Review of Current Literature

Changes in the Teeth Following Hypophysectomy

II. *Changes in the Molars of the White Rat*

I. SCHOUR, B.S., D.D.S., M.S., Ph.D. *and* H. B. VAN DYKE, Ph.D., M.D.

Journal of Dental Research, April, 1934, Page 69.

This report is based upon the study of the maxillary molars of twenty-two successfully hypophysectomized rats. Date of operation ranged from thirty-six to forty-five days after birth and the interval between operation and death ranged from sixty-three to four hundred and fifty-nine days. Root lengths of fifteen maxillary molars of experimental animals were ten to fifteen percent shorter than control animals. Histologically the pulp canal and apical foramen were found wider in the experimental animals than in the controls. Caries was no different in experimental than in control animals. The rate of eruption of the maxillary molars was not measured as in the incisors but an examination with the dissecting microscope disclosed definite retardation in eruption.

The author divided the material into three groups. Group I had slight disturbances. Group II had a medium amount of disturbances in growth.

The evidence shows that the rate of eruption in molars of hypophysectomized rats is definitely retarded. The state of eruption in rats that is normal for twenty-five days of age remains throughout life. The histologic findings are given in great detail, along with some very fine illustrations.

Replacement therapy, used on six rats, produced more or less complete recovery of histologic changes in the molars.

Reviewed by ERNEST MYER

The Evolution of Mechanical Treatment of Malocclusion

CHESTER F. WRIGHT, *South Bend, Indiana*

Journal American Dental Association, Vol. 21, May, 1934.

The author's opening statement indicates the method of analysis that has been followed in presenting his subject. To trace the evolution of mechanical treatment of malocclusion, it is necessary to trace the development of all knowledge pertaining to the subject of malocclusion, for orthodontic appliances, like most other man-made instruments, have been evolved in response to a need.

Prior to the latter part of the nineteenth century, expansion without regard to landmarks, fixed points, esthetics, etc., constituted the problem that was considered in the correction of malocclusion. With the growing realization that the dentures bore a definite relationship to the cranium, the principle of the inclined plane was added. Then, following the increased complexity of appliances such as the jackscrew, etc., anchorage became recognized as a serious problem.

About this time Dr. Angle entered the field. The author has traced his thoughts and those of his contemporaries in reference to the problems of root movement. He discussed the four systems of class II treatment and the mass movement of teeth.

Dr. Wright concludes his paper with the following sentence: "It is going to be necessary to continue the study of dento-cranial relations until we have a clear-cut picture of these relationships at various periods of life, and then the means must be devised that will enable us to place the entire denture where it belongs in space."

Reviewed by WILLIAM B. DOWNS

The Role of Biometry in Orthodontic Research

WILTON MARION KROGMAN, Ph.D., *Cleveland, Ohio*

Journal American Dental Association, Vol. 21, June, 1934.

The author discusses at length the meaning of the term normal. He defines it as follows: "The normal is, I think, the mental summation of the frequency of observed conditions: it becomes, in a sense, the usual."

Regarding the function of biometric research, he says that biometry enters in because of the impossibility of studying the entire population. Hence it becomes necessary to measure a portion of the population from which statistical interpretation of the whole of certain groups may be made. He follows with a comprehensive explanation of the method of biometric research and the meaning and value of various terms used.

He says, in part, in his conclusion, "Biometry has not solved any of the orthodontist's problems, but has given to the serious student of orthodontic problems, a most efficient tool with which to work."

Reviewed by WILLIAM B. DOWNS

Treatment of Fractures of the Maxilla, Mandible and Other Bones of the Face

PAUL J. A. UFDERHEIDE, D.D.S., *Cleveland, Ohio*

Journal American Dental Association, Vol. 21, June, 1934.

The article begins with a statement that fractures of the face are on the increase. This is attributed to the increased use of machinery, particularly the automobile. A higher class of people are receiving treatment and demand the best of esthetic results.

Treatment of fractures of the facial bones involves the same fundamental principles as other fractures but has additional complications, ten of which are discussed. The author has covered his subject from the standpoint of diagnosis, treatment, complications, and prognosis.

Comment. The advantages of orthodontic appliances in treating jaw fractures is causing an increased demand for orthodontic assistance to the oral surgeon in handling these cases.

Reviewed by WILLIAM B. DOWNS

Taro and Sweet Potatoes Versus Grain Foods in Relation to Health and Dental Decay in Hawaii

MARTHA R. JONES, Ph.D., NILS P. LARSON, M.D.
and GEORGE P. PRITCHARD, D.D.S.

Dental Cosmos, April, 1934, Page 395.

In this article the authors stress the tremendous amount of odontoclasia found in children in the Hawaian Islands. Odontoclasia differs from dental caries in three ways.

1. It is confined almost exclusively to the deciduous teeth.
2. It occurs on all surfaces of the teeth but especially on the lingual surfaces of the upper incisors, tips of cusps and occlusal surfaces of molars.
3. It progresses over the surfaces of the tooth in broad lines rather than in pits and fissures.

The authors then try to say that odontoclasia is an exaggerated form of dental caries. That differences in expression can be explained on the basis of greater intensity of the decay process and immaturity of the tooth in infancy and youth.

The article gives a good account of the present types of population, their food habits and dental condition and compares these people with the previous race that inhabited the Islands together with their food habits and dental conditions.

The authors believe that odontoclasia is the result of an acid base imbalance. The present population use largely grain diet. This diet, combined with a tropical climate, gives a high acid ash and results in children having a tremendous amount of odontoclasia. When children are fed a diet that is rich in Taro and sweet potatoes this unbalance does not occur and normal teeth result or if odontoclasia has taken place it is arrested.

Reviewed by ERNEST MYER

Effect of Flourine Upon Rate of Eruption of Rat Incisors with Its Correlation with Bone Development and Body Growth

MARGARET COMMACK SMITH, A.M., Ph.D.

Journal of Dental Research, April, 1934, Page 139.

Twenty-two albino rats, taken at four weeks of age, were placed upon basal diets to some of which 0.1 percent and to others 0.05 percent of sodium flouride was added. Litter mate controls fed the same basal diet exclusive of the sodium flouride were used for correlation. In order to rule out sex factors only male rats were used. The lower incisors of both experimental and control rats were filed at the gingival margin and the rate of eruption recorded weekly.

The rate of eruption of the lower incisors of rats fed 0.1 percent of sodium flouride, in comparison with normal controls, was 52.9 percent.

The rate of eruption of the lower incisors of rats fed 0.05 percent sodium flouride, in comparison with normal controls, was 87 percent.

Rats fed sodium flouride were stunted in growth. Rats fed 0.1 percent sodium flouride attained 84 percent normal growth.

The author believes that flourine has no effect upon the ability of the rat to utilize protein, but that the stunting of growth is due to the fact that flourine interferes with the calcium and phosphorous retention, with resulting inability to form bone and tooth material.

Reviewed by ERNEST MYER

Book Review

Diet and Dental Health by Milton T. Hanke, University of Chicago Press, Chicago, Illinois, 1933. 236 pages, 22 plates, 63 drafts and tables. $4.00.

This book is a report of four years' study by the author, carried out in the laboratories of the Ortho A. Sprague Memorial Institute at the University of Chicago. Dr. Hanke, in the preface to the volume, acknowledges his indebtedness to the Chicago Dental Research Club and other collaborators for their assistance and to the California Fruit Growers Exchange for the financial aid that they voluntarily rendered. The major portion of the study consisted of observation and record of 440 children between the ages of eleven and eighteen living in the City of Childhood, Moosehart, Illinois. This study was divided into three periods: a control period, during which the children were observed without altering the existing conditions of the institution; a test period, in which certain of the previously observed children were given 16 ozs. of orange juice and the juice of one lemon a day; and a recheck period, throughout which 3 ozs. of orange juice was administered daily. A detailed tabulation of the findings at each examination of 341 children over the active three years is furnished in an appendix. Observations were also made upon 500 patients referred for study. There is included a report of an investigation of the histopathological changes in the dental structures of the guinea pig produced by scurvy. This is preceded by a brief and elementary discussion of the human dental tissues and a few of their common diseases.

The principal findings are as follows: With respect to studies of the guinea pigs, 3.0 c.c. of orange juice daily was required to protect all animals from histological evidence of scurvy. The changes in the dental pulp and dentine are considered to be specific and characteristic to the degree that they are suggested as "an excellent method for evaluating vitamin 'C' content

of food stuffs and experimental preparations." Orange juice that has stood for 24 hours in an open vessel was not found less effective than the freshly prepared material.

With respect to the patients studied individually and the children at Moosehart, the administration of 16 ozs. of orange juice and one lemon, daily, was found to materially reduce gingival irritation, producing healthy gum tissue in most cases and also favorably effecting dental caries. A striking effect upon growth, apparently produced by the increased citrus fruit juice, was observed in the Moosehart group. During the control period, the average gain in height and weight was quite commonly below the Baldwin Standards in each year group (11 to 18). In the following period, with administration of a pint of orange juice and the juice of one lemon, there was a marked increase in the rate of growth so that the Baldwin Standards were approximated. In the recheck period, when 3 ozs. of citrus fruit juice was given, the average in the year quite generally exceeded the Standard.

The author feels that the American diet is sufficiently lacking in citrus fruit to permit the frequent recurrence of gingivitis and dental caries; that the addition of 3 ozs. of orange juice daily is not enough to materially effect these oral conditions, and that "The administration of an adequate amount of citrus fruit juice to a diet that is nearly adequate in other respects reduces the intensity of the carious process but does not completely remove the effects of the inherent tendency in all cases."

H. J. N.