Abstracts of Current Literature*

Anatomy

A Palatograph for Contour Mapping of the Palate. Henry Harlan Bloomer. J.A.D.A. 30:1053, July 1943. (See Technic & Metallurgy)

Asymmetry of the Face. John R. Thompson. J.A.D.A. 30:1859, Dec. 1943. (See Etiology)

Anthropology

Anthropological Studies in Dental Caries. Meyer Klatsky and Jack S. Klatell. Journal of Dental Research. 22:267, Aug. 1943.

This study of 4000 skulls of 46 different geographical groups of primitive peoples indicated that dental caries increased as masticatory function decreased. In the more primitive skulls there was evidence of marked attrition, but no decay. There was more decay in skulls of less primitive peoples. The difference was thought to lie in the increasing refinement of foods.

It may seem to the reader that the ancient peoples paid as great a price in suffering for the excessive wear of the teeth as modern peoples do for excessive decay.

Burrill, Chicago.

Dental Conditions Among Prehistoric Indians of Kentucky. Samuel Rabkin. Journal of Dental Research. 22:355, Oct. 1943.

A report of a study of the Indian Knoll collection of 400 skulls. 300 were suitable for the study. It was noted that malocclusion in the ordinary sense was rare among these people. Incidence of decay was low. The jaws were well developed and teeth much worn. Variations in forms of jaws and teeth were found. Burrill, Chicago.

Hereditary Transmission of Gradually Developed Dental Characteristics. Samuel Rabkin. Journal of Dental Research. 22:226, June 1943. (See Etiology)

Studies on the Incidence and Cause of Dental Defects in Children. Marcu Brucker. Journal of Dental Research. 22:315, Aug. 1943. (See Etiology)

The Earliest Known Fossil Stages in the Evolution of the Oral Cavity and Jaws. William K. Gregory. Am. J. of Orthodont. and Oral Surg. 29:253, May 1943.

Gregory traces the evolution of the mouth and jaws from the oldest known fossil chordates, which are ostracoderms, to man. These ostracoderms possessed a stomodaeal mouth pouch and a series of large paired gill pouches. With the acanthodians the endoskeletal tissue around the oral pouch had divided into the primary upper and lower jaws. At this stage the future derm bones of the face were still on the surface and covered with an enamel-like layer; the teeth were differentiated from dermal denticles. The ganoid fishes were next in line followed by mammal-like reptiles.

* The abstracts of current literature are prepared without comment or interpretation by the editorial staff of The Angle Orthodontist from the following sources: *Journal of the American Dental Association, American Journal of Orthodontics and Oral Surgery, Journal of Dental Research, Journal of Dental Education, Journal of the Canadian Dental Association, British Dental Journal, Dental Record* (British), *Child Development Abstracts and Bibliography, American Journal of Diseases of Children* (Abstract section), and other American and foreign periodicals from which abstracts are occasionally submitted. The abstracts represent a comprehensive though not a complete index of material and dental literature of interest to the specialty of Orthodontics.

With these reptiles one pair of the surface bones of the mandible, the dentaries, became dominant, their ascending rami grew upward toward the squamosal bones bordering the primary upper jaw. In this way the temporal mandibular joint came into being.

Meanwhile part of the sphincter colli profundus spread forward over the face, lips, cheeks, and throat forming a muscular mass. The tongue became overlaid with thick, actively moving muscle layers. Numerous illustrations depict the details of the development of man's face. LEWIS, Dayton.

WHAT WE DO NOT KNOW ABOUT RACE. WILTON MARION KROGMAN. The Scientific Monthly. 57:97, Aug. 1943.

Taxonomically, the groups referred to as races by anthropologists are subspecies, or varieties. At this level, in Man as in lower forms, the differences between these groups are neither precise nor easily defined. We are fairly sure that Man arose as a result of a divergence from a generalized anthropoid form some five million years ago, but we are uncertain how stocks and races arose. Our knowledge of heredity in Man is inadequate; we do not know the precise mechanism whereby traits diagnostic of stock and race are transmitted, nor are we sure which traits are relatively stable and which are easily modifiable. Little is known about the physiology of race-types; differences which have been observed are differences of degree rather than of kind, and may reflect only differences in living conditions. Finally, it cannot be said that there are any characteristics that in a given race-cross are superior or inferior, and there is no such thing as "race superiority" or "race inferiority." Until it is possible to classify the people of the world genotypically, we must use a classification based on phenotypic differences, recognizing its inadequacy. WYLIE, San Francisco.

Case Analysis and Diagnosis

GENERAL PHYSICAL DIAGNOSIS. W. J. BRYAN. Am. J. of Orthodont. and Oral Surg. 29:658, Nov. 1943.

Bryan presents two case reports in addition to a general discourse of physical diagnosis. One patient was a hypothroid and the other a distinct nutritional problem. Results of his examinations are given, laboratory findings and progress reports noted, and the diagnosis summed up in a convincing manner. LEWIS, Dayton.

Dentistry and Dental Relations

MOUTH REHABILITATION: ORTHODONTICS AND PROSTHETICS. LEONARD KAHN, D.D.S. Brooklyn, N.Y. J.A.D.A. 30:398, March 1943.

Combined treatment by orthodontist and prosthodontist is especially recommended in those mouths 1, with congenitally missing teeth, 2, mutilation due to extractions and 3, mutilations due to a combination of both missing teeth and extractions. It is important to know when prosthesis is indicated and also when teeth should be moved and when tooth movement should be avoided. Ideal occlusion is desirable though not necessary, but there must be a functional bite. BLACK, Berkeley.

Dental Caries

ANTHROPOLOGICAL STUDIES IN DENTAL CARIES. MEYER KLATSKY AND JACK S. KLATELL. Journal of Dental Research. 22:267, Aug. 1943. (See Anthropology)

A STUDY OF FLUORIDE DOMESTIC WATERS AND DENTAL CARIES EXPERIENCE IN 263 WHITE ILLINOIS SELECTIVE SERVICEMEN LIVING IN FLUORIDE AREAS FOLLOWING THE PERIOD OF CALCIFICATION OF THE PERMANENT TEETH. CHAS. F. DEATHERAGE, D.D.S., M.P.H. Journal of Dental Research. 22:173, June 1943.

This study was based on the selective service dental records of 263 men who had lived in areas where water contained 1.0 ppm. fluorides or more for one to twenty-four years after the calcification of the permanent teeth was completed, but not before; 286 men from fluoride free areas; and 454 men who had lived all their lives in fluoride areas (1.0 ppm. or more). It was found that the men who had lived in the fluoride areas only after calcification of the permanent teeth was complete had significantly less caries experience

than those from fluoride free areas, but more than those who had lived all their lives in the fluoride areas. BURRILL, Chicago.

CHANGES IN CARIES SUSCEPTIBILITY WITH AGE AND SEX. D. Y. BURRILL. Journal of Dental Research. 22:367, Oct. 1943.

In a study of caries susceptibility tests of 3478 clinic patients, it was found that both males and females tended to be more susceptible to caries at some time between 13 and 21 years than before or after those ages. Bacteriological tests showed males most susceptible at 13-18 years; females at 19-21 years. Chemical caries determinations showed males most susceptible at 16-21 years, females at 16-18 years. The figures can be interpreted only as indicating tendencies. BURRILL, Chicago.

COMPARATIVE STUDY OF X-RAY, MACROSCOPIC, AND MICROSCOPICAL FINDINGS OF INCIPIENT CARIES. F. W. HINDS. Journal of Dental Research. 22:224, June 1943.

This study demonstrated that the carious process could involve both enamel and dentin without the X-ray picture showing any involvement of either. It was concluded that positive X-ray Indings of caries indicate the necessity of placing fillings regardless of the size or extent of the involvement shown in the X-ray photograph.

BURRILL, Chicago.

CONTRIBUTIONS THAT RESEARCH HAS MADE TO ASSIST THE PRACTITIONER IN THE CONTROL OF DENTAL CARIES. J. R. BLAYNEY. J.A.D.A. 30:1674, Nov. 1943.

Clinicians should read at least some of the research papers on the subject of dental caries, demanding scientific data to support the contentions made. Dental caries seems unquestionably to be associated with bacterial activity, although it cannot definitely be stated that one specific micro-organism is involved. Immunologic and chemotherapeutic studies carry considerable promise, but at present one of the most important tasks confronting the dentist is to educate the public in the importance of an adequate diet, sound eating habits and an effective method of oral hygiene. The article is accompanied by an extensive bibliography. WYLIE, San Francisco.

DENTAL CARIES, ETIOLOGY, CONTROL AND ACTIVITY TESTS. ROBERT G. KESEL, D.D.S., M.S., CHICAGO, ILLINOIS. J.A.D.A. 30:35, Jan. 1943.

A general review of the literature of dental caries preceding a report of caries activity tests made over a 2 year period on 50 dental students. The conclusion regarding two of the activity tests used, namely lactobacillus and enamel solubility tests were 1) that they were generally reliable as indicating activity or inactivity of caries, 2) that they were not so accurate in indicating the degree of caries activity, and 3) that single tests may be misleading, a large number being necessary to show the general trend of the individual.

BLACK, Berkeley.

DENTAL CARIES AND THE METABOLISM OF CALCIUM. HAMILTON B. G. ROBINSON, D.D.S., M.S. St. Louis, Mo. J.A.D.A. 30:357, March 1943.

The author shows that the withdrawal of calcium from formed teeth to supply a systemic deficiency is hardly possible. A disturbance in calcium metabolism during tooth development may result in hypoplasia but not dental caries. An optimal diet is recommended for general good health, but does not prevent dental decay. To date the only known way to reduce the prevalence of dental caries is to reduce the quantity of carbohydrates in the diet. BLACK, Berkeley.

DENTAL CARIES—THE "HANDWRITING" IN THE MOUTH. MARTHA R. JONES. Journal of Dental Research. 22:224, June 1943. (See Nutrition and Metabolism)

DENTAL CONDITIONS AMONG PREHISTORIC INDIANS OF KENTUCKY. SAMUEL RABKIN. Journal of Dental Research. 22:355, Oct. 1943. (See Anthropology)

EFFECT OF PREGNANCY ON THE MINERAL CONTENT OF DENTIN OF HUMAN TEETH. MARTIN DEAKINS. Journal of Dental Research. 22:198, June 1943.

On the basis of determinations of the specific gravity of sound dentin, it was con-

cluded that no demineralization of sound dentin occurred during gestation and that neither gestation per se nor demineralization were associated with caries in the group studied.

BURRILL, Chicago.

FACTORS INFLUENCING PENETRATION OF SYNTHETIC DETERGENTS AND CERTAIN OTHER COMPOUNDS INTO DENTAL PLAQUE MATERIAL. JOHN A. MUNTZ AND BENJAMIN F. MILLER. Journal of Dental Research. 22:73, Feb. 1943.

The amount of lactic acid formed from glucose by dental plaques was determined with the plaque in situ, removed from the tooth and homogenized, removed from the tooth and tested whole, and removed from the tooth, homogenized and reformed into an artificial plaque by centrifuging. It was found that synthetic detergents, urea, and gramicidin inhibit lactic acid formation in homogenized suspensions of plaque material, but are less and less effective as the particle size or plaque thickness increase. The substances do not readily penetrate the plaques. The penetration increases with the concentration of the substance and the time of exposure, and inversely with the thickness of the plaque. Glucose was found to penetrate the plaques at about the same rate as the inhibitory substances. The penetration was thought to be by passive diffusion only.

The article emphasizes the importance of mouth hygiene.

BURRILL, Chicago.

FLUORIDE DOMESTIC WATERS AND DENTAL CARIES EXPERIENCE IN 2026 WHITE ILLINOIS SELECTIVE SERVICE MEN. CHAS. F. DEATHERAGE. Journal of Dental Research. 22:129, April 1943.

This study was based on the selective service dental records of 2026 selectees, with reference to the fluoride content of the water used by each, the time during which the water was used, and the caries experience of each man. It was found that there was less caries experience among those who had used water containing 1.0 or more parts per million of fluorides than among those whose water had contained 0.5 to 0.9 p.p.m. fluorides. Those from fluoride free regions had more caries experience than men from fluoride areas.

BURRILL, Chicago.

FURTHER STUDIES OF THE CALCIUM AND PHOSPHORUS CONTENT OF RESTING AND ACTIVATED SALIVA OF CARIES-FREE AND CARIES-ACTIVE INDIVIDUALS. H. BECKS, W. W. WAINWRIGHT AND D. H. YOUNG. Journal of Dental Research. 22:139, April 1943.

Salivas of 25 caries-free and 26 caries-active persons were analyzed for calcium and phosphorus. It was found the quantities in all fell within the same range and, as between the two groups, were not significantly different according to statistical evaluation.

BURRILL, Chicago.

IMPORTANCE OF LACTOBACILLUS ACIDOPHILUS INDEX DETERMINATIONS IN ORTHODONTIC PRACTICE. HERMANN BECKS, GLEN FOOR AND I. M. SHULMAN. Journal of Dental Research. 22:215, June 1943.

Deterimnations of lactobacillus counts in saliva of children before and during orthodontic treatment indicated marked increase in numbers of lactobacilli during treatment, possibly indicating increased susceptibility to decay. The importance of mouth hygiene is emphasized.

BURRILL, Chicago.

INCIDENCE OF UREASE PRODUCING BACTERIA IN SALIVA. M. K. HINE AND J. F. O'DONNELL. Journal of Dental Research. 22:103, April 1943.

Urease producing bacteria in saliva were found to vary inversely in number with the numbers of lactobacilli. Urease producing organisms were found in 92.8% of 405 saliva samples from 82 patients. The relationship of the findings to dental caries and calculus formation was not established.

BURRILL, Chicago.

INHIBITION OF EXPERIMENTAL DENTAL CARIES IN THE RAT BY IODOACETIC ACID. PETER P. DALE AND VERNON H. POWELL. Journal of Dental Research. 22:33, Feb. 1943.

Four groups of 13 rats each were fed as follows: one group, a caries producing diet containing 200 parts per million iodoacetic acid, but pure water; a second, normal food but with 20 ppm. iodoacetic acid in the water; a third, both food and water containing the acid in the stated amounts: and a four, as control group, food and water free from the

acid. After 150 days it was found that only one of the control animals was caries free. Eleven were caries free in each of the groups given food containing iodoacetic acid, while only 6 were caries free in the group receiving the acid only in the drinking water. Because the amount of iodoacetic acid in the water differed so much from that in the food, no conclusion could be drawn relating to the effectiveness of the substance in water as compared with it in food. Reduction of caries by iodoacetic acid was clear. This agrees with earlier reports. BURRILL, Chicago.

IN VITRO STUDIES ON STERILIZATION OF CARIOUS DENTIN. JOHN A. MUNTZ, ALBERT DOREMAN AND ROBERT M. STEPHAN. Journal of Dental Research. 22:206, June 1943.

Saturated silver nitrate and 30% H_2O_2 were the only sterilizing agents found able to sterilize measured pieces of carious dentin under the conditions used. Saturated silver nitrate, the most efficient agent, applied for three minutes, penetrated 1 mm. but did not uniformly sterilize deeper than 0.25 to 0.50 mm. BURRILL, Chicago.

MECHANISM OF FLUORINE INHIBITION OF CARIES IN THE RAT. RUDOLPH W. NORVOLD AND W. D. ARMSTRONG. Journal of Dental Research. 22:243, Aug. 1943.

Fluorides were administered to three groups of rats by placing 20 parts per million in the drinking water. In one group, the mothers received fluorides during pregnancy and lactation. The offspring were later fed a caries producing diet, but no fluorides. It was found that for these rats the incidence of caries was slightly decreased but that tooth fracture occurred more often. A second group of rats received the fluorides, 20 ppm. in drinking water, simultaneously with the caries producing diet. The caries susceptibility of these rats was decreased while the fracture rate remained unchanged. A third group of rats received fluorides, 20 ppm. in water, for 60 days before the start of the caries producing diet, but no fluorides during the period of the diet. The caries susceptibility of the lower molar teeth of these rats was reduced, while that of the upper molar teeth was increased or unchanged. The fracture incidence was unchanged.

BURRILL, Chicago.

OBSERVATIONS ON INDUCED CARIES IN RATS. F. J. MCCLURE. Journal of Dental Research. 22:37, Feb. 1943.

Rats aged 40, 100 and 200 days were given water containing 100 parts per million fluorides; litter mate controls received water without fluorides. After periods varying from 40 to 85 days the fluoride was stopped and all the rats were fed a fluoride free caries producing diet for 100 days. It was found that the control rats suffered significantly more caries than the fluoride treated rats. Analysis of enamel and dentin showed that they had taken up the fluoride, though it was administered after the period of calcification of the teeth. The amount of fluoride in the teeth of the fluoride treated animals was markedly greater than that in the teeth of the litter mate controls.

BURRILL, Chicago.

OBSERVATIONS ON THE ABSORPTION OF FLUORIDE BY THE ENAMEL. J. F. VOLKER. Journal of Dental Research. 22:201, June 1943.

The solubility in acid of powdered enamel was found to be reduced by exposure of the enamel to solutions of CaF_2 or NaF, five parts per million, for as little as five minutes.

BURRILL, Chicago.

PREVENTION OF DENTAL CARIES IN LATE CHILDHOOD AND ADOLESCENCE. JULIAN D. BOYD. M.D., Iowa City, Iowa. J.A.D.A. 30:670, May 1943.

The study of children at the University of Iowa over a period of 17 years has shown that dental caries is preventable and controllable and with a suitable dietary regimen the incidence of caries can be reduced to a negligible level. The most important factors in the control of caries are 1) the dietary regimen and 2) the length of time it is employed. There seems to be little relationship between the level of fluorine supply and the extent of dental caries in these children. Th author promises to show in a later paper that the value of the prescribed diet is due to its biologic worth and that the sugar content is only secondary.

BLACK, Berkeley.

ROLE OF FLUORIDES IN PREVENTIVE DENTISTRY. FRANCIS A. ARNOLD, JR., B.S., D.D.S. J.A.D.A. 30:449, April 1943.

Recent epidemiologic studies have indicated the possibility of mass control of dental caries through the addition of fluorides to drinking water. It has been shown that there is markedly less caries in the mouths of school children raised in communities where the domestic water supply has a fluoride content of about .1 part per million, than where the drinking water is practically fluorine free. The amount of fluoride sufficient to inhibit caries is as little as 1 part per million. It is felt that this amount is unlikely to cause toxic manifestations.

BLACK, Berkelev.

STUDIES ON THE EXTENT OF INFECTION AND STERILIZATION OF CARIOUS DENTIN. ROBERT M. STEPHAN, JOHN A. MUNTZ AND ALBERT DORFMAN. Journal of Dental Research. 22:206, June 1943.

This study was related to the preceding. By work with freshly extracted carious teeth, it was found that superficial carious dentin was always infected; intermediate layers sometimes infected; and partially decalcified dentin next to sound dentin and the sound dentin itself always sterile. Depth of sterilization by saturated silver nitrate solution increased with time of exposure up to 1.25 mm. by a ten minute application. 30% H_2O_2 was less effective and Zephiran ineffective.

BURRILL, Chicago.

STUDIES ON THE INCIDENCE AND CAUSE OF DENTAL DEFECTS IN CHILDREN. MARCU BRUCKER. Journal of Dental Research. 22:107, April 1943.

In this study of the teeth of 5103 public school children, ages 5 to 15, it was found that freedom from active caries, either by reason of adequate fillings or through immunity, was associated with frequent tooth brushing and clean teeth. Fewer children were caries free among those who seldom or never brushed the teeth.

BURRILL, Chicago.

STUDIES ON THE INCIDENCE AND CAUSE OF DENTAL DEFECTS IN CHILDREN. MARCU BRUCKER. Journal of Dental Research. 22:309, Aug.. 1943.

In a study of 1634 public school children, it was found that there was more gingivitis among children with dirty mouths than among those with clean mouths. The incidence of dental decay was greater than the incidence of gingivitis, but children with gingivitis tended to have more cavities than children with healthy gingivae. It was concluded, among other things, that the findings indicated no correlation between the incidence of caries and the incidence of gingivitis.

BURRILL, Chicago.

STUDIES ON THE INCIDENCE AND CAUSE OF DENTAL DEFECTS IN CHILDREN II. HYPOPLASIA. MARCU BRUCKER. Journal of Dental Research. 22:115, April 1943. (See Pathology)

TESTING CARIES ACTIVITY BY ACID PRODUCTION IN SALIVA. E. C. WACH, R. G. KESEL, M. K. HINE AND J. F. O'DONNELL. Journal of Dental Research. 22:415, Oct. 1943.

As a test for caries activity it is suggested that a sample of unstimulated saliva be incubated for four hours with a little glucose and the resulting pH and titratable acidity then determined, as by indicators. The test was checked against repeated mouth examinations in 50 patients, and has been used repeatedly on 200 patients. It is suggested that a single application of the test is not sufficient to determine the caries activity of a patient, but that repeated tests, showing a definite trend, will give a reliable indication of caries activity.

BURRILL, Chicago.

THE EFFECT OF SODIUM FLUORIDE APPLICATIONS ON DENTAL CARIES. B. G. BIBBY. Journal of Dental Research. 22:207, June 1943.

Solution of 1/1000 sodium fluoride was applied once every four months to teeth on one side of the jaw in children. As compared with the untreated side, it was found over

a two year period that the fluoride had reduced caries 32% in the anterior teeth, 34% in the premolars and 40% in the molars.

BURRILL, Chicago.

THE EFFECT OF SYNTHETIC DETERGENTS ON pH CHANGES IN DENTAL PLAQUES. ROBERT M. STEPHAN AND BENJAMIN F. MILLER. Journal of Dental Research. 22:53, Feb. 1943.

The pH changes of undisturbed plaques on teeth in the mouth after rinsing with 10% glucose solution was determined by means of the antimony electrode and a standard potentiometer. After the first glucose rinse a rinse of a synthetic detergent in water was used and the glucose rinse then repeated at intervals, followed each time by several determinations of the pH changes. It was found that detergents such as Zepheran and Phemerol will reduce the pH drop after glucose as much as 60 to 90% with thin plaques and 40 to 60% with thick plaques. This indicates the importance of mouth hygiene in control of caries. The inhibitory effect of the detergent rinses was apparent 18 hours later. In most cases, the detergent prevented a drop of the pH to levels at which teeth would decalcify.

BURRILL, Chicago.

THE EFFECT OF UREA IN COUNTERACTING THE INFLUENCE OF CARBOHYDRATES ON THE pH OF DENTAL PLAQUES. ROBERT M. STEPHAN. Journal of Dental Research. 22:63, Feb. 1943.

The effect of urea on pH changes of dental plaques following application of glucose solution was determined by means of the glass electrode in vitro and the antimony electrode in the mouth. It was found that urea solutions of adequate concentration (40 to 50%) largely prevented any drop in pH and tended to raise the pH. Lower concentrations of urea, (0.01 to 0.1%) reduced somewhat the drop in pH following the glucose. The effect of 40-50% urea solution in reducing the drop in pH following application of glucose were apparent as long as 24 hours after the application of the urea. It was suggested that the application of such solutions of urea for four minutes every day might aid in reducing tooth decay.

BURRILL, Chicago.

THE FATE OF BACTERIA SEALED IN DENTAL CAVITIES. F. C. BESIC. Journal of Dental Research. 22:349, Oct. 1943.

Virgin cavities were cut under aseptic conditions in teeth in the mouths of 10 patients. Cultures were made from decayed material and from the prepared cavities. Some decay was left in most cases. The cavities were sealed and reopened for observations and making of cultures periodically for as long as 1½ years. In no case was there any apparent progress of decay in the sealed cavity, but bacteria were still present and viable in three cases after more than a year. One of the cavities in which viable bacteria were found a year later had been cleaned of all decay. Lactobacilli were found to have died out early. Streptococci and staphylococci were resistant. It was pointed out that a cavity sterilizing agent should be used in some cases to eliminate possible injury to the pulp by the bacteria remaining in the cavity.

BURRILL, Chicago.

THE INFLUENCE OF ADMINISTRATION OF BONE FLOUR ON DENTAL CARIES. S. G. HAROOTIAN. J.A.D.A. 30:1396, Sept. 1943.

Nine patients living in the stable environment of a mental hospital and showing a marked susceptibility to dental caries were given bone flour (containing calcium, phosphorus and fluorine) daily for a period of nine months. A striking diminution of the carious process was observed.

WYLIE, San Francisco.

THE MECHANISM BY WHICH IODOACETIC ACID INHIBITS EXPERIMENTAL DENTAL CARIES IN THE RAT. VERNON H. POWELL AND PETER P. DALE. Journal of Dental Research. 22:257, Aug. 1943.

This study was carried out on five groups of litter mate rats. Iodoacetic acid was administered in food and by injection. Two groups were desalivated. It was found that desalivation increased the incidence of caries, and that iodoacetic acid, by either mode

of administration, markedly reduced it. Caries was inhibited to about the same extent whether the iodoacetic acid was in the food or was injected. It is suggested that the action may be systemic.

BURRILL, Chicago.

THE MICROBIC FLORA OF DENTAL PLAQUES IN RELATION TO THE BEGINNING OF CARIES. ELIZABETH S. HEMMENS, J. R. BLAYNEY, R. W. HARRISON, S. F. BRADEL. Journal of Dental Research. 22:223, June 1943.

This paper reported that numbers of lactobacilli increased markedly in dental plaques between the eruption of the teeth and the beginning of decay. B. hemolytic streptococci, rough alpha streptococci, aciduric streptococci and small grain positive rods increased in numbers to a lesser extent.

BURRILL, Chicago.

THE PENETRATION OF SILVER NITRATE SOLUTION INTO DENTIN. H. A. ZANDER AND DAN Y. BURRILL. Journal of Dental Research. 22:85, April 1943.

In a histological study of human and dog teeth, it was found that the silver from Howes ammoniacal silver nitrate solution penetrated sound dentin but did not cause pulp damage. The depth of penetration did not depend on time of application or repeated application, but increased slowly after application.

This finding cannot be interpreted as meaning that carious regions may be treated indiscriminately with silver nitrate and left unfilled.

BURRILL, Chicago.

THE RELATIONSHIP BETWEEN MICROSCOPIC HYPOPLASIA (MELLANBY) AND DENTAL CARIES. B. G. BIBBY. Journal of Dental Research. 22:218, June 1943.

This study of the relationship between the roughness of the enamel (microscopic hypoplasia of Mellanby) and caries indicated that caries susceptibility was higher in individuals with rough enamel surface. There is a correlation between surface structure of teeth and tendency to decay. Mellanby's findings are confirmed.

BURRILL, Chicago.

THE ROLE OF FLUORINE IN DENTAL HEALTH. FRANCIS A. BULL. J.A.D.A. 30:1206, Aug. 1943.

Children born and raised in an area (Green Bay, Wis.) where the water supply has 2.1 parts of fluorine per million show less susceptibility to caries than do those living in Sheboygan, where the water is practically fluorine free. Children who begin to use a water supply containing fluorine several years after the formation of the crowns of the permanent teeth seem to obtain a degree of immunity, but the only statistically significant data in fluorine and dental caries pertain to those born and maintaining continuous residence in an endemic area. The suggestion that fluorine be added to domestic water supplies is, in the opinion of the author, premature.

WYLIE, San Francisco.

THE SOLDIER'S MESS IN RELATION TO DENTAL CARIES. MARTHA R. JONES. Journal of Dental Research. 22:224, June 1943. (See Nutrition and Metabolism)

Dental Hygiene and Public Health

ORTHODONTICS (A PAMPHLET ISSUED BY BUREAU OF PUBLIC RELATIONS). ALLAN G. BRODIE, D.D.S., Ph.D. J.A.D.A. 30:433, March 1943.

This is an article to be printed in pamphlet form and distributed to the public. It should be of special interest to the parents of young children. Subjects treated include the causes of malocclusion, the indications for treatment, and the need for cooperation of patient and parents with the orthodontist. Excellent advice is given about breaking the thumb sucking habit.

BLACK, Berkeley.

Education

ORTHODONTICS (A PAMPHLET ISSUED BY BUREAU OF PUBLIC RELATIONS). ALLAN G. BRODIE. J.A.D.A. 30:433, March 1943. (See Education, Legislation & Economics)

THE STATUS OF THE BILL RELATING TO THE LICENSURE OF DENTAL SPECIALISTS IN KANSAS. JOHN W. RICHMOND. Am. J. of Orthodont. and Oral Surg. 29:336, June, 1943.

Certain sections of a new law are explained regulating the practice of dentistry in the state of Kansas.

LEWIS, Dayton.

THE STATUS OF THE LICENSURE OF DENTAL SPECIALTIES IN MISSOURI. LEO M. SHANLEY. Am. J. of Orthodont. and Oral Surg. 29:333, June 1943.

The question of a specialists law was referred from an informal meeting of specialists, state board examiners, and state dental society officers to the Legislative Committee of the Missouri State Dental Association. Since the bordering states of Illinois, Oklahoma, and Kansas have specialists laws, it is hoped that Missouri's standards will be placed on an equal basis.

LEWIS, Dayton.

Endocrinology

A CASE OF HEREDITARY MESIOCCLUSION COMPLICATED BY ENDOCRIN DYSFUNCTION. BROOKS BELL. Am. J. of Orthodont. and Oral Surg. 29:595, Oct. 1943.

Since marked anterior development of the mandibles of the patient's mother and maternal grandmother was noticed, a thorough physical examination was requested at the time treatment was suggested. The endocrinologist reported no endocrin disturbance.

Orthodontic treatment of the Class III, complicated by missing upper laterals, second premolars, and left second permanent molar, was started at age four, and continued for six years. At age ten a different endocrinologist was consulted with his report of the patient showing a mild thyroid and pituitary deficiency.

As soon as the primary effect of the endocrin medication now being administered has passed, orthodontic treatment will be reinstituted. The author is pessimistic over the orthodontic results so far, and the future outcome of the case.

LEWIS, Dayton.

GENERAL PHYSICAL DIAGNOSIS. W. J. BRYAN. Am. J. of Orthodont. and Oral Surg. 29: 658, Nov. 1943. (See Case Analysis and Diagnosis)

Etiology

ALTERATION OF OCCLUSAL RELATIONS INDUCED BY EXPERIMENTAL PROCEDURE. CARL BREITNER. Am. J. of Orthodont. and Oral Surg. 29:277, May 1943.

In the one of two mature monkeys one cc. of alcohol was injected with the intention of reaching the Gasserian ganglion paralyzing the nerve supplying the muscles of mastication. Seventy-two days after the injection the bite was open three mm. in front, and the buccal teeth were in Class III relation. Eighteen months after injection the open bite had closed but the Class III condition remained.

Metal caps with plane occlusal surfaces were cemented to the maxillary buccal teeth of the second monkey. The bite was thus opened five mm. in the incisal region. After sixteen and one-half months the caps were removed. The incisal open bite had closed from five to two mm.; contact was almost established between the upper and lower molars; there was marked depression of upper and lower molars; definite overjet and over bite were noticed in the incisal region and there was a Class II relation of the cuspids.

Breitner believes the development of the Class II may be correlated with the first experiment where a Class III was created through weakening of the masticatory muscles; for raising the bite means strengthening through elongation of the same masticatory muscles whose weakening induced the Class III in the first experiment. The results signify to the author that they corroborate previously published histologic evidence of induced extra-alveolar bone changes; that his findings and general biologic laws together

do not support the theory of immutability of the jaw bones as expressed by Brodie, Broadbent, Hellman, and others.

LEWIS, Dayton.

ALTERATION OF OCCLUSAL RELATIONS INDUCED BY EXPERIMENTAL PROCEDURE. CARL BREITNER. Journal of Dental Research. 22:219, June 1943.

Seemingly permanent Class II and Class III malocclusions were produced in mature Macacus rhesus monkeys by paralyzing selected groups of mastication muscles. It is suggested that one cause of dental malformations may be a disharmony between muscular forces and bony architecture; and that in orthodontic therapy possibly less emphasis should be placed on mechanical devices and more on seeking means of modifying the skeleton.

BURRILL, Chicago.

ASYMMETRY OF THE FACE. JOHN R. THOMPSON, D.D.S., M.S. J.A.D.A. 30:1859, Dec. 1943.

Normal processes of growth and function are discussed, and their bearing upon abnormal facial asymmetries is emphasized. Twenty-five cases of abnormal asymmetry were studied by means of clinical findings, cephalometric roentgenograms, temporomandibular roentgenograms, photographs and models, and facts elucidated by this study of interest to the surgeon and the dentist are pointed out. The functional balance of the musculature which plays a role in maintaining constancy of pattern and in posture is involved in asymmetries; unopposed muscle pull may cause progressive changes which accentuate the deformity, or, where asymmetry is apparently the result of birth trauma, these forces may partially correct the abnormality. Etiological factors include: direct injuries to and loss of bone, direct injuries of growth sites, indirect effects upon growth sites of neuromuscular afflictions, and idiopathic factors. It is emphasized that malocclusion is not one of the causes of asymmetry of the face, but rather is one of the symptoms.

WYLIE, San Francisco.

CONGENITALLY MISSING TEETH: A GENETIC STUDY. C. P. OLIVER, PETER J. BREKHUS, and G. MONTELIUS. Journal of Dental Research. 22:198, June 1943. (See Habits)

CONGENITALLY MISSING TEETH: A PROGRESS REPORT. PETER J. BREKHUS, C. P. OLIVER, and G. MONTELIUS. Journal of Dental Research. 22:197, June 1943. (See Habits)

EFFECT ON OCCLUSION OF UNCONTROLLED EXTRACTION OF FIRST PERMANENT MOLARS: PREVENTION AND TREATMENT. J. A. SALZMANN. J.A.D.A. 30:1681, Nov. 1943.

The author has previously reported that the loss of first permanent molars raises the incidence of dental decay for the mouth sustaining the loss and brings changes in the occlusion of the teeth; he gives a specific description of these occlusal sequelae. Loss of first molars in mouths with normal occlusion leads to malocclusion; when malocclusion is present, it is aggravated. Premolars shift distally towards the space, molars drift mesially with a tendency towards a shift of the midline to the mutilate side. The curve of "Spee" in the lower arch is increased, with extrusion of the maxillary teeth into the space. Cases in normal occlusion become Class I and Class II malocclusion; Class I cases after extraction either remain Class I or change to Class II subdivisions. Promiscuous extraction of teeth is not a satisfactory therapeutic measure in orthodontics.

WYLIE, San Francisco.

EXPERIMENTAL MASSETERECTOMY IN THE LABORATORY RAT. LORING W. PRATT. Journal of Mammalogy. 24:204, May 1943.

Unilateral masseterectomy with interruption of the zygomatic arch results in malocclusion and retarded mandibular development. There is deflection of the skull and premaxilla towards the unoperated side, with deflection of the lower incisors and symphysis angle towards the operated side. On the operated side the vertical depth of the neck of the condyle is reduced, while the coronoid process is more vertical due to the pull of the temporalis muscle. Bony eminences are faint in the absence of muscle pull against them.

WYLIE, San Francisco.

FREQUENCY OF ALLERGY IN ORTHODONTIC PATIENTS. WALTER STRAUB. Journal of Dental Research. 22:226, June, 1943.

Forty percent of a group of 104 orthodontic patients were found to be definitely allergic, and twelve percent moderately so. It was suggested that chronic nasal or respiratory allergy may be important as an etiologic factor in malocclusion, particularly of the Class II, Division 1 type.

BURRILL, Chicago.

HEREDITARY TRANSMISSION OF GRADUALLY DEVELOPED DENTAL CHARACTERISTICS. SAMUEL RABKIN. Journal of Dental Research. 22:226, June 1943.

From a study of prehistoric Indian skulls, it was concluded that dental characteristics of a race may slowly change and that the changes may be transmitted to succeeding generations. These findings may be of interest in connection with the high incidence of malocclusions now.

BURRILL, Chicago.

STUDIES ON THE INCIDENCE AND CAUSE OF DENTAL DEFECTS IN CHILDREN. MARCU BRUCKER. Journal of Dental Research. 22:315, Aug. 1943.

In a study of 1668 white school children, ages 5 to 15, it was found that 9 had malocclusions of the deciduous dentition, 324 malocclusions of the transitional dentition, and 377 malocclusions of the permanent dentition. The incidence of caries was greater in the groups with malocclusion than among children with normal occlusion. Non-Jewish children with malocclusions had more decay than Jewish children with malocclusions. The distribution of various types of malocclusions is considered.

BURRILL, Chicago.

SUPERNUMERARY TEETH AND MALOCCLUSION. SAMUEL FASTLIGHT. Amer. J. of Orthodont. and Oral Surg. 29:623, Nov. 1943.

Supernumerary teeth appear frequently in the anterior part of the jaws, more often in the maxilla and permanent dentition than in the mandible or deciduous dentition. They may be normal in shape and size, reduced in size, of conical shape and may appear as "denticles."

The etiology of supernumerary teeth has not been explained fully. The theory of atavism has not withstood serious criticism. Hypergenesis of the epithelial cord, general diseases, and heredity are other possible etiological factors. Supernumerary teeth may cause tardy or non-eruption of permanent teeth and frequently cause malocclusions. They also have a tendency to develop into cysts.

LEWIS, Dayton.

THE EFFECT OF LOW PHOSPHORUS INTAKE ON THE GROWTH OF THE JAWS IN DOGS. DAN Y. BURRILL, A.B., LL.B., D.D.S., Chicago, Illinois. J.A.D.A. 30:513, April 1943.

Eleven dogs were used for study, 5 were fed a diet adequate in phosphorus and 6 were given inadequate phosphorus; the skulls were later studied by X-ray. In these dogs phosphorus deficiency resulted in retardation of anteroposterior growth in the temporal region and in the posterior portion of the mandible. The height and length of the maxilla were subnormal. The maxillary alveolar region and the cranium were less severely retarded while growth of body and alveolar portion of the mandible was not seriously distorted. The question is raised as to whether similar conditions, notably open bite cases and Class III malocclusions in children might arise from phosphorus deficiency.

BLACK, Berkeley.

THE INFLUENCE OF THE THIRD MOLARS ON THE ALIGNMENT OF THE TEETH. B. HOLLY BROADBENT. Amer. J. of Orthodont. & Oral Surg. 29:312, June 1943.

Broadbent absolves the third molars of producing most of the ill effects on the alignment of lower anterior teeth. He includes the wisdom teeth with the incisors as co-sufferers resulting from the failure of the facial skeleton to obtain its complete adult size and proportions. Bolton records show that there will be sufficient space in the jaws for all teeth to occupy their normal positions if the developmental growth of the face has not been retarded in its progress toward maturity.

Evidence is shown proving that in proportion to the number of teeth that are congenitally absent or lost early in life, there is a profound effect on the dental structures and the face as a whole.

LEWIS, Dayton.

Fractures

MAXILLARY FRACTURES. W. B. STEVENSON. Am. J. of Orthodont. and Oral Surg. 29:331, June 1943.

Maxillary fractures are more serious than mandibular because of possible involvement of sinuses, eyes, or the nose. Construction of a plaster skull cap for extraoral force is described.

LEWIS, Dayton.

THEORETICAL BASIS OF JAW ORTHOPEDICS IN FRACTURE TREATMENT. FREDERICK W. KRAUS. Am. J. of Orthodont. and Oral Surg. 29:383, July 1943.

The mode of construction of the passive appliance of the Norwegian system is presented and the source, transmission, and action of the working force discussed. This apparatus resembles the vulcanite retainer of the type used by Kingsley, Jackson, Hawley, and others.

The relative low cost of production and its infrequency of adjustments recommend it for public health programs. The dispensability of long retention and the strengthened vitality of all peridontal tissues indicates its value for the prevention and treatment of peridontoclasia. The main limitations of the appliance are lack of cooperation, incompatability of the bulky appliance with some forms of anomaly, and severe anomalies.

Treatment of jaw fractures by means of this appliance offers the opportunity of restituting a functionally adequate anatomy while benefiting from an individually dosed movement. Contraindications and restrictions of the appliance for fractures are enumerated.

LEWIS, Dayton.

USE OF COTTER KEY IN INTERMAXILLARY LIGATION OF FRACTURES ALLOWING QUICK RELEASE IN CASE OF NAUSEA AND VOMITING. HAMILTON D. HARPER. Am. J. of Orthodont. and Oral Surg. 29:373, July 1943.

A method of intermaxillary wiring is described in detail. The use of a cotter pin has every advantage of other methods of ligation, plus the desirable feature of instantaneous removal in case of sudden nausea or vomiting.

LEWIS, Dayton.

Growth and Development

GROWTH PLATEAUS IN ORTHODONTICS AS IT APPLIES TO CHILDREN'S DENTISTRY. EARL F. LUSSIER. Am. J. Orthodont. and Oral Surg. 29:403, July 1943.

Growth plateaus in orthodontics may be defined as developmental growth levels of the face, jaws, and teeth. The process of maturation is discussed in relation to disturbances, skeletal maturation, and assessment of maturity.

Credit is given Hellman, Lewis, Broadbent, and Simon for their research on the developmental changes of the face and cranium, and Lussier points out the application of such research to the practice of orthodontics.

LEWIS, Dayton.

THE DEVELOPMENT OF THE HEAD. CHARLES B. DAVENPORT. Am. J. of Orthodont. and Oral Surg. 29:541, Sept. 1943.

The experiments of Walcher, and of Catell and Grube, concerning the influence of gravity on the form of the head are described by the author. The form of the infant's head is modifiable by gravity, but unless the modifying agent acts for a long time, the effect is largely temporary. The degree and permanency of the effect produced depend upon the degree of cooperation between external and internal factors. Large results are achieved if the environment tends to produce change in line with the genetic tendencies. In orthodontic practice greater results are to be expected when one knows the direction

of ontogenetic development in which the jaw is proceeding. Before calling upon environmental, mechanical aid, consider, if possible, what innate, genetic, internal growth factors may still be acting. LEWIS, Dayton.

THE INFLUENCE OF THE THIRD MOLARS ON THE ALIGNMENT OF THE TEETH. B. HOLLY BROADBENT. Amer. J. Orthodont. & Oral Surg.29:312, June 1943. (See Etiology)

THE PERMANENT MAXILLARY LATERAL INCISOR. SPENCER R. ATKINSON. Amer. J. of Orthodont. & Oral Surg. 29:685, Dec. 1943.

Normal and abnormal growth of the upper lateral incisor is discussed by Atkinson in an article replete with illustrations. Emphasis is placed on the lingually situated internal cavities which are present in approximately ten percent of maxillary laterals.

LEWIS, Dayton.

THE PHASE OF DEVELOPMENT CONCERNED WITH ERUPTING THE PERMANENT TEETH. MILO HELLMAN. Amer. J. of Orthodont. and Oral Surg. 29:507, Sept. 1943.

The process of erupting permanent teeth is a biologic phenomenon which, when carefully analyzed, falls into basic patterns, comparison of these patterns adds much to the understanding of differences in development of dentitions in different groups. The period of erupting permanent teeth lasts on the average eight years, from the fifth to the thirteenth years. An interval of rest divides the process, the first active period is concerned with the eruption of the first molars and incisors; the second, with the canines, premolars, and second molars.

Four racial groups were studied: Zulus, Chinese, Finns, and children from the author's practice in New York. The South African natives erupt their teeth earlier and in a shorter period than the other racial groups. The interval of rest is shorter in females than in males among all groups.

The New York division was broken down into three different categories, those with normal occlusion, with Class II, Division I malocclusion, and those with Class II, Division 2 malocclusion. Using normal occlusion as the yardstick, in Class II, Division I the dentition is accelerated in females, and in Class II, Division 2 it is retarded in both males and females. In Class II, Division I the period of rest is the longest, from eight years four months to eleven years in males, and from seven years nine months to ten years in females. In Class II, Division 2 the interval is from eight years nine months to eleven years in males and from eight years six months to ten years three months for females.

LEWIS, Dayton.

THE RAMUS AS A FACTOR IN THE DEVELOPMENT OF THE DENTAL HEIGHT. MOSES DIAMOND. Journal of Dental Research. 22:346, Aug. 1943.

Evidence was presented to indicate that normal growth of ramus length opens the intermaxillary space, allowing normal eruption of teeth; and that in deficiency of normal growth of the ramus the teeth cannot erupt. The roots grow deeper into the jawbones, and deficient vertical development with consequent deep overbite and Class II relationship results. The eruptive force of the teeth plays no part in increasing dental height, which depends primarily on the growth in length of the ramus.

This matter is the subject of disagreement. Others such as Schour and Massler, have presented different arguments. BURRILL, Chicago.

Habits

CONGENITALLY MISSING TEETH: A GENETIC STUDY. C. P. OLIVER, PETER J. BREKHUS, and G. MONTELIUS. Journal of Dental Research. 22:198, June 1943.

This paper presented the genetic aspect of the problems discussed in a preceding paper. BURRILL, Chicago.

CONGENITALLY MISSING TEETH: A PROGRESS REPORT. PETER J. BREKHUS, C. P. OLIVER, and G. MONTELIUS. Journal of Dental Research. 22:197, June 1943.

This paper reported findings in a study of missing teeth among clinic patients of the University of Minnesota Dental School, and among children in kindergartens of Minneapolis public schools. Unanswered questions were posed.

BURRILL, Chicago.

HABITS AND THEIR RELATION TO MALOCCLUSION. LELAND R. JOHNSON, D.D.S., M.S.D. J.A.D.A. 30:848, June 1943.

Habit is a very potent factor in the cause of malocclusion though usually it is an associated factor. A child must want to break a habit before it can be done successfully. Thumb sucking and finger sucking habits should be broken at the earliest possible time before they are well established. It is often necessary to teach patients how to swallow and breathe correctly to supplant faulty habits.

BLACK, Berkeley.

Histology

HISTOLOGICAL CONSIDERATION OF THE SUPPORTING TISSUES OF THE TEETH. BERNHARD GOTTLIEB. J.A.D.A. 30:1872, Dec. 1943. (See Physiology)

SIGNIFICANCE OF RADIOACTIVE ISOTOPES IN DENTAL RESEARCH. H. BERTON MCCAULEY. J.A.D.A. 29:1219, July, 1942.

The article describes briefly the principles of radioactivity, methods for the detection of radioactive substances and the applications in biologic research. The use of the technique in dental investigation is reviewed, and an extensive bibliography is given.

WYLIE, San Francisco.

Miscellaneous

EXPERIMENTAL MASSETERECTOMY IN THE LABORATORY RAT. LORING W. PRATT. Jour. of Mammalogy, 24:204, May 1943. (See Etiology)

IMPORTANCE OF LACTOBACILLUS ACIDOPHILUS INDEX DETERMINATIONS IN ORTHODONTIC PRACTICE. HERMANN BECKS, GLEN FOOR, AND I. M. SHULMAN. Journal of Dental Research. 22:215, June 1943. (See Dental Caries)

Nutrition and Metabolism

COMPARATIVE STUDY OF ORAL CHANGES IN DOGS DUE TO DEFICIENCIES OF PANTOTHENIC ACID, NICOTINIC ACID, AND UNKNOWNS OF THE B VITAMIN COMPLEX. HERMANN BECKS, W. W. WAINWRIGHT, and AGNES FAY MORGAN. Am. J. of Orthodont. and Oral Surg. 29:183, April 1943.

The purpose of this study was to investigate the clinical oral symptoms and skeletal changes produced by depriving pure-bred dogs of various fractions of the vitamin B complex. The pathologic changes in the oral tissues of these animals were mainly restricted to the oral mucosa and underlying alveolar bone and appeared to be specific for each deficiency. The histopathologic changes produced suggest not only nicotinic acid but also pantothenic acid and one or more, if not all, of the other components of the filtrate fraction (all B vitamins except thiamin, pyridoxine, riboflavin, and nicotinic acid) are essential for the health of oral tissues and jawbone structures.

LEWIS, Dayton.

DENTAL CARIES—THE "HANDWRITING" IN THE MOUTH. MARTHA R. JONES. Journal of Dental Research. 22:224, June 1943.

This paper discussed nutritional deficiencies and excesses as underlying bodily ailments. It was suggested that the occurrence of dental decay indicates a nutritional unbalance and vulnerability to disease.

BURRILL, Chicago.

GENERAL PHYSICAL DIAGNOSIS. W. J. BRYAN. Amer. J. Orthodont. and Oral Surg. 29:658, Nov. 1943. (See Case Analysis and Diagnosis)

The Effect of Low Phosphorus Intake on the Growth of the Jaws in Dogs. DAN Y. BURRILL. J.A.D.A. 30:513, April 1943. (See Etiology)

THE SOLDIER'S MESS IN RELATION TO DENTAL CARIES. MARTHA R. JONES. Journal of Dental Research. 22:224; June 1943.

A study of Army Field Ration A, 1942, midshipmen's ration, 1937, and enlisted men's

ration at Pearl Harbor Submarine Base, 1935, in relation to tooth decay in those groups. The rate of caries increase was considered to be 2½ to 3 times that of civilian groups. The difference was considered to be an effect of depleted alkali reserves.

BURRILL, Chicago.

Pathology

A CASE OF AN ANKYLOSED DECIDUOUS MOLAR. FRED ROTHENBERG. Amer. J. of Orthodont. and Oral Surg. 29:648; Nov. 1943.

During the six years following an unsuccessful removal of an upper right second deciduous molar the tooth apparently became "submerged" in the alveolar process. The patient, now sixteen, complained of a bad taste from that area. Examination revealed a lingually placed second premolar and a pocket 8 mm. deep between it and the first molar. X-ray disclosed the ankylosed tooth which was removed. Aisenberg's and Oppenheim's opinions on ankylosed teeth are reviewed.

LEWIS, Dayton.

BILATERAL CLEFT-LIP RECONSTRUCTION. LOUIS W. SCHULTZ, D.D.S., B.S., M.D., F.A.P.S. Chicago, Illinois. J.A.D.A. 29:248, Feb. 1942.

This article describes a method of closing a bilateral cleft and reconstructing the lip so that all of the vermillion tissue is saved. The unions are of muscle to muscle, mucous membrane to mucous membrane and skin to skin, resulting in a perfect lip, including the cupid's bow.

BLACK, Berkeley.

*EARLY OPERATION IN PREMATURE CRANIAL SYNOSTOSIS FOR THE PREVENTION OF BLINDNESS AND OTHER SEQUELAE. HAROLD K. FABER and EDWARD B. TOWNE, J. Pediat. 22:286, Mar. 1943.

Because of the unfavorable sequelae of premature synostosis of the cranial sutures, namely deformity of the skull, and increased intracranial pressure followed by atrophy of the optic nerves, exophthalmos and mental deterioration, Faber and Towne feel justified in preventing it through linear craniectomy performed early in infancy. Five cases are presented in which the operation was performed. The follow-up of 4 patients has been long enough to demonstrate excellent results in appearance, development and mentality. The fifth child is still too young for appraisal.

Linear craniectomy with the excision of strips of bone along the fused suture lines was shown to allow almost immediate expansion of the skull, and this expansion, as demonstrated by tracings, continued for some time. Even though new bone formed in the excised areas, it was very thin and in some instances interrupted the continuity of the inner table of the skull, thus allowing expansion to occur, acting as a safety valve in preventing increased intracranial pressure.

The authors stress the early recognition of these cases, for in most instances the cranial deformity is apparent at or shortly after birth. Craniectomy should be performed before the age of 6 months, preferably at the age of 10 weeks.

IDIOPATHIC ROOT RESORPTION. H. BERGER. Amer. J. of Orthodont. and Oral Surg. 29:548, Sept. 1943.

Berger relates a case where the complete root resorption of a permanent maxillary lateral incisor was caused by ectopic eruption of the canine. He discusses an article by Fastlicht in which the latter reports a case of "idiopathic" root resorption, and also earlier articles by Buchner and Klatzky.

LEWIS, Dayton.

MICROSCOPIC AND ROENTGENOGRAPHIC EVIDENCE AND THE INVESTING TISSUES OF TEETH. G. R. LUNDQUIST, M.S., D.D.S., Chicago, Illinois. J.A.D.A. 30:30, Jan. 1943.

In the treatment of both periapical and gingival pathological conditions it must be remembered that X-ray evidence shows only defects of the hard tissues, that is, tooth and bone. Such evidence does not show detachments or the loss of soft tissue and treatment

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must depend also upon clinical evidence and the response to mechanical measures including the removal of debris and scaling.

BLACK, Berkeley.

* OSTEOMYELITIS OF THE SUPERIOR MAXILLA IN AN INFANT. JOSE CELORIA. Rev. Soc. pediat. de Rosario 7:9, Jan.-Apr. 1942.

Celoria describes a case in which osteomyelitis of both superior maxillae, in a baby 7 months old was successfully treated surgically.

STUDIES ON THE INCIDENCE AND CAUSE OF DENTAL DEFECTS IN CHILDREN. MARCU BRUCKER. Journal of Dental Research. 22:309, Aug. 1943. (See Dental Caries.)

STUDIES ON THE INCIDENCE AND CAUSE OF DENTAL DEFECTS IN CHILDREN. II. HYPOPLASIA. MARCU BRUCKER. Journal of Dental Research. 22:115, April 1943.

Seventy-seven children out of 1921 examined were found to have hypoplastic teeth. No relationship between the hypoplasia and dental caries was apparent. The distribution of the hypoplastic defects is discussed.

BURRILL, Chicago.

SUPERNUMERARY TEETH. CHARLES S. ADELSTEIN. Amer. J. of Orthodont. and Oral Surg. 29:654, Nov. 1943.

Jaw X-rays of a boy aged eight years and nine months revealed a supernumerary tooth on the lingual of the maxillary right central. After its removal orthodontic treatment was instituted. X-rays taken at fourteen years and six months show supernumerary teeth on both sides of the mandible in the premolar and molar regions which were not disclosed in the roentgenograms taken previously. This is evidence to support the theory that supernumerary teeth may develop after eight or nine years of age.

LEWIS, Dayton.

SYSTEMIC AND LOCAL FACTORS IN PERIODONTIC PROBLEMS OF THE CHILD'S MOUTH. JOHN C. BRAUER, D.D.S., M.Sc., Iowa City, Iowa. J.A.D.A. 30:45, Jan. 1943.

Oral lesions resulting from nutritional and endocrine deficiencies are described with the use of case histories, photographs and X-rays. Systemic conditions which tend to produce hyperemia and hypertrophy of the gingival tissue include anemia, acute scurvy, latent active rickets, diabetes and congenital syphilis. The drugs used in the treatment of syphilis and epilepsy may also cause gingival lesions.

BLACK, Berkeley.

SYSTEMIC INFLUENCE UPON BONE CHANGES IN PERIODONTOCLASIA. IRVING GLICKMAN, ANNA MORSE and LEONARD ROBINSON. Journal of Dental Research. 22:212, June 1943.

In a study on rats, gingival inflammation was artificially produced. Damage to tooth supporting bone was greater in starved animals than in controls.

This paper is thought to emphasize the importance of nutrition and general condition in maintaining resistance to gingival injury by mechanical means.

BURRILL, Chicago.

* TREATMENT OF STOMATITIS APHTHOSA WITH NICOTINIC ACID: THREE CASES. E. CORRÊA DE AZEVEDO and HUMBERTO BAÍA, Arch. de pediat. 14:127, Jan. 1942.

Three patients with stomatitis aphthosa were successfully treated with 200 mg. of nicotinic acid given orally on each of two days, after failure of treatment with ascorbic acid and sulfanilamide. The authors believe that the infection appears in subclinical cases of vitamin deficiency and that nicotinic acid hinders the growth of the bacillus in the mucosa.

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Physiology

ALTERATION OF OCCLUSAL RELATIONS INDUCED BY EXPERIMENTAL PROCEDURE. CARL BREITNER. Am. J. of Orthodont. aand Oral Surg. 29:277, May 1943. (See Etiology)

EFFECT OF PREGNANCY ON THE CHEMICAL COMPOSITION OF HUMAN DENTIN. DAVID A. DRAGIFF and MAXWELL KARSHAN. Journal of Dental Research. 22:261, Aug. 1943.

Root dentin of teeth extracted from 21 pregnant females and 21 non-pregnant females was analyzed for percentages of ash, calcium, and phosphorous. Results for the two groups did not differ. It was concluded that pregnancy did not cause withdrawal of minerals from the teeth.

BURRILL, Chicago.

HISTOLOGICAL CONSIDERATION OF THE SUPPORTING TISSUES OF THE TEETH. BERNHARD GOTTLIEB, M.D. J.A.D.A. 30:1872, Dec. 1943.

Two conditions govern the efficiency of the periodontal membrane suspension: the density with which fibres are inserted, and the area of insertion. The mobility of a tooth is largely determined by the width of the periodontal membrane, which depends on function. The periodontal membrane space of non-functional teeth is narrow, and the fibres have no functional arrangement. Once mobility is increased it is bound to progress. Human teeth are functionally in contact one hour out of twenty-four; the time for rest and repair in the remaining twenty-three would be ample to make traumatic occlusion impossible were it not for the nervous habit of pressing teeth together between meals. This habit should be discouraged; it is not necessary to bring the teeth together to swallow, as commonly supposed.

WYLIE, San Francisco.

OBSERVATIONS ON THE ABSORPTION OF FLUORIDE BY THE ENAMEL. J. F. VOLKER. Journal of Dental Research. 22:201, June 1943. (See Dental Caries)

Speech

FACIAL RECONSTRUCTION AND SPEECH. L. B. HIGLEY. J.A.D.A. 30:1716, Nov. 1943.

Profile roentgenograms were taken as patients sounded various vowels; superposed tracings of the films showed that the tongue assumes a characteristic and similar position for a given vowel as articulated by different individuals. The technique for determining these patterns is adequately illustrated, and the tongue position for each vowel is described.

WYLIE, San Francisco.

* FUNCTIONAL SPEECH AND VOICE DISORDERS. JAMES S. GREENE, J. Nerv. & Ment. Dis. 95:299 March 1942.

Stuttering is a symptom the genesis of which is in the emotional stream rather than in the vocal structures, and treatment, to be successful, must be directed toward the whole personality pattern. Reeducation of muscles of speech, however, is at times an important phase of therapy. The whole problem of stuttering is comprehensively discussed. The author bases his ideas and conclusions on personal experiences in over 20,000 cases.

* REPORT OF A SPEECH SURVEY, HOLYOKE, MASSACHUSETTS. ALICE W. MILLS and HELEN STREIT, J. Speech Disorders 7:161 (Aug.) 1942.

All of the children in the first three grades were examined by ten examiners, not all of them trained in speech correction. Above the third grade, children were seen who were referred by teachers as being defective in speech. Of 4,685 enrolled in the schools, 10.1 per cent were found to have some defect of speech. While on the average there was a sharp reduction in the total number of defects above the third grade (33 per cent vs. 10.1 per cent), there was a large increase in the number of serious ones in ratio to the total number of defects. A number of other statistical conclusions are of interest. The sex index of speech defects is again confirmed, the greatest variant being in stuttering, in which 5 boys stuttered to 1 female.

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* THE ETIOLOGY OF STAMMERING. ELMER L. KENYON, J. Speech Disorders. 7:97 (Aug.) 1942.

Vocal cord adduction is a life-saving function. Voice production is a modification of adduction. In developing mental imagery for control of the vocal cords, a child may, under stress of confusion, mental excitement or emotional strain, develop an imagery of complete cord adduction as being the way to produce voice. Thus a complete but transient block develops on phonation, which is the fundamental symptom of "stammering." Other symptoms are caused by social pressures of ridicule and embarrassment on the child. The author considers his theory proved by the pragmatic test of no failures under a treatment designed to draw the child's attention to proper vocal production. For more than seven years of work, he had no failures with children between the ages of 8 and 12 years. The author states that these are the most favorable ages for the program of treatment that he designed. Manner of treatment, number of cases and methods of control are not discussed by the author in this article.

Technic and Metallurgy

A DISCUSSION OF THE OCCLUSAL GUIDE PLANE. RUSSELL E. IRISH. Amer. J. of Orthodont. and Oral Surg. 29:699, Dec. 1943.

Irish devotes his paper to the following points having to do with the occlusal guide plane; its purpose, advantages, materials, requirements, relation, uses, variables and unvariables, and auxiliary attachments.

LEWIS, Dayton.

A METHOD OF ADJUSTING INTERMAXILLARY HOOKS ON JOHNSON TWIN ARCH. JOHN J. DOLCE. Am. J. of Orthodont. and Oral Surg. 29:338, June 1943.

The author describes a procedure for overcoming one of the difficulties of use of the twin-wire mechanism.

LEWIS, Dayton.

A METHOD FOR IMPROVING FLUX USED IN SOLDERING NONPRECIOUS ALLOYS. JAMES JAY. Am. J. of Orthodont. and Oral Surg. 29:290, May 1943.

The addition of a very small amount of shampoo liquid to the flux will aid in soldering by keeping the surface clean and allowing the solder to flow more easily.

LEWIS, Dayton.

A PALATOGRAPH FOR CONTOUR MAPPING OF THE PALATE. HENRY HARLAN BLOOMER. J.A.D.A. 30:1053, July 1943.

This instrument makes it possible for one to trace the shape and dimensions of the hard palate at different levels, to make accurate measurements in horizontal planes, and to estimate palatal height rather accurately. Designed to make the upper dental model more useful in speech studies, it is suggested as being of possible use in other fields.

WYLIE, San Francisco.

APPLICATION OF OCCIPITAL ANCHORAGE. ERNEST L. JOHNSON. Amer. J. of Orthodont. and Oral Surg. 29:638, Nov. 1943.

Construction of a headgear for use with occipital anchorage is described. The use of traction hooks, arches, and bars is illustrated.

LEWIS, Dayton.

CHROME ALLOY IN THE LABIO-LINGUAL TECHNIQUE. WILLIAM A. GIBLIN. Amer. J. of Orthodont. and Oral Surg. 29:602, Oct. 1943. (See Treatment and Retention)

GENERAL PHYSICAL DIAGNOSIS. W. J. BRYAN. Amer. J. of Orthodont. and Oral Surg. 29:658, Nov. 1943. (See Case Analysis and Diagnosis)

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

JOHNSON TWIN-WIRE ARCH PROGRESSIVE CLINIC. HENRY U. BARBER, JOSEPH D. EBY, LOWRIE J. PORTER, CLARE K. MADDEN. Am. J. of Orthodont. and Oral Surg. 29:340, June 1943.

A series of clinics is presented coordinating the progressive steps in use of the twin-arch from band making to the completion of appliance construction.

LEWIS, Dayton.

SOME VIEWS ON THE SUBJECT OF IMPACTED MAXILLARY CANINES. WALTER E. LIPSCOMB. Amer. J. of Orthodont. and Oral Surg. 29:550, Sept. 1943.

The author prefers to cement a brass hook with a generous amount of Ames' black copper cement to impacted canines over other methods of attachment. This operation is done at the time of exposure.

LEWIS, Dayton.

THE EFFECT OF MIXING SURFACE TEMPERATURE UPON DENTAL CEMENTATION. C. J. HENSCHEL. J.A.D.A. 30:1583, Oct. 1943.

The use of a cold slab increases not only the amount of powder which may be incorporated into the mix, resulting in increased strength and insolubility, but also the working time. The setting time in the mouth, however, is reduced. Hot, humid conditions are troublesome because a cold slab cannot be used. A flat-sided bottle filled with water is recommended as being superior to the slabs which have built-in thermometers; a thermometer may be placed in the stopper of the bottle.

WYLIE, San Francisco.

THE PHILOSOPHY BEHIND THE JOHNSON TWIN-WIRE APPLIANCE. ASHLEY E. HOWES. Amer. J. of Orthodont. and Oral Surg. 29:459, July 1943. (See Treatment and Retention)

THE PHILOSOPHY BEHIND THE UNIVERSAL APPLIANCE AS ADVOCATED BY DR. SPENCER R. ATKINSON. RALPH WALDRON. Am. J. of Orthodont. and Oral Surg. 29:435, Aug. 1943. (See Treatment and Retention)

THE PHILOSOPHY OF THE EDGEWISE ARCH APPLIANCE. ROBERT H. W. STRANG. Amer. J. of Orthodont. and Oral Surg. 29:478, July 1943. (See Treatment and Retention)

TREATMENT WITH THE MODIFIED EDGEWISE ARCH MECHANISM. SAMUEL H. STEIN. J.A.D.A. 30:375, March 1943. (See Treatment and Retention)

Temporo-Mandibular Joint

A STUDY OF THE TEMPOROMANDIBULAR ARTICULATION. H. C. VAUGHN. J.A.D.A. 30:1501, Oct. 1943.

The discussion is based on study of dental conditions and dissections of joints in 75 cadavers. Age brings a continuous reduction of constituents of joint, with an increase in working area. The belief that the condyle is displaced distally is incorrect; the repositioning of the mandible is forward and upward. The axis of rotation is at the junction of the inferior border of the posterior capsular fibers with the ramus. The use of the adaptable articulator has tended to direct thought away from the actual structures involved. It is more likely that symptoms of distress in this area are seated in the muscles than that they result from impingement of the condyle on the anterior wall of the external auditory meatus.

WYLIE, San Francisco.

THE TEMPOROMANDIBULAR JOINT AND THE AUDITORY FUNCTION. HARRY H. SHAPIRO and RAYMOND C. TRUEX. J.A.D.A. 30:1147, Aug. 1943.

The belief that loss of vertical dimension is an important factor in deafness is seriously open to question. Erosion of the glenoid fossa or the disk has no effect on hearing; occlusion of the external auditory meatus or any effect on the cochlea by the condyle is negligible. Compression of the eustachian tube is possible, but the degree of compression is speculative. Controlled experiments do not substantiate the belief that increasing vertical dimension will improve acuity for high tones. A through nasopharyngeal examination to

rule out structures occluding the eustachian tube and electro-audiometric tests should precede attempts to relieve deafness by bite-opening. First prizewinner, essay competition sponsored by Chicago Dental Society, Feb., 1943.

WYLIE, San Francisco.

Treatment and Retention

A CASE OF HEREDITARY MESIOCCLUSION COMPLICATED BY ENDOCRIN DYSFUNCTION. BROOKS BELL. Amer. J. of Orthodont. and Oral Surg. 29:595, Oct. 1943. (See Endocrinology)

A NEW METHOD OF TREATING UNILATERAL POSTERIOR OCCLUSION, CLASS II, DIV. I, SUBDIVISION. JOSEPHINE M. ABELSON. Amer. J. of Orthodont. and Oral Surg. 30:31, Jan. 1944.

Temporomandibular roentgenograms revealed the right unilateral posterior occlusion was the result of a rotated mandible. During treatment the teeth of both jaws were placed over their basal bone and the normal antero-posterior relation achieved by the rotation of the entire lower jaw as indicated by the roentgenographic survey of the temporomandibular joints. This was prepared by posterior movement of the seemingly normal left maxillary buccal segment. After posterior movement of the left upper buccal teeth was accomplished, a Class II elastic was worn on the right side and a Class III on the left to rotate the mandible.

LEWIS, Dayton.

APPLICATION OF OCCIPITAL ANCHORAGE. ERNEST L. JOHNSON. Amer. J. of Orthodont. and Oral Surg. 29:638, Nov. 1943. (See Technic and Metallurgy)

CHROME ALLOY IN THE LABIO-LINGUAL TECHNIQUE. WILLIAM A. GIBLIN. Amer. J. of Orthodont. and Oral Surg. 29:602, Oct. 1943.

Giblin gives a series of case reports demonstrating the use of chrome alloy in the appliance therapy of Dr. Oren Oliver.

LEWIS, Dayton.

MOUTH REHABILITATION: ORTHODONTICS AND PROSTHETICS. LEONARD KAHN. J.A.D.A. 30:398, March, 1943. (See Dentistry & Dental Relations)

PRESENT DAY LINGUAL ARCH THERAPY. JOHN W. ROSS. Amer. J. of Orthodont. and Oral Surg. 30:1, Jan. 1944.

This paper is presented to show treatment of complicated cases involving extensive tooth movement with a minimum of appliances. The appliance stressed is the lingual arch.

LEWIS, Dayton.

RATE OF VERTICAL CHANGE INDUCTED BY WEARING ANTERIOR BITE PLATES. T. D. SPEIDEL, D.D.S., M.S. Journal of Dental Research. 22:196, June 1943.

Three boys wore anterior bite plates for 16 weeks. At the end of each four weeks, the amount of change was determined by measurement from nasion to the edge of the lower incisors on standard profile roentgenograms. The measurement increased in each four week period, but 47 to 55% of the change occurred in the first period, in which the measurements increased 3.4 to 1.3 mm.

BURRILL, Chicago.

SOME VIEWS ON THE SUBJECT OF IMPACTED MAXILLARY CANINES. WALTER E. LIPSCOMB. Amer. J. Orthodont. and Oral Surg. 29:550, Sept. 1943. (See Technic and Metallurgy)

THE PHILOSOPHY BEHIND THE JOHNSON TWIN-WIRE APPLIANCE. ASHLEY E. HOWES. Amer. J. of Orthodont. and Oral Surg. 29:459, July 1943.

The Johnson twin-wire appliance combines simplicity of construction with ease of manipulation and a high degree of efficiency in a great many cases. It was not designed to accomplish the impossible, but to make treatment more simple. It is an appliance which will exert a gentle, measurable force; will not need frequent adjustment; will move

teeth efficiently through the cancellous bone; necessitates a minimum number of bands; and can be partially fabricated in the laboratory thus reducing chair time.

Models are shown of cases treated by use of this appliance.

LEWIS, Dayton.

THE PHILOSOPHY BEHIND THE UNIVERSAL APPLIANCE AS ADVOCATED BY DR. SPENCER R. ATKINSON. RALPH WALDRON. Am. J. of Orthodont. and Oral Surg. 29:435, Aug. 1943.

Waldron discusses Atkinson's findings regarding the key ridge and its relation to diagnosis of orthodontic deformities. Illustrations of dentitions and of dried bone sections are shown. It is advised that teeth be moved in the cancellous bone pathway and the cortical plate be avoided.

The universal appliance is illustrated on models and a case of distocclusion is shown under treatment.

LEWIS, Dayton.

THE PHILOSOPHY OF THE EDGEWISE ARCH APPLIANCE. ROBERT H. W. STRANG. Am. J. of Orthodont. and Oral Surg. 29:478, July, 1943.

Philosophy, as applied to an orthodontic mechanism, must take into consideration the mechanical principles of the device, the efficiency of its application, the tolerance of vital tissues to adjustments for action, and finally the rationale of the use of the appliance as a means for gaining the desired result in treatment.

Tweed's basic principles of moving teeth distally and lingually to positions where their roots are overlying the basal bone of maxilla and mandible and proper axial adjustment are analyzed in detail by Strang.

LEWIS, Dayton.

THE PROPER TIME TO BEGIN ORTHODONTIC TREATMENT. L. B. HIGLEY. J.A.D.A. 30:1329, Sept. 1943.

The most opportune time to begin orthodontic treatment depends on the conditions peculiar to the individual case. No one period in dental development may be singled out as the optimal time for treatment; recent articles of Hellman which suggest that the period associated with the eruption of the permanent second molars is the most propitious time are misleading, in that this period of supposedly exuberant facial growth covers four years, and is compared with periods of approximately two years. Orthodontic treatment should be instituted early enough that greatest advantage may be taken of its beneficial effects on facial growth. Several cases are reported, with models, photographs and profile roentgenograms.

WYLIE, San Francisco.

THE TWEED PHILOSOPHY. A. V. GREENSTEIN. Amer. J. of Orthodont. and Oral Surg. 29:527; Sept. 1943.

This article is an analysis of Tweed's concepts and basis of treatment. The relationship of lower incisors to the base bone or ridge as introduced by Tweed clinically and substantiated by Margolis scientifically is discussed in full.

LEWIS, Dayton.

TREATMENT WITH THE MODIFIED EDGEWISE ARCH MECHANISM. SAMUEL H. STEIN, A.B., D.D.S., New York, N.Y. J.A.D.A. 30:375, March 1943.

A modified edgewise bracket developed by Sved is used in combination with small gauge steel arch wire. Two cases so treated are reported by the author. This type of appliance is especially recommended for Class I and Class II, Division II cases, but Class II, Division I cases are treated by the use of labial and lingual arches.

BLACK, BERKELEY.