Abstracts of Current Literature

Anatomy

CLINICAL OBSERVATIONS RELATING TO THE NORMAL AND ABNORMAL FRENUM LABII SUPERIORIS. JOHN E. TAYLOR, Am. J. Orthodont. & Oral Surg. 25:646 (July) 1939.

516 children with ages from 5½ to 11, and 1,067 high school children with ages from 12 to 18 were examined by the author to determine whether a maxillary diastema was a normal condition in children of five or six years of age; and secondly to find out if the space normally closed after the eruption of laterals and canines.

This survey confirms the statement of Mershon and the investigations of Lewis that it is a normal condition that we are dealing with in these young children instead of an abnormal one.

LEWIS, Dayton.

CONCERNING THE VITALITY OF CALCIFIED DENTAL TISSUES. ARTICLE II—THE PERMEABILITY OF ENAMEL. WM. LEFKOWITZ & CHAS. F. BODECKER, J. D. Res. 17:453 (Dec.) 1938.

This report concerns itself with the effort to determine whether certain dyes can penetrate normal enamel from without inward. In dogs it was found that dye in solution in the mouth resulted in some surface stain but no penetration. Dry dyes placed in contact with enamel left no surface stain except at those areas where the dye had come in contact with the oxyphosphate cement used to seal the dye receptacles to the teeth. This suggests that cements may decalcify enamel and may indicate that protective varnish should be used under orthodontic bands.

PREWITT, Lexington.

*RELATIONSHIP OF MAXILLARY AND MANDIBULAR GUM PADS IN THE NEWBORN INFANT. J. H. SILLMAN, 16 p., 14 figs. Reprinted from Am. J. Orthodontics and Oral Surg. 24:409-424. 1938.

A careful study of a group of 709 infants ranging in age from 1 to 11 days, leads to the following: 1. In order to determine accurately the relationship of the gum pads, casts must be made and articulated by means of a bite. 2. The gum pad of the mandible is distal to the maxilla in all cases on an average of 2.7 mm. in the male and 2.5 mm. in the female. 3. The range of variation of this distal relationship is from 0 to 7 mm. 4. There is a limited anteroposterior movement of the mandible but no lateral movement. 5. When the jaws are at rest, the gum pads do not meet. 6. The space between the anterior segments of the gum pads varies in form. 7. With an increased distal relationship of the jaws the dimensions of the mandibular gum pads seem to be affected. The length and anterior width show an increase, while the posterior width shows a decrease. 8. Comparison between spontaneously delivered babies and those delivered instrumentally shows little difference in the dimensions of the gum pads. Babies delivered by elective cesarean section compared with those with face presentation do, however, show appreciable dimensional differences. (Author's summary.)

THE VALUE OF ANATOMIC FORM IN TEETH FOR COMPLETE DENTURES. RUSSELL C. WHEELER, J. A. D. A. 26:1421 (Sept.) 1939.

The natural form of tooth crowns function by protecting the investing tissues as well as by mastication. Natural cusp form permits adjustment to interference with a minimum of effort. A description of the functioning cuspal points during mastication is given: first a cutting action and then a mortar and pestle action in a single closure of the mandible. Incising begins about "1 mm. anteriorly to centric position" ending with actual centric position.

*Reprinted by courtesy of *Child Development Abstracts and Bibliography.*

The more cusps become worn the wider become the mandibular excursions during mastication. "Fletcherizing" has been discredited and teeth are necessary only to "cut and shred" the food to sizes of particles small enough to be handled by the digestive tract "within a normal time limit for proper nourishment." Curved cuspal surfaces are more adaptable to adjustment than are flat surfaces. "Until extreme wear has taken place, the tips of cusps of mandibular teeth never contact the central grooves of the maxillary teeth."

STEADMAN, St. Paul.

Anthropology

RACE, GROWTH, AND OCCLUSION. BYRON O. HUGHES, Am. J. Orthodont. & Oral Surg. 24:1065 (Nov.) 1938.

Native born and American born Armenians were the subjects of this study. The number of subjects was not stated. Tooth decay was found to be 31 per cent higher in the American born individuals. No essential difference in the percentage of occlusal anomalies was noted. When Nordic or Mediterranean racial elements were added the malocclusion percentages rose. The incidence of malocclusion (Angle classification) in homogeneous Armenoid populations was 8.03 per cent; in Nordic-Armenoid and Mediterranean-Armenoid groups they constituted over 50 per cent.

The author's summary is quoted below:

"1. Relatively homogeneous racial stocks tend to have a low incidence of anomalies.

"2. The crossing of races with widely divergent face and head types tends to result in disharmonies and asymmetries and a higher incidence of occlusal anomalies.

"3. If the proposition is true for races, it should hold for individuals, since racial heredity is but a statistical generalization of individual heredity.

"4. Hereditary factors place the limits that the organism will achieve, and even under adverse conditions there is a definite attempt on the part of the organism to achieve this hereditary maximum.

"5. Extra germ plasmic factors as nutrition, injury, and habits can and very frequently do prevent the organism from achieving that status it would were it not for these external forces.

"6. Severe or long-lasting forces can produce permanent defects. These defects will not be transmitted but will seriously affect the individual.

"7. Growth is a biologic process and during the process of maturation there are many disharmonies due to unequal growth rates of different parts.

"8. Growth as a process must be studied from continuous records. Cross-sectional sampling methods tend to obscure rather than to clarify the nature of growth phenomena.

"9. Growth should be measured as a percentage-maturity accomplishment rather than as a regular chronological phenomenon.

"10. A more complete and a more accurate understanding of human heredity, individual and racial, and of growth is basic to orthodontics or to any other profession dealing with children.

"Finally let me say that the conclusions presented in this paper are tentative. The data upon which they are based are very limited in many places. I present them at this time as problems for consideration and discussion: not as authoritative laws."

LEWIS, Dayton.

Bacteriology

A COMPARISON OF THE BACTERIAL FLORA OF DIFFERENT MOUTHS. BASIL G. BIBBY, J. D. Res. 17:423 (Oct.) 1938.

Washings from various parts of mouths of patients with no caries, rampant caries, gingivitis and pyorrhea were studied. Variations in the bacterial flora were so great that no significant relationship could be established between the flora and the state of oral health.

PREWITT, Lexington.

Case Analysis and Diagnosis

ORTHODONTIC DIAGNOSIS. A. H. LUBOWITZ, D.D.S., D. Items of Interest. 61:122 (Feb.) 1939; 61:235 (Mar.) 1939.

The author states that "Orthodontic diagnosis is the recognition and scientific discrimination of malocclusion for classification for treatment." His diagnosis is accomplished by means of Simon's Gnathostatics and the photostatic photographs, which are based upon three planes. These planes are, 1st, the Frankfort horizontal or eye-ear plane, 2nd, the orbital plane, 3rd, the median plane. A combination of the gnathostatic and photostatic reproductions gives a correlation of the denture to the cranium by utilizing the relationship of the three planes as identified on the models and photographs. He also substantiates these findings by checking with Hawley charts and Pont's Index of anatomically correct dentures.

The diagnosis of two cases by this method is given in detail.

WHITSON, Brooklyn.

ORTHODONTIC PROGNOSIS: EVALUATION OF ROUTINE DENTOMEDICAL EXAMINATIONS TO DETERMINE "GOOD AND POOR RISKS." HERMANN BECKS, Am. J. Orthodont. & Oral Surg. 25:610 (July) 1939.

Clinical and laboratory findings are presented, taken from orthodontic patients and others not under treatment. Examination of 145 prospective patients revealed that 65 individuals were suffering from systemic diseases. Circulatory disturbances, endocrinopathies, rachitis, and allergic tendencies were outstanding. Among the endocrinopathies, hypothyroidism and pituitary dysfunctions were most frequently found.

A study of 91 children revealed that in 87.9 per cent either or both the physiologic bone age and time of eruption deviated from the established standards of Todd, Bean and Cattell respectively. Advanced time of tooth eruption and advanced bone age occurred more frequently than normal or retarded conditions. A high frequency of advanced bone age was found with all three classes of malocclusion.

Definite root resorptions were found in 23 to 72 patients prior to orthodontic treatment. After six months of treatment 30 additional patients were found to have some resorption making a total of 53 out of 72 children with root resorption. The occurrence of root resorptions was about 100 per cent higher in patients with porotic maxillae than in those with normal bone.

LEWIS, Dayton.

ORTHODONTIC RESPONSIBILITY OF THE DENTIST IN CONSIDERATION OF PREVENTIVE AND CORRECTIVE PROCEDURES. EDWARD M. GRIFFIN, D. Items of Interest. 61:562 (June) 1939; 61:673 (July) 1939.

The author presents the problems of growth and development and the pitfalls of the so-called simple case of malocclusion, substantiating his remarks with quotations from Brash and Bordeen and, successively, the difficulties presented by the deciduous dentition, the mixed dentition and the permanent dentition. He emphasizes the necessity for maintaining the normal mesio-distal length of the dentures, the shifting of the dental relationship from one class of malocclusion into another, and the reduction in the size of the premaxilla in man. He stresses the need for frequent X-Ray examination, considers the problem of the extraction of teeth and the preparation of the mouth by the orthodontist for prosthesis.

WHITSON, Brooklyn.

THE TREATMENT OF INCIPIENT CLASS III MALOCCLUSION. G. VERNON FISK, Am. J. Orthodont. & Oral Surg. 25:518 (June) 1939.

Incipient Class III malocclusions are divided into typical and atypical varieties. Typical cases are characterized by inherent over-growth of the mandible in which genetic linkage can usually be traced; atypical cases are characterized by diminished maxillary growth which may be genetic in origin and are frequently accompanied by retarded carpal development. Retarded carpal development may indicate hypothyroidism. Mechanical and myofunctional treatment should be instituted in incipient Class III cases.

LEWIS, Dayton.

THE TREND OF CLINICAL ORTHODONTICS. LEUMAN M. WAUGH, Am. J. Orthodont. & Oral Surg. 25:536 (June) 1939.

An outline of procedures used in treatment. Strang's method of case analysis is discussed along with arch predetermination. Qualifications of the lingual arch, plain labial, and edgewise arch are given plus indications for use. Waugh believes the lingual arch and plain labial are satisfactory for simple and less exacting cases, but advocates the edgewise arch for complicated cases. He quotes "I believe, however, that the tendency will be to apply it (edgewise arch) to an increasing percentage of cases as each one becomes accustomed to its uses."

LEWIS, Dayton.

Dental Caries

*BACTERIOLOGIC STUDY OF CARIOUS CAVITIES. B. G. BIBBY and M. K. HINE, J. Am. Dent. A. and Dent. Cosmos 25:1934-1937 1938. (Nar, 8:1101.)

BACTERIOLOGICAL STUDIES IN DENTAL CARIES II. T. D. SPEIDEL, J. D. BOYD, AND CHAS. L. Drain, J. D. Res. 18:185 (June) 1939.

The oral bacteria of 65 diabetic children (chosen because of their controlled diets) were studied for the incidence of B. acidophilus according to Hadley's method and for acid producing power in broth culture. Neither incidence of B. acidophilus in large quantities nor high acid producing capacity showed marked correlation with activity or inactivity of dental caries.

PREWITT, Lexington.

*BONY DEFORMITIES, DENTAL CARIES AND RICKETS. COMMENTS ON THE MANCHESTER INVESTIGATION. E. H. WILKINS, Med. Officer 60:250-252 1938.

The comparison made between the figures relating to bony deformities and dental caries in children of school age in Manchester and similar studies made by the author in school entrants in Birmingham is discussed. The author considers that strict comparison is not possible since in the Manchester experiments the conditions studied were regarded as evidence of rickets, whereas his own data relate to the degree of departure from an ideal of sound growth and development, i.e., the former has its basis in pathological conditions and the latter in a conception of the physiological optimum. Nar, 8:1054.)

CLINICAL STUDY OF ARRESTING DENTAL CARIES. BERT G. ANDERSON, J. D. Res. 17:443 (Dec.) 1938.

The author suggests that more clinical investigation is necessary before much further progress can be made in caries. This presentation offers (1) a working clinical definition, (2) a description of certain physical manifestations of caries and reports, (3) the results of experimental arrest of dental caries following the removal of the decay and those portions of the tooth that favored accumulation of food and débris.

PREWITT, Lexington.

*DENTAL CARIES AMONG ESKIMOS OF THE KUSKOKWIM AREA OF ALASKA. III. A DIETARY STUDY OF THREE ESKIMO SETTLEMENTS. THEODOR ROSEBURY and MAXWELL KARSHAN (with the technical assistance of CLARE LOWENBERG), Am. J. Dis. Child. 57:1343-1361 1939.

*DENTAL CARIES AND NUTRITION. INVESTIGATIONS ON CHILDREN FROM NORWEGIAN ELEMENTARY SCHOOLS AND INFANT HOMES. E. H. SCHIOTZ, Brit. Dent. J. 66:57-67 1939. [DENTAL CARIES AND NUTRITION.] Nord. Hyg. Tidsskr. 19:242-308 1938. (NAR, 8:1099.)

*Reprinted by courtesy of *Child Development Abstracts and Bibliography.*

*Dental Caries Among Eskimos of the Kuskokwim Area of Alaska. II. Biochemical Characteristics of Stimulated Saliva Correlated with Dental Caries and Occurrence of Salivary Calculus. Maxwell Karshan, Theodor Rosebury and L. M. Waugh (with the technical assistance of Mary Segall), Am. J. Dis. Child 57:1026-1034 1939.

Analysis of the stimulated saliva of 49 Eskimos yielded higher average values for the group having active caries, for the total calcium content, the inorganic phosphate content, the carbon dioxide capacity and the percentage of calcium removed after the specimen was shaken with tricalcium phosphate, as well as a lower average for the group without caries for phosphorus removed after the same procedure. The differences in average values between the two clinical groups are similar in direction to those previously reported for clinic patients. Statistically the differences in total calcium content and in carbon doxide capacity appear significant, while the difference in calcium removed after the specimen was shaken with tricalcium phosphate approaches a significant level. These findings thus confirm the previously reported indication that certain salivary characteristics, presumably related to the power of saliva to prevent the solution of dental enamel by acids, are correlated in group averages with the occurrence of dental caries. They also augment the clinical and bacteriological evidence, presented in the preceding paper in this series, that dental caries among Eskimos is similar to dental caries elsewhere. In addition, the same data correlated with the presence of salivary calculus show average differences such that the group free from calculus resembles the group with active caries in these chemical characteristics, while the groups with calculus in varying degree resemble the group without caries. Thus weight is added to the evidence for the inverse relationship between caries and salivary calculus previously noted on clinical grounds—(Author's Summary).

Dental Caries in Rats Produced by Hard Pilot Biscuit. Theodor Rosebury, J. D. Res. 18:343 (Aug.) 1939.

Rat groups were placed on (1) a diet of coarsely ground yellow corn, saccharose and spinach and (2) five groups in which the corn was replaced by pilot biscuit of four varieties differing in hardness and size of particles. The corn diet group showed the characteristically high incidence of caries, accompanied as in previous experiments by cusp-fracture lesions. The biscuit-fed rats showed caries in four of the five groups but cusp-fracture lesions were entirely absent.

Both fissure and proximo-gingival caries were produced in greatest amount by the hardest biscuits. It was further discovered that when the same hardness of biscuit was used then fissure caries were produced in greater amount by coarsely ground hard biscuit while proximo-gingival caries occurred most when the finely ground hard biscuit composed the diet. This indicates different primary etiology for the two types of caries.

Prewitt, Lexington.

*The Influence of Metabolism on Teeth. J. O. McCall and F. Krasnow, J. Pediat. 13:498-505 1938.

From a brief review of the literature the following conclusions are drawn. Hypoplastic enamel of the permanent teeth is no more subject to caries than normal enamel unless the structural defects are severe. The higher incidence of caries in deciduous teeth with hypoplastic enamel than in those with normal enamel is related to environmental and hence metabolic conditions. Although Ca may not be withdrawn from the teeth during pregnancy the caries process may be accelerated by unfavorable metabolic and environmental conditions. The administration of Ca salts has not been proved to be beneficial to the teeth; normal tooth formation does, however, depend largely on an adequate intake of foods containing Ca. Stress is laid on the necessity of regarding dental disease, caries, erosion, etc., as the ultimate effects of specific syndromes. Nar, 8:1099.)

*Reprinted by courtesy of *Child Development Abstracts and Bibliography.*

*Inhibition of Experimental Dental Caries in the Rat by Fluoride and Iodoacetic Acid. B. F. Miller, Proc. Soc. Exper. Biol. & Med. 39:389 (Nov.) 1938.

The caries-producing diet (brown rice, dried milk powder, alfalfa meal, crisco and sodium chloride was fed to female albino rats, all about 28 days of age. Group 1 consisted of 20 animals on rice and distilled water; group 2 of 20 animals on rice with fluoride subgroup 1A, 10 rats with sodium fluoride; B, 10 with copper fluoride; group 3, of 10 animals on iodoacetic acid with baker's yeast to prevent toxic action. A group of 10 animals was also given control diets containing rolled oats. A count of carious lesions was made after the animals were fed continuously for one hundred days. Numerous places were examined under a dissecting microscope and definite areas of decalcification or actual cavitation recorded. Three molars were examined by two technics. The results show that the animals fed sodium fluoride or iodoacetic acid had a low incidence of caries as compared with the controls. The control animals on oatmeal diet did not have any cavities. Distinct mottling occurred in those receiving sodium fluoride and slight mottling in those given calcium fluoride. The inhibitory compounds probably act by contact either between the food and the flora of the teeth surface or between the saliva and the tooth surface. It cannot be said that the inhibitory effect of fluoride and iodoacetic acid is due to effects on the enzyme system of carbohydrate metabolism as related to phosphorylation.

Hansen, Minneapolis.

*Metabolism in Dental Decay and Prophylaxis Against Caries. I. Jundell, R. Hanson and T. Sandberg, Acta paediat. 23:141, 1938.

One hundred and seventy-two children in a modern sanatorium for the treatment of patients with tuberculosis of bone were divided impartially into two groups: The members of the first group, which numbered 118 children of an average age of 12.9 years, received large daily supplements of cod liver oil or ultraviolet radiation; the members of the second, or control group, numbering 44, of an average age of 13 years, ate a well balanced diet but received no supplement. During an average period of observation of fifteen and one-tenth months dental caries developed in the members of the first, or treated, group at the mean rate of 0.27 carious surface per month; during an average period of observation of thirteen and two-tenths months new carious surfaces developed in the untreated control children at the mean rate of 0.30 per month. That the diet was adequate from the point of view of its calcium and phosphorus content was demonstrated by the recalcification of osteoporotic bone in several patients with orthopedic tuberculosis treated in the same institution during the same period. The conclusion is drawn that measures aimed at improving the retention of calcium and phosphorus do not reduce the incidence of dental caries in already calcified portions of the teeth.

McCune, New York.

†Metabolism in the Tooth Enamel and Prophylaxis Against Dental Caries. I. Jundell, Robert Hanson and T. Sandberg, Acta paediat. 23:141-144 1938.

In 118 children treated with light (quartz lamp or Finsen) and (or) codliver oil the average age was 12.9 years, the average time of observation 15.1 months and the average monthly increase in the number of carious tooth surfaces 0.27; in a control group of 44 children the corresponding values were 13.0, 13.2 and 0.30. The children had tuberculosis of the bones, joints or glands. No deficiency in Ca, P or other known requirement for bone formation and generation existed. The presence of substances in the internal metabolism sufficient for bone formation and the extra provision of vitamins A and D had no effect on the development of dental caries. (CA, 33:2944.)

The Modified Dental Caries Index. Charles F. Bodecker, J. A .D. A. 26:1453 (Sept.) 1939.

A discussion of caries in general including the history, technic, and calculation of the caries index. A second useful type of index is the susceptible caries index which is discussed and explained. Caries indices are useful in developing one standard that may

*Reprinted by courtesy of *The American Journal of Diseases of Children.*
†Reprinted by courtesy of *Child Development Abstracts and Bibliography.*

be agreed upon and "by this means the observations of all examiners can be used in one nation-wide or even world-wide analysis."

STEADMAN, St. Paul.

PRELIMINARY STUDY OF ORTHODONTIC RESULTS AS REVEALED BY ROENTGENOGRAPHIC CEPHALOMETRIC RECORDS. L. B. HIGLEY, Am. J. Orthodont. & Oral Surg. 24:1039 (Nov.) 1938.

Results of eight cases of Class II, Division 1 malocclusion are shown in this article. Little, if any, distal movement of the maxillary posterior teeth was found. However, in the two cases where tracings were made only a few months after the beginning of treatment there was "considerable distal movement of the maxillary posterior teeth erupted and unerupted."

The following is quoted from the author's summary:

"In all cases the maxillary anterior teeth had been carried downward and backward with the exception of the two showing the best mandibular development in which these same teeth traveled downward and forward, which is more consistent with normal growth and development.

"In all cases except two the mandible was carried downward and backward. However, where the bony chin point is not distal to its original position, lengthening of the mandible or forward adjustment must account for this.

"The general morphology of the mandible has remained the same in all cases, with no change in the mandibular angle."

LEWIS, Dayton.

†PRESENT STATUS OF DENTAL CARIES IN RELATION TO NUTRITION. N. SIMMONDS, Am. J. Pub. Health 28:1381-1387, 1938.

Citing the low incidence of dental caries among children studies by Boyd, Drain and Nelson among orphanage children studied by Bunting, the author points out that the diets in both instances were low in all sweet foods. Although there are two schools of thought as to the bacteriological problem involved in dental decay, the authorities apparently agree that sweets encourage this disease. The author quotes Dr. Mary Moore to show that early care does not insure dental soundness in later years. It appears doubtful whether the average person will refrain from all sweets even to keep sound teeth, but health educators can urge moderation in sweets and teach people to choose the most nearly complete diet possible. With adequate nutrition, more leeway on sweets may be permitted. It is probably enough for health educators to aim for a low incidence rather than a complete absence of dental caries. (JHE, 31:410.)

*PREVENTION OF DENTAL CARIES. F. HAMBURGER and H. GOLL, Med. Klin. 34:1115 (Aug. 26) 1938.

Hamburger and Goll discuss various possible causes of dental caries and conclude that the etiologic agent is multiple. They regard vitamin B deficiency as of especial importance and advocate widespread use of grain germ and dry yeast in the diet. They urge that studies be made with particular reference to the teeth of children whose mothers received such a diet during pregnancy and lactation.

The toothbrush is regarded as useless in preventing caries.

SIEMSEN, Chicago.

SALIVA & ENAMEL DECALCIFICATION. III. AUTOLYSIS. J. T. GORE, J. D. Res. 17:411 (Oct.) 1938.

A series of experiments was instituted in an attempt to determine the changes taking place in the saliva with a diet in which the carbohydrates were eliminated, as far as was consistent with health, and with a diet containing an excess of carbohydrates. These were discussed.

PREWITT, Lexington.

†Reprinted by courtesy of *Child Development Abstracts and Bibliography.*

*Reprinted by courtesy of *The American Journal of Diseases of Children.*

A Study of Age and Sex of the Incidence of Dental Caries in Over 12,000 Persons. Franklin Hollander, J. D. Res. 18:43 (Feb.) 1939.

In order that certain apparent shortcomings of earlier statistical caries-incident studies might be eliminated data was collected from a study of 12,753 persons connected with the Metropolitan Life Insurance Company. These examinations of persons in the age range of 17 to 65 years were made in a routine manner irrespective of the individual's desire or need for dental treatment.

A control group of 1,000 patients of the white collar class who had presented themselves to a dental clinic was also used in order to show the difference between studies based on patients who had presented themselves for treatment and an all inclusive group. Conclusions:

The initiation of new caries must continue past adolescence at least until middle life, at a slowly and progressively decreasing rate due in part to a decrease in the residual number of unaffected decayable teeth.

Women present more caries, the difference being increasingly marked after the age of 34.

A group of persons of all walks of life gathered together for reasons other than disease gives a different result from a group of individuals of similar status which has been studied at the time of dental treatment.

Analysis of caries incidence in terms of decayed surfaces per person gave essentially the same conclusions as did an analysis of decayed teeth per person. Decayed surfaces, however, offer the more sensitive criterion of the two.

The technique employed in this study involves several sources of error which must be borne in mind by future investigators.

Prewitt, Lexington.

*Studies on Dental Caries. 8. Relative Incidence of Caries in the Different Permanent Teeth. J. W. Knutson, H. Klein and C. E. Palmer, J. Am. Dent. A. and Dent Cosmos 25:1923-1934, 1938.

An analysis was made of the distribution of dental caries in the different morphological types of permanent teeth in 4,416 grade school children of Hagerstown, Maryland. It was found that girls had a higher incidence of dental caries in each type of tooth for each chronological age than boys, that the first molars were the most susceptible to dental caries, that the upper incisors and first and second bicuspids and the lower second bicuspids had an intermediate order of susceptibility, and that the lower incisors, cuspids and first bicuspids and the upper cuspids were characterized by low caries attack rates. (NAR, 8:1100.)

Susceptibility to Dental Caries in the Rat. VII. Influence of Mineral Salts, Protein, and Sugar, and the Relationship of Calcification of Teeth and Bone. Theodor Rosebury and Maxwell Karshan, J. D. Res. 18:143 (April) 1939.

It is apparent that several dietary factors cooperate in the production of experimental dental fissure caries in the rat. These lesions are due primarily to the ingestion of particles of coarsely ground raw cereals. This report presents the results of some of the secondary or modifying influences on caries produced by coarse rice and corn diets.

1. A study of the effects on the teeth by diets adequate except for two ingredients (Vitamin D and corn oil) previously shown to induce significant reduction in the incidence of caries.

2. A study of the effects of egg albumin, of a partially corrected calcium deficiency, and of varying levels of sugars.

In the diet free of Vitamin D and fat the resulting caries incident was low and the level was found to be within the range which the authors have previously found to be characteristic of animals on diets containing these elements. The increasing levels of saccharose tended to increase the incidence of caries. The calcium lactate addition, although producing slight improvement in calcification of bone and teeth, did not reduce

*Reprinted by courtesy of *Child Development Abstracts and Bibliography.*

the incidence of caries. The further addition of protein brought about a reduced incidence of caries.

PREWITT, Lexington.

Dental Hygiene and Public Health

MAKING THE TRUTH CREDIBLE. DWIGHT ANDERSON, Am. J. Orthodont. & Oral Surg. 25:509 (June) 1939.

Here are presented a few salient aspects of a public relations policy for the profession of orthodontics. They are based on the truth of orthodontics, and making that truth credible to the public by addressing it to special groups through the medium of radio and printed matter.

LEWIS, Dayton.

*THE PLACE OF DENTAL HYGIENE IN A MATERNAL AND CHILD HEALTH PROGRAM. K. F. LENROOT, J. A. D. A. 26:263-269 1939.

The maternal and child health program and the program of services for crippled children under the Social Security Act have made possible considerable advance toward community-wide dental health programs for mothers and children. The interdependence of general health and dental health is recognized by the dental profession and by federal and state health agencies. Funds now available for public services permit only the demonstration of the need and possibilities of a practicable program under competent technical direction and with the cooperation of professional organizations and private practitioners. (JHE, 31:411.)

POSSIBLE DELETERIOUS EFFECTS OF USING SOAP SUBSTITUTES IN DENTIFRICES. SIDNEY EPSTEIN, A. H. THRONDSON, WILLIAM DOCK and M. L. TAINTER, J. A. D. A. 26:1461 (Sept.) 1939.

The following quotations from the article represent the authors' point of view:

"One of these was sodium lauryl sulfate, containing small amounts of related alkyl derivatives. . . ." "This agent is in Pepsodent Tooth Powder and Pepsodent Toothpaste. . . ." "It is called 'Irium' in the advertising of this company. This material is also in the liquid dentifrice 'Teel.' . . .

"The other product as the sodium lauryl sulfoacetate, which is present in Listerine Tooth Powder and Listerine Tooth Paste. . . ." "It is called 'Lusterfoam' in the advertisements of the Lambert Pharmacal Company, from whom our material was obtained." "The former agent was obtained from the Procter and Gamble Co. . . .

"However, the high efficiency of the sulfonic acid derivatives in these respects was not out of proportion to their greater detergent efficiency, and they were not more toxic than soap, considering the concentrations and doses that are commonly used.

"Some deleterious and undesirable effects of these agents experienced by the public in another connection, are mentioned as evidence that there may be a failure to realize that much lower concentrations must be used than when soap is employed."

STEADMAN, St. Paul.

†THE TEETH OF CHILDREN OF THE FIRST AND SECOND GRADE IN PRAGUE. J. POKORNY, Ceskoslov. stomatol. 36:253 (April) 1936.

In a medical survey made during the school year of 1935-1936, 10,888 children of the first and second grades were checked for caries and dental hygiene. Of these, 7,777, or 71.5 per cent, were in need of dental care, and 3,111, or 28.5 per cent, did not require dental care.

STULIK, Chicago.

*Reprinted by courtesy of *Child Development Abstracts and Bibliography.*
†Reprinted by courtesy of *The American Journal of Diseases of Children.*

Dentistry and Dental Relations

ORTHODONTIC RESPONSIBILITY OF THE DENTIST IN CONSIDERATION OF PREVENTIVE AND CORRECTIVE PROCEDURES. EDWARD M. GRIFFIN, D. Items of Interest. 61:562 (June) 1939; 61:673 (July) 1939. (See Case Analysis and Diagnosis.)

Education, Legislation, Economics

PRINCIPLES AND OBLIGATIONS OF ORTHODONTIC EDUCATION. B. E. LISCHER, Am. J. Orthodont. & Oral Surg. 24:1032 (Nov.) 1938.

Recommendations from the Committee on Education of the American Association of Orthodontists concerning undergraduate courses in orthodontia include the following:

"With these principles and tendencies in mind, we recommend the following courses in orthodontics for all undergraduate dental students, to provide the minimum instruction outlined above, and the necessary prerequisites for pursuing graduate study:

"1. Principles of orthodontics. An illustrated didactic course, 32 hours, credit 2 units.

"2. Essentials of mechanotherapy. (a) A lecture demonstration course, 32 hours, credit 2 units; (b) technical laboratory course, 92 hours, credit 2 units.

"3. Introduction to clinical orthodontics. (a) Lecture demonstration course, 16 hours, credit 1 unit; (b) clinic exercises in case history taking, diagnostic data, diagnosis and prognosis, 48 hours, 1 unit.

"4. Clinical orthodontics. (a) An obligatory clinic course, 140 hours, credit 4 units. This course consists almost entirely of treatments for eugnathic anomalies, in all the various stages of treatment. A limited number of dysgnathic anomalies can be presented to show the difficulties encountered in treating the latter. All the patients are treated by the staff, and the students are admitted in sections, which can be rotated throughout the course, so that each student will have an opportunity to attend the conferences of each staff instructor. (b) An elective course for qualified seniors, 140 hours, credit 4 units, is recommended. Students admitted to this course may be required to assist in the treatment of patients, under the guidance of the instructors. If the clinic conferences are well planned and the instructors make special assignments, the attending students are encouraged to take up graduate study.

"In summarizing these courses we note that the obligatory instruction requires 360 hours and yields 12 units of credit. Since none of the instruction offered in these courses is of graduate grade, it is recommended that applicants for graduate study be required to present a minimum credit of 12 units as a prerequisite for graduate status. By graduate work we mean advanced work, the knowledge, training and skill required for the treatment of dysgnathic anomalies, the preparation intended for the specialist. Graduate courses demand separate educational organization and standards, offer opportunities for original research, require the preparation of a thesis, and confer advanced degrees. The addition of the elective course increases the total hours to 500 and the units of credit to 16."

LEWIS, Dayton.

Etiology

CLINICAL OBSERVATIONS RELATING TO THE NORMAL AND ABNORMAL FRENUM LABII SUPERIORIS. JOHN E. TAYLOR, Am. J. Orthodont. & Oral Surg. 25:646 (July) 1939. (See Anatomy.)

MACROMAXILLARY AND MICROMANDIBULAR DEVELOPMENT. FLOYD E. GIBBIN, Am. J. Orthodont. & Oral Surg. 25:657 (July) 1939.

This is a detailed account of the treatment of a Class 1 case with widely spaced anterior teeth. Etiology of the case was attributed to the inheritance of a large dental arch from the mother and teeth from the paternal side of the family.

LEWIS, Dayton.

THE LYMPHOID TISSUE PROBLEM IN THE UPPER RESPIRATORY TRACT. HARRY NEIVERT, Am. J. Orthodont. & Oral Surg. 25:544 (June) 1939.

A complete discussion of the relationship of lymphoid tissue of the upper respiratory tract to the development of malocclusion, the effect of this tissue on the adjacent structures, the sinuses and the ears, and how to cope with the problem. From clinical and laboratory results published the author believes the mere presence of adenoids does not cause deformity, but mouth habits resulting from large adenoids may be an essential factor.

The physiology of the nose, the histology and pathology of the lymphoid tissues, and the indications and contraindications for surgery are outlined. The cause of deafness by adenoids is an important part of the paper.

LEWIS, Dayton.

RACE, GROWTH, AND OCCLUSION. BYRON O. HUGHES, Am. J. Orthodont. & Oral Surg. 24:1065 (Nov.) 1938. (See Anthropology.)

Growth and Development

*THE APPEARANCE OF CENTERS OF OSSIFICATION FROM BIRTH TO 5 YEARS. CARL C. FRANCIS and PETER P. WERLE (with the assistance of ALTON BEHM), Am. J. Phys. Anthrop. 24:273-300, 1939.

1. A schedule for the date and sequence in appearance of centers of ossification for both sexes from birth to 5 years is presented. 2. This schedule differs fundamentally from others in the literature because it is not based upon the average or fiftieth percentile of the population but upon the eightieth percentile. The 1728 sets of records upon which this schedule was tested were the result of as many examinations of 307 boys and 315 girls of superior physical and economic status serially examined at 3, 6, 9 and 12 months of age and thereafter at 6-month intervals to the fifth birthday. 3. The stated age for the appearance of each center is that date when it may be expected to appear in a healthy child with a satisfactory environment. 4. The reason for variation in date of commencement of ossification and in its progressive development is not some obscure cause inherent in the germ plasm but the result of metabolic disturbance, a subject which is so important that it must be dealt with in a separate communication. 5. The centers of ossification appear in sheaves of miscellaneous composition but primary centers are more apt to be delayed in commencement of ossification than are centers appearing in epiphyses. 6. Irregularities of ossification, commonly called osteochondrosis, may often be found, once a center has commenced to ossify even though there is no clinical evidence of disturbance. Again primary centers are more prone to display this irregularity and the patella of boys is the most frequent site for its occurrence. (Authors' Summary.)

CLINICAL OBSERVATIONS RELATING TO THE NORMAL AND ABNORMAL FRENUM LABII SUPERIORIS. JOHN E. TAYLOR, Am. J. Orthodont. & Oral Surg. 25:646 (July) 1939. (See Anatomy.)

FACING FACTS OF FACE GROWTH. WILTON MARION KROGMAN, Am. J. Orthodont. & Oral Surg. 25:724 (Aug.) 1939.

This article may be summarized by the following statements: 1. The techniques of facial growth study are soundly based on craniometric, x-ray, and maturational methods. Kronfeld's and Broadbent's tooth calcification criteria, and Todd's skeletal maturational assessments are the units recommended to measure progress.

2. Growth in the face is in three planes: height, breadth, length.

3. Incremental growth is rhythmic, with an interplay between the several components, each with its own rate of growth. From birth to six years growth is vigorous in all directions; from six to twelve years' growth is mostly in height, least in length; from twelve to twenty years there is an increase in length, and breadth exceeds height.

*Reprinted by courtesy of *Child Development Abstracts and Bibliography.*

In general length and breadth increase precedes changes in the dentition; height follows tooth eruption.

4. Differential length growth in upper and lower face leads to malocclusion.

5. Face growth is susceptible to the same growth impulses or retardations as in body growth.

6. The concept of the normal is best understood in terms of a predictable statistical variability.

LEWIS, Dayton.

ORTHODONTIC PROGNOSIS: EVALUATION OF ROUTINE DENTOMEDICAL EXAMINATIONS TO DETERMINE "GOOD AND POOR RISKS." HERMANN BECKS, Am. J. Orthodont. & Oral Surg. 25:610 (July) 1939. (See Case Analysis and Diagnosis.)

STUDIES IN TOOTH DEVELOPMENT. ARTICLE I—THE 16 MICRONS CALCIFICATION RHYTHM IN THE ENAMEL FROM FISH TO MAN. ISAAC SCHOUR and M. M. HOFFMAN, J. D. Res. 18:91 (Feb.) 1939.

The purpose of this study was to make a quantitative analysis of the incremental layers of enamel and to investigate their constancy and rhythmic nature in the teeth of various species. 5,500 measurements were made in the enamel and dentin of 183 teeth of 17 species. The mean value per pair of light and dark layers for the entire group of teeth approximated 16 microns with a small deviation and probable error.

There was no significant difference in the width of layers between enamel and dentin, between the teeth of various species, between teeth of limited or continuous growth, or between incisors, cuspids, or molars. The wide distribution and consistency of the 16 micron rhythm suggests a promising field in various normal and pathologic accretions of a non-dental nature. The time factor of the rhythm was investigated and the findings are presented in a separate report.

PREWITT, Lexington.

STUDIES IN TOOTH DEVELOPMENT. II. THE RATE OF APPOSITION OF ENAMEL AND DENTIN IN MAN AND OTHER MAMMALS. ISAAC SCHOUR & M. M. HOFFMAN, J. D. Res. 18:161 (April) 1939.

The purpose of this study was to measure the rate of apposition of enamel and dentin in various types of mammalian teeth and to determine the possible quantitative correlation between the appositional rate and the 16 micron calcification rhythm which was established in a previous study. The rate of apposition was studied in 412 animals of 10 species by three methods: injection of NaFl; injections of alizarine Red S; and experimental interferences for known periods of time each of which produced a prompt modification in the tissues. Conclusions:

In the rodent incisor the daily rate of formation of enamel and dentin is 16 microns and shows only a small gradient. It is therefore the daily unit of tooth formation.

In teeth other than rodent incisors the daily rate of formation shows a considerable but orderly gradient (ranging from 16 to 2 microns) that varies with the species, tooth, and level of its formation.

PREWITT, Lexington.

Medicine and Medical Relations

THE LYMPHOID TISSUE PROBLEM IN THE UPPER RESPIRATORY TRACT. HARRY NEIVERT, Am. J. Orthodont. & Oral Surg. 25:544 (June) 1939. (See Etiology.)

SOME INTERESTING DATA IN THE PEDIATRIC FIELD. ANTONIO J. WARING, Am. J. Orthodont. & Oral Surg. 25:651 (July) 1939.

Quoting freely from orthodontic and pediatric literature the essayist mentions numerous mutual problems of both professions.

LEWIS, Dayton.

*Teething as a Disorder of Infancy—Its Prevention and Treatment. M. Witkin, Arch. Pediat. 56:69 (Feb.) 1939.

In teething there are two sources of disturbance; the irritated gum and the irritated pulp. The inflammation of the gum may produce local symptoms, and the inflammation of the pulp may give rise to diverse reflex phenomena, as it is supplied by the fifth cranial nerve, which is in intimate relationship with the sixth, seventh, ninth and tenth cranial nerves in and about the floor of the fourth ventricle. Thus salivary, muscular, nervous, alimentary and pulmonary disturbances become possible.

Pathologic dentition may occur in the absence of evident hyperemia of the gum. Ischemia from pressure may be present; also there may be a jamming of the root end down on the pulp by the resistant gum.

The nervous and digestive systems of the child are in a developmental state and therefore in unstable equilibrium, and any added physiologic strain will produce an upset.

The symptoms mentioned that are attributable to disturbances of teeth as a primary, or idiopathic, cause are: disturbances of sleep, fretfulness, loss of appetite and increased salivation. The digestion may be upset, the temperature may be elevated, and the weight may be stationary, or a loss may occur. Overfeeding at such time may result in vomiting or diarrhea. In most instances these symptoms are due to other causes. When, however, they disappear immediately after the eruption of the teeth, one must conclude that pathologic dentition is the cause of the disorder.

Orr, Buffalo.

Miscellaneous

Destruction of Tooth Enamel by Acidified Candies. Edward S. West and F. R. Judy, J. D. Res. 17:499 (Dec.) 1938.

Such candies as lime and lemon drops are known to be often highly acid in solutions with Ph. values running down to 2.5 in water and 5.0 in saliva. Freshly extracted teeth were used in the experiments designed to test the destructive action of these various acidified (citric acid) candies upon enamel. The results suggest that citric acid solutions act upon enamel in (1) actions due to the acidity leading to the formation of soluble calcium citrate complexes and (2) destruction of enamel through replacement of the phosphate ions by citrate ions in the surface of the enamel, thereby changing its chemical and crystal structure.

Prewitt, Lexington.

The Plans and Purposes of the American Association of Orthodontists. Harry Allshouse, Jr., Am. J. Orthodont. & Oral Surg. 25:633 (July) 1939.

An outline of the objectives of the American Association of Orthodontists is presented. Continued education of its members, legislation affecting orthodontic practice, the American Board of Orthodontics, the reorganization plan and fraternal relationship are among the objectives given.

Lewis, Dayton.

Nutrition and Metabolism

An Adequate Calcium and Phosphorus Dietary Regime. Alexander B. Gutman, Am. J. Orthodont. & Oral Surg. 25:711 (Aug.) 1939.

Current estimates of the calcium, phosphorus, and vitamin D requirements of the normal human being are reviewed, with special reference to the adequacy of dietary sources. The general indications for supplementing the diet with medicinal sources of calcium, phosphorus, and vitamin D, together with preferred methods of so doing, are considered.

Normal phosphorus needs are met, ordinarily, by average mixed diets sufficient in

*Reprinted by coutesy of *The American Journal of Diseases of Children.*

calories. Many dietaries, however, appear to be suboptimal with respect to calcium. This deficiency may be corrected by increasing the adult milk consumption to one pint a day, and the growing child consumption to one quart.

LEWIS, Dayton.

DENTAL CARIES AND NUTRITION. INVESTIGATION OF CHILDREN FROM NORWEGIAN ELEMENTARY SCHOOLS AND INFANT HOMES. E. H. SCHIOTZ, Brit. Dent. J. 66:57-67 1939. (DENTAL CARIES AND NUTRITION) Nord. Hyg. Tidsskr. 19:242-308 1938. (NAR, 8:1099.) (See Dental Caries.)

DESTRUCTION OF TOOTH ENAMEL BY ACIDIFIED CANDIES. EDWARD S. WEST and F. R. Judy, J. D. Res. 17:499 (Dec.) 1938. (See Miscellaneous.)

INFANTILE MELANODONTIA. G. BELTRAMI and M. ROMIEU, La Revue de Stomatologie 41:433 (June) 1939.

The authors report studies on deciduous dentitions of lesions which have previously been confused with dental caries. These lesions are described as a disintegration of the dental tissues together with the deposit of a melanotic pigment; there may be pulpal involvement. The lesions have no effect on the permanent teeth, are almost entirely confined to the maxillary deciduous incisors and differ both clinically and anatomically from caries in their onset, form and evolution. The authors believe the etiology involves a nutritional disequilibrium resulting from modern diets.

NEWCOMB, Cleveland.

THE INFLUENCE OF METABOLISM ON TEETH. J. O. MCCALL and F. KRASNOW, J. Pediat. 13:498-505, 1938 (See Dental Caries.)

PRESENT STATUS OF DENTAL CARIES IN RELATION TO NUTRITION. N. SIMMONDS. Am. J. Pub. Health 28:1381-1387, 1938. (See Dental Caries.)

Pathology

*ALLERGY IN INFANTS. SIGNIFICANCE OF FIRST ALLERGIC MANIFESTATIONS. NORMAN W. CLEIN, Northwestern Med. 38:9-12, 1939.

A series of 100 allergic and 100 nonallergic infants from private practice were studied from birth to 4 or 5 years of age. The allergic infants had 71 per cent allergic parents; the nonallergic had 12 per cent. In the allergic infants, 78 per cent exhibited some allergic symptoms before 4 months of age, 91 per cent by 1 year, and 100 per cent by 2 years of age, as follows: (a) rash (eczema) in 85 cases, occurring chiefly on the face; (b) vomiting (pylorospasm), 24 cases; (c) colic (abdominal pain, gas, or diarrhea), 16 cases. One or more of these symptoms were frequently present at the same time. (BA, 13:408.)

BONY DEFORMITIES, DENTAL CARIES AND RICKETS. COMMENTS ON THE MANCHESTER INVESTIGATION. E. H. WILKINS, Med. Officer 60:250-252, 1938. (See Dental Caries.)

INFANTILE MELANDONTIA. G. BELTRAMI and M. ROMIEU, La Revue de Stomatologie. 41:433 (June) 1939. (See Nutrition and Metabolism.)

THE LYMPHOID TISSUE PROBLEM IN THE UPPER RESPIRATORY TRACT. HARRY NEIVERT, Am. J. Orthodont. & Oral Surg. 25:544 (June) 1939. (See Etiology.)

*MOTTLED ENAMEL IN SOUTH DAKOTA. H. T. DEAN, E. ELVOVE and R. F. POSTON, Pub. Health Repts. 54 (No. 6): 212-228, 1939.

Mottled enamel has been endemic in 41 South Dakota communities for a number of years. The endemicity is seemingly limited to the smaller communities and rural districts where the inhabitants obtain their domestic water from the Dakota sandstone. A community studied by the writers provides the third recorded instance of preventing mottled enamel simply by changing the water supply from one containing high concentrations

*Reprinted by courtesy of *Child Development Abstracts and Bibliography.*

of fluorides to one nearly free of them. The difficulty of obtaining evidence of this kind is apparent when it is realized that at least 8 years is required after the change in water supply before clinical results are demonstrable. (JHE, 31:413.)

ORTHODONTIC PROGNOSIS: EVALUATION OF ROUTINE DENTOMEDICAL EXAMINATIONS TO DETERMINE "GOOD AND POOR RISKS." HERMANN BECKS, Am. J. Orthodont. & Oral Surg. 25:610 (July) 1939. (See Case Analysis and Diagnosis.)

THE RELATIONSHIP BETWEEN PERIODONTAL CONDITIONS AND CERTAIN DIETARY FACTORS. DOROTHEA F. RADUSCH, J. D. Res. 18:305 (Aug. 4) 1939.

Dietary records of freely chosen diets submitted by patients who applied for prophylactic or periodontal treatment at the dental school, supplemented by Tishler's data, were studied. Among the conclusions reached were (1) indications of little or no association between periodontal condition and age, Vitamin A, Vitamin C, iron, or acid-base excess, and (2) indicated association between periodontal condition and Ca., P., protein, and milk intake. This study suggests that more cases of periodontal disease in human adults may have a systemic factor (diet) than has been commonly stated by research workers.

PREWITT, Lexington.

*TECHNIC FOR SUTURING THE CLEFT PALATE. K. E. HERLYN, Beitr. z. klin. Chir. 165: 276 1937.

Herlyn describes his technic, giving photographs and diagrams. He uses a straight needle, 8 mm. in length, and a curved needleholder.

RUBIN, Boston.

TEETHING AS A DISORDER OF INFANCY—ITS PREVENTION AND TREATMENT. M. WITKIN, Arch. Pediat. 56:69 (Feb.) 1939. (See Medicine and Medical Relations.)

Physiology

STUDIES IN TOOTH DEVELOPMENT. ARTICLE I—THE 16 MICRONS CALCIFICATION RHYTHM IN THE ENAMEL FROM FISH TO MAN. ISAAC SCHOUR and M. M. HOFFMAN, J. D. Res. 18:91 (Feb.) 1939. (See Growth and Development.)

STUDIES IN TOOTH DEVELOPMENT II. THE RATE OF APPOSITION OF ENAMEL AND DENTIN IN MAN AND OTHER ANIMALS. ISAAC SCHOUR and M. M. HOFFMAN, J. D. Res. 18:161 (April) 1939. (See Growth and Development.)

TEETHING AS A DISORDER OF INFANCY—ITS PREVENTION AND TREATMENT. M. WITKIN, Arch. Pediat. 56:69 (Feb.) 1939. (See Medicine and Medical Relations.)

Roentgenology

PRELIMINARY STUDY OF ORTHODONTIC RESULTS AS REVEALED BY ROENTGENOGRAPHIC CEPHALOMETRIC RECORDS. L. B. HIGLEY, Am. J. Orthodont. & Oral Surg. 24:1039 (Nov.) 1938. (See Case Analysis and Diagnosis.)

TECHNIC AND ADVANTAGES OF SIMULTANEOUS REPRODUCTION OF HARD AND SOFT TISSUES IN PROFILE ROENTGENOGRAPHY. L. B. HIGLEY, J. A. D. A. 26:1479 (Sept.) 1939.

The following quotations summarize the paper:

"The method herein described takes no time in addition to that required for the usual profile roentgenogram, . . ."

"The technic depends entirely on the correct orientation of an aperture in a lead plate relative to the midcentral ray and the subject's head."

STEADMAN, St. Paul.

*Reprinted by courtesy of *The American Journal of Diseases of Children.*

Speech

*The Development and Disorders of Speech. T. G. Wilson, Irish J. M. Sc., March 1937, p. 135.

This is an extensive article and includes all aspects of the subject. The author describes the development of speech in an infant and child. Hearing, deaf-mutism and other problems are considered. The intelligence of the child must be considered, especially if training of a deaf child is to be carried out. The mechanical and functional disorders, such as nasal speech, stuttering and lisping, are taken up. Treatment and speech training are considered in detail. Anyone particularly interested in this subject should not fail to read the article.

Snelling, Toronto, Canada.

Technic and Metallurgy

Concerning the Vitality of Calcified Dental Tissues. Article II—The Permeability of Enamel. Wm. Lefkowitz and Chas. F. Bodecker, J. D. Res. 17:453 (Dec.) 1938. (See Anatomy.)

Simple Methods for Constructng Two Attachments for the Buccal Arch. Ashley E. Howes, Am. J. Orthodont. & Oral Surg. 25:637 (July) 1939.

A clinic devoted to describing the construction of a tie-bracket, similar to the edgewise bracket, for use with round arches.

Lewis, Dayton.

Technic and Advantages of Simultaneous Reproduction of Hard and Soft Tissues in Profile Roentgenography. L. B. Higley, J. A. D. A. 26:1479 (Sept.) 1939. (See Roentgenology.)

The Trend of Clinical Orthodontics Leuman M. Waugh, Am. J. Orthodont. & Oral Surg. 25:536 (June) 1939. (See Case Analysis and Diagnosis.)

Temporomandibular Joint

Temporomandibular Joint Disorders. Ross F. Bleiker, Am. J. Orthodont. & Oral Surg. 25:732 (Aug.) 1939.

Laminagraphs are shown of various cases in which the condyle infringed upon the petrotympanic fissure causing ear disturbances and referred pains. In conclusion the author states:

1. A definite relationship exists between the head of the condyle and the glenoid fossa when the teeth are in normal occlusion.
2. Overclosure may be a contributing factor in ear disturbances and referred pains.
3. Symptoms of pain disappear as the function of the joint is restored to normal.
4. To demonstrate definite changes of the condyle within the glenoid fossa, a standardized roentgen ray technique should be used.
5. Precision laminography of the temporomandibular joint has been demonstrated clinically.

Lewis, Dayton.

Temporo-Maxillary Orthopedic Surgery. G. Ginestet; Roy; Houpert, La Revue de Stomatologie. 41:520 (July) 1939.

This is a detailed report on the surgical treatment of four cases, three being luxations and one being a permanent constriction of the jaws following a condylar fracture.

Newcomb, Cleveland.

*Reprinted by courtesy of *The American Journal of Diseases of Children.*

Treatment and Retention

ANGLE CLASS III. SAMUEL HEMLEY, Am. J. Orthodont. & Oral Surg. 25:625 (July) 1939.

The author reports the treatment of a Class I case with Class III symptoms by tipping maxillary anterior teeth labially, and restraining vertical growth in both jaws in the molar and premolar regions. By use of a mandibular bite plate and a maxillary appliance the bite was opened posteriorly, the restraining influence of the mandible over the maxilla was removed and forward growth in the maxilla facilitated.

LEWIS, Dayton.

CASE REPORT. JEROME H. TRIER, Am. J. Orthodont. & Oral Surg. 25:668 (July) 1939.

A presentation of a compromise treatment of a case mutilated by the loss of maxillary right central and lateral, and left molar, also the mandibular left lateral incisor. All spaces were closed except that for the upper central.

LEWIS, Dayton.

CORRECTION OF BILATERAL LINGUAL OCCLUSION OF THE MANDIBULAR ARCH CAUSING EXTREME CLOSE-BITE. CHARLES H. GIRT, Am. J. Orthodont. & Oral Surg. 25:664 (July) 1939.

This report is illustrated by models and photographs and deals with a partially treated case in which the patient was discovered to be suffering from a hypothyroid disturbance.

LEWIS, Dayton.

A MANDIBULAR RETRACTION COMPLICATED BY AN IMPACTION OF THE RIGHT MAXILLARY INCISOR. EARL F. LUSSIER, Am. J. Orthodont. & Oral Surg. 25:529 (June) 1939.

Complete case report illustrated by models, x-rays, photographs, graphs and appliance construction. Space for the incisor was created by use of a vertical loop.

LEWIS, Dayton.

SECONDARY INCLUSION OF A TEMPORARY SECOND MOLAR. J. BERCHER and G. GINESTET, La Revue de Stomatologie. 41:82 (Feb.) 1939.

The authors describe the case of a "secondarily included" deciduous molar. The cause is discussed from the viewpoint of occlusal forces. Treatment involved simple extraction and space maintenance.

NEWCOMB, Cleveland.

TREATMENT OF A BILATERAL DISTOCLUSION CASE BY USE OF THE OLIVER GUIDE PLANE. FREDERICK R. ALDRICH, Am. J. Orthodont. & Oral Surg. 25:640 (July) 1939.

Case report of a Class II case which had been previously treated for five and one half years before coming to the author. Appliance consisted of plain labial and lingual lower, with plan labial maxillary and elastics. An Oliver guide plane was constructed in the maxillary lingual appliance to unlock the protracted retardation of the forward development of the mandibular arch.

LEWIS, Dayton.