Review of Current Literature

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A New Orthodontic Mechanism: The Twin Wire Automatic Appliance

By JOSEPH E. JOHNSON, D.D.S., F.A.C.D.

Louisville, Ky.

Journal of the A. D. A., Volume 19, June, 1932—P. 997-1011.

The article is a technical presentation amply illustrated describing an appliance designed by the author based upon the ideal arch principle and utilizing two small, hard, stainless, steel wires ranging from .009 to .014 inch in diameter. The appliance is used by the author in some places in conjunction with the lingual arch.

Hypertrophic Gingivitis—Its Clinical Aspect

By ISADOR HIRSCHFELD, D.D.S.

New York City

Journal of the A. D. A., Volume 19, May, 1932—P. 799-816.

Dr. Hirschfeld divides conditions of the character of the title into the following divisions: Hypertrophy of the papilla between the lower lateral and cuspid; hypertrophy in the anterior part of the mouth caused by torsion; mouth breathing gingivitis; hypertrophy produced by trauma from overlapping teeth; hypertrophy in pregnancy; hypertrophy due to atypical infections; "primary" hypertrophy gingivitis; hypertrophy due to scurvy; hypertrophy due to mercury; and hypertrophy with leukemia. The clinical findings in these ten divisions are described by the author and conservative treatment with particular attention devoted to the etiological factors is stressed. He is in favor of using surgical procedure only as a last resort. Treatment with the ultra-violet lamp has not produced encouraging results. Orthodontic treatment is mentioned in connection with the first four types.

Some Difficulties in Manipulation of the Ribbon Arch Mechanism and Suggestions for their Solution

By HARRIS W. MCCLAIN, D.D.S., F.A.C.D.

Chicago, Illinois

Section on Orthodontic Mid-Winter Clinic C. D. S.—January 20th, 1932—Journal of the A. D. A., Volume 19, August, 1932—P. 1306

Dr. McClain discusses the subject in the light of ten years experience with the mechanism. He outlines particular difficulties suggested in correspondence with about fifty ribbon arch users. The article offers comment on the following items in technique and procedure: inadequate case analysis; bracket bands; "D" bands; force control; torque; arch adjustment; shaping arch form; accessory springs and loops; control of bicuspid and molar teeth; intermaxillary elastic hooks; movement of single teeth.

Histogenesis of the Enamel

By SAMUEL W. CHASE, Ph.D.

Sec. Research and Biologic Services, Mid-Winter Clinic, C. D. S., June 19th, 1932—Journal of the A. D. A., Volume 19, 1932—P. 1257-1288

A review of the existing theories of enamel formation, together with the author's critical comment, is followed by a report of his own studies. He believes the basal terminal bars of the ameloblasts appear before the amelogenesis; Tomes processes first appear at the inception of amelogenesis; the interprismatic substance is formed between Tomes process and is probably produced by confluence of enamel globules secreted by ameloblasts; the interprismatic substance forms a mold about Tomes processes; calcification of the prisms is secondary to their formation while the interprismatic substance probably contains calcium salts from the first.

Radical Departures from Theories and Methods Pertaining to Children's Dentistry

By R. C. WILLET, D.M.D.

Journal of the A.D.A., Volume 19, July, 1932—P. 1085-1093

The author summarizes the opinion of teaching found in the dental literature in the past fifteen years. This, he characterizes as inadequate and furnishes quotations to substantiate his contention.

He concludes from a survey of 1000 cases in his practice that there is need for pre-school dental attention in 61.2% of the children; caries, defective fillings, and premature loss of deciduous teeth are directly responsible for malocclusion in 8.4% and contribute to malocclusion in 52.5%. He

concludes that there is no excuse for failing to give the child complete dental service and that space retainers are advisable.

The article includes illustrations of some of these retainers and of a special construction which he advocates.

The Resorption of the Roots of Deciduous Teeth

By RUDOLPH KRONFELD, M.D., *Chicago, Illinois*

Dental Cosmos, P. 103, February, 1932

Some of the previous theories held on this subject are discussed in this article. The author believes resorption takes place through the agency of the connective tissue between the permanent and deciduous teeth. The erupting permanent tooth being the stimulus of resorption, however, deciduous teeth not followed by permanent successors are resorbed, the stimulus being unknown. Dr. Kronfeld found that the roots of the deciduous molars are resorbed earlier than the roots of the deciduous incisors. Resorption is not a steady affair. It proceeds, then stops and is followed by a period of rest and repair. In man, the pulp does not enter into this process, whereas in the dog and cat it does. In the last stage of resorption the oral epithelium penetrates below the resorbing crown to unite with the enamel epithelium of the permanent crown.

Supernumerary Teeth

By EDWARD C. STAFNE, D.D.S.

Dental Cosmos, P. 653, July, 1932

The article is based on examination of 48,550 patients at Mayo Clinic. 441 of these patients, or 1 to every 110, had one or more supernumerary teeth. The author believes the percentage of supernumerary teeth is ordinarily higher than he found, because the average age of the patients examined was forty years, and at that age many teeth are lost. The various hypothesis advanced concerning the significances of these teeth, in relation to the evolution of the dentition, are discussed. In the 441 patients, five hundred supernumerary teeth were found. Each tooth was associated with its particular group and compared with the normal of that group. The author found supernumerary teeth more frequent in the maxilla than in the mandible and, also, that almost every tooth in the normal series had associated with it a supernumerary tooth which was constant as to form and size.

The Griffin Orthodontic Technique

By GABRIEL ROGER VOGELSON, D.D.S.

New York City, N. Y.

Dental Cosmos, P. 671, July, 1932

The author sets forth those advantages which are manifest in the Griffin

Technique. The appliance consisting of an .025″ wire, with loops for use with both labial and lingual arches. The first molars and all necessary teeth are banded. The bands have locking devices to engage the arch. The author gives, in a very superficial way, the physiology of tooth movement. The paper deals mainly with the use of this appliance for specific types of tooth movement.

Tissue Changes Incidental to Orthodontic Tooth Movement

By A. MARTIN SCHWARZ, M.D.

Vienna, Austria

The International Journal of Orthodontia, Oral Surgery and Radiography
Volume 18, April, 1932—P. 331-352

The article is composed of two parts the first of which is a critical review of the work of Carl Sandstedt (*1) which the author believes to be the basis of our present knowledge of the subject and the studies of A. Oppenheim which were published in 1911 (*2). This latter material he considers misinterpreted but feels the sections which were shown in Oppenheim's publication are not contradictory to Sandstedt's findings.

The second part describes the author's experiments concerning biological effect of a wire spring force upon the premolars of a young dog. The wire was attached to a lingual arch which was fastened to bands placed upon canines and first molars. From a study of the sections cut from tissues removed from these dogs after the appliance had been in place from 2½ to 5 weeks the author reaches the conclusion that the experiment produced results similar to those found by Sandstedt and further concludes that the force of more than 15 to 20 gms. sq. cm. is excessive. He believes that modern orthodontic appliances must permit the force exerted to be objectively measured.

Dr. Schwarz also divided the effect of the force upon the tissues surrounding the teeth into four divisions called respectively "First Degree Biologic Effect", "Second Degree Biologic Effect", etc., and differentiates these divisions by degrees of tissue reaction in response to the force applied.

*1 Einige Beitroge zur Theorie der Zahuregulierung, by Carl Sanstedt—No. 4, 1904 Nos. 1 & 2 1905—Nordisk Taudlakare Tedsskrift

*2 Tissue Changes, Particularly of the Bone Incident to Tooth Movement, by A. Oppenheim—Tr. European Orthodontic Society—8:11, 1911