some of these measurements were only taken once, but the majority were taken two to seven times at early intervals. Dr. Hellman used eight designations in age, from the beginning of eruption of teeth in the child to the eruption of the third molars. The measurements were made with spreading calipers, the Todd Head Spanner and sliding calipers. The measurements were made on definite land marks. Some of his conclusions are that the human face grows in three planes, vertical, transverse, and antroposterior. That the dimension of the human face, as represented by the group studied, is greatest in width, less in height and least in depth, and that the greatest dimension increases less and the smallest most. That, with increase in the size of the human face there is a change in the proportion of the dimensions studied. That, as the face grows longer, it increases, vertically, more in the back than in the front; transversely and anteroposteriorly, more than above.

Difficulties in the New Mechanism Manipulation and Suggestions for Avoiding Them

CHESTER F. WRIGHT, D.D.S.

South Bend, Indiana

The Journal of the American Dental Association, November, 1932. Pages 2007 to 2015.

Dr. Wright gives an exceptionally clear cut picture of the difficulties he experienced in changing to the new Angle edgewise arch. The matter of technic being mastered, his greatest problems were in the changed reasoning he had to employ in the use of this mechanism. Anchorage, ideal arch, torque, second order of bends, rotation, resiliancy of arch, mass movement of teeth, and the use of elastics, are some of the problems that are discussed in this article. Comparisons of the "E" arch with that of the new mechanism are made, not only in reasoning but in the handling of these two different appliances.

Hereditary and Environmental Factors in Facial Development

T. WINGATE TODD, F.R.C.S. (*Eng.*)

Cleveland, Ohio

The International Journal of Orthodontia, Oral Surgery, and Radiography, August 1932. Pages 799 to 808.

Dr. Todd, in his investigation on the growth of sheep skulls, came to the conclusion that growth in dimension is not uniform and continuous, but is local and discontinuous. There is a time schedule which is followed in the growth pattern and this orderly pattern may be interrupted by disease and other adverse factors. In the study of human facial growth, Dr. Broadbent found that facial growth is subject to the same general influences as general body growth. In early childhood, anteroposterior and transverse growth is largely controlled by cranial development, while vertical facial growth is determined by bodily respiratory needs. Dr. Broadbent found that the upper central milk incisor is a useful indicator of comparative facial growth. Interruption in bodily development in infancy retards facial growth and during convalescence and increased rate of growth can repair this break in schedule, unless the disturbance be too severe.

A Radiographic Study of Calcification of the Teeth From Birth to Adolescence

ALFRED F. HESS, M.D., J. M. LEWIS, M.D.
and BENJAMIN ROMAN, M.D.

New York, N. Y.

The Dental Cosmos, November, 1932. Pages 1053 to 1061.

The work herein reported on, was conducted at the Home of Hebrew Infants, New York City. In this home which housed over three hundred, the children, four years or under, were maintained on an adequate diet.

Many of these children had serial radiograms taken. The series showed remarkable uniformity, in regard to the time of calcification, through the first year of life, but later in life this uniformity becomes less evident. Calcification of the teeth is really much further advanced than would be supposed when judged from the roentgenologic pictures. Whereas, at necropsy, the crowns of the deciduous incisors are found to be calcified to about two thirds of their extent, in the radiograms they appear as if calcified only along their cutting edge and for about two thirds of their lateral borders.

A Quantitative Study of the Relation between Certain Factors in the Development of the Dental Arch and the Occlusion of the Teeth

SAMUEL J. LEWIS, D.D.S., *and* IRA A. LEHMAN, D.D.S.
Detroit, Michigan

The International Journal of Orthodontia, Oral Surgery, and Radiography, October, 1932. Pages 1015 to 1035.

This report is based on yearly observations made on a group of seventy-five children over a period of eight years. The course of dental development of these children was studied and from these observations Dr. Lewis drew the following conclusions:

The combined diameters of deciduous incisors are of little value as an index of the size of the permanent incisors on the basis of the alignment of the deciduous incisors. The diameter of the deciduous incisors appears to bear some relation to their spacing. Those with smaller diameters tend to show the wider spacing. The spacing of the deciduous incisors appears to bear little relation to the alignment of the permanent incisors. There are other growth factors to be considered. The alignment of the permanent teeth cannot be forecast accurately on the basis of the relation between intercanine growth and the difference between the diameter of the deciduous and that of the permanent teeth.

The incidence of malocclusion increases as the deciduous denture passes to the mixed stage; malocclusion sometimes changes to normal or borderline normal occlusion and some types of malocclusion change to another type during the transitional period. All these conclusions point to the desirability of using observational methods more commonly until we have better criteria for diagnosing developing malocclusion.