

# Abstracts of Current Literature

## Anatomy

ORTHODONTICS AS A LIFE FACTOR. SPENCER R. ATKINSON. *Am. J. of Orthodont. and Oral Surg.* 25:1133, Dec. 1939. (See Case Analysis and Diagnosis)

† RELATIONSHIP OF MAXILLARY AND MANDIBULAR GUM PADS IN THE NEWBORN INFANT. J. H. SILLMAN. *Am. J. Orthodont. and Oral Surg.*, 24:409, 1938.

A careful study of the relationship of the maxillary and mandibular gum pads was made in 709 newborn infants. The ages ranged from 1 to 11 days. In order to determine accurately the relationship of the gum pads, casts had to be made and articulated by a bite. The following observations were made: The gum pad of the mandible is distal to that of the maxilla in all cases on an average of 2.7 mm. in the male and 2.5 mm. in the female. The range of variation of this distal relationship is from 0 to 7 mm. There is a limited anteroposterior movement of the mandible but no lateral movement. When the jaws are at rest, the gum pads do not meet. The space between the anterior segments of the gum pads varies in form. With an increase in the 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. A comparison between spontaneously delivered babies and those delivered instrumentally shows little difference in the dimensions of the gum pads. Babies delivered by electric cesarean section compared with those born in face presentation do, however, show appreciable dimensional differences. (Author's Summary.)

SOME STUDIES OF ADAPTATIONS IN DENTITIONS OF MAMMALS, INCLUDING MAN. EDWIN H. COLBERT. *Am. J. of Orthodont. and Oral Surg.* 25:952, Oct. 1939.

It would seem that there has been a close correlation between the environment and structural evolution in mammals. This correlation is no more perfectly exemplified than in the evolution of mammalian dentitions as correlated with changes in the diet. By tracing the evolution of teeth backward through geologic time we see varied forms, characteristic of modern mammals, gradually converging toward a single primitive type, the tribosphenic. The dentitions of the horse, cat and man are traced from this primitive type.

LEWIS, Dayton.

## Anthropology

SOME FACIAL FEATURES AND THEIR ORTHODONTIC APPLICATION. MILO HELLMAN. *Am. J. of Orthodont. and Oral Surg.* 25:927, Oct. 1939. (See Case Analysis and Diagnosis)

SOME STUDIES OF ADAPTATIONS IN DENTITIONS OF MAMMALS, INCLUDING MAN. EDWIN H. COLBERT. *Am. J. of Orthodont. and Oral Surg.* 25:952, Oct. 1939. (See Anatomy)

## Case Analysis and Diagnosis

CHANGING CONCEPTS IN DIAGNOSIS. HARRY N. MOORE. *Am. J. of Orthodont. and Oral Surg.* 25:875, Sept. 1939.

Every addition to orthodontic knowledge makes necessary some change in methods of diagnosis. Angle's classification was the first attempt to systematize diagnosis. The contributions of Lischer, Simon, McCoy, Becks, Simmonds and other are mentioned.

LEWIS, Dayton.

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

ORTHODONTICS AS A LIFE FACTOR. SPENCER R. ATKINSON. *Am. J. of Orthodont. and Oral Surg.* 25:1133, Dec. 1939.

In correcting malocclusion the author has found the "key ridge" landmark to be of value in determining functionally and esthetically the most desirable location of the dental arches in the skull, harmonizing with individual type. The curve of the mesiobuccal root of the upper first molar, and the curve of the roots of the mandibular first molar conform to the curve of the "key ridge." Type is perfectly expressed in the adult when the mesiobuccal root of the maxillary first molar is directly under the "key ridge."

LEWIS, Dayton.

SOME FACIAL FEATURES AND THEIR ORTHODONTIC IMPLICATION. MILO HELLMAN. *Am. J. of Orthodont. and Oral Surg.* 25: 927, Oct. 1939.

A normal face has never been defined, but orthodontists have the notion that a face is normal when its dentition is in normal occlusion, and a face is abnormal when there is malocclusion. A systematic metrical study of facial features of sixty-two young white adults with full complements of teeth in normal occlusion revealed the fact that their faces were extremely variable. Seven measurements of facial height, four of width, and eight of depth were taken. The normal standard in the form of a polygon was derived from the averages and standard deviations of their measurements.

Measurements of twenty young adults with Class II, Division 1 malocclusions reveal that the maxilla is most often greater in height, and the mandible less in all of its dimensions than in those with normal occlusion. Peculiarities of Class III faces are a super-normal total face height associated with an open bite (dental height), a sub-normal upper face height with a supernormal nasal height. The upper face is very shallow, the lower deep and the mandibular angle often obtuse.

LEWIS, Dayton.

SOME FACTORS INVOLVED IN THE TREATMENT OF ANGLE'S CLASS II, DIVISION 2. CHARLES J. VOSMIK. *Am. J. of Orthodont. and Oral Surg.* 25:865, Sept. 1939.

Class II, Division 2 is discussed from the standpoint of etiology, diagnosis, and treatment. The author says "the attainment of a comprehensive understanding of the causative factors involved depends largely upon a true appreciation of the particular nature of developmental growth which is peculiar to the individuals possessing this form of dental anomaly." This type of malocclusion the essayist believes is principally associated with deep-seated causes of disturbed growth, and secondly with perverted musculature. Diagnosis is carried out following Strang's plan. Mechanical treatment is instituted between the eleventh and thirteenth year. The simplest appliance is considered the most desirable.

LEWIS, Dayton.

## Dental Caries

†DENTAL CARIES AND NUTRITION INVESTIGATION OF CHILDREN FROM NORWEGIAN ELEMENTARY SCHOOLS AND INFANT HOMES. E. H. SCHIOTZ. *Brit. Dent. J.* 66:57, 1939. DENTAL CARIES AND NUTRITION. *Nord. hyg. tidskr.* 19:242, 1938.

†DESTRUCTION OF TOOTH ENAMEL BY ACIDIFIED CANDIES. E. S. WEST and F. R. JUDY. *J. Dent. Research* 17:499, Dec. 1938.

†EFFECTS OF SELECTIVE SALIVARY GLAND EXTIRPATION UPON EXPERIMENTAL DENTAL CARIES IN THE RAT. V. D. CHEYNE. *Proc. Soc. Exper. Biol. & Med.* 42:587, Nov. 1939.

Eighty-eight rats 22 days of age were placed on two different diets, one known to be productive of caries and the other the regular stock diet, found to produce little change in the teeth. From groups of rats in each series various salivary glands were extracted. It was found that this disturbance of the normal salivary flow resulted in an increase in the incidence of caries.

HANSEN, Minneapolis.

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

RATE AND DIRECTION OF ORTHODONTIC CHANGE AND THE EFFECT ON INCIDENCE OF CARIES IN FIVE HUNDRED ADOLESCENTS FOLLOWING CARIES, FILLING OR EXTRACTION OF FIRST PERMANENT MOLARS. J. A. SALZMAN. J. A. D. A. 26:1991, Dec. 1939.

A statistical study of caries with the various tables is presented. Loss of a first permanent molar results in "the inclination, rotation, elevation, and bodily movement of the remaining teeth" as well as deflection of the midline, and asymmetry of the face. "There appears a rise in the incidence of caries in direct ratio to the number of first permanent molars extracted per child." Increase in the incidence of caries is "in direct ratio to the actual number of carious or filled first permanent molars when all of these teeth are retained in the mouth." The number of carious areas increases directly with the number of first permanent molars extracted as well as with the actual number of carious areas or fillings in the remaining molars. There is a higher incidence of caries in those mouths where extraction of the first permanent molars has occurred than where they all are present.

Conclusions: 1) the number of filled or carious first permanent molars can be used as an index to the caries incidence of the mouth as a whole; 2) extraction of the first permanent molars is a direct factor in the increase in caries in the mouth as a whole, . . . 3) orthodontic and facial changes follow disturbance of the occlusion caused by extraction of first permanent molars. The above results are the reasons for the advisability of retaining the space of the first permanent molar as soon as it is extracted; also for never sacrificing the first permanent molars as an orthodontic measure.

STEADMAN, St. Paul.

†STUDIES OF DENTAL CARIES. I. JUNDELL. Acta pædiat. 24:428, 1939. CLINICAL INVESTIGATIONS OF THE GENESIS AND PREVENTION OF DENTAL CARIES. I. JUNDELL and J. BILLING. *Ibid.* 23:293, 1939.

Jundell reports on the disappointingly negative results of a ten year study of the prophylaxis of dental caries, echoes of which have been heard from time to time in *Acta paediatrica*.

Commencing in the spring of 1926, steps were taken to assemble two large groups of children, a control group and a study group. The members of the control group were followed without administering special treatment; this group numbered 113 children. The members of the study group consisted of children whose mothers had been given vitamin D during the last ten weeks of pregnancy and who themselves had received ample amounts of vitamin D and a good diet until the end of the second year of life. The group numbered 135 children. At 2 years of age they were separated into two smaller groups, the first consisting of 57 children who received no special treatment thenceforward, and the second consisting of 78 children, who continued to receive vitamin D periodically through the winter months. Although the members of both the treated and the control groups lived in their own homes, they were carefully supervised by a trained personnel of visiting nurses, and all received a good diet. Little dental treatment was accorded to any of them until they commenced to attend school; thenceforth cavities were promptly filled by the school dentists.

Periodic examinations of the state of the teeth were made by those engaged in the study at regular intervals until the children were between 7½ and 8½ years old.

Succinctly, these examinations revealed clearly and unequivocally that the incidence of caries of both the deciduous and the permanent teeth was not in the least diminished by the measures that had been taken.

MCCUNE, New York.

## Education, Legislation, Economics

THE AMERICAN BOARD OF ORTHODONTICS. HARRY E. KELSEY. Am. J. of Orthodont. and Oral Surg. 26:57, Jan. 1940.

Explanation of the organization, accomplishments, and future objectives of the American Board of Orthodontics is submitted. It has been in existence ten years and 178 out of the 600 orthodontists in this country have met the requirements for membership.

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

A high standard of practice, ethical conduct toward patients and members of the professions, the submission of acceptable case reports and theses are qualifying factors.

LEWIS, Dayton.

THE ANGLE COLLEGE. WALTER M. DUNLAP. *Am. J. of Orthodont. and Oral Surg.* 25:979, Oct. 1939.

A description of the Angle College and its methods of procedure.

LEWIS, Dayton.

THE EASTERN ASSOCIATION OF GRADUATES OF THE ANGLE SCHOOL OF ORTHODONTIA: ITS CONTRIBUTIONS TO THE ADVANCEMENT OF ORTHODONTICS. BERNHARD WOLF WEINBERGER. *Am. J. of Orthodont. and Oral Surg.* 25:984, Oct. 1939.

Here is presented what the Eastern Association really stood for and what it contributed to orthodontics. It is a brief history of the Association from its conception to its end. The author declares it unfortunate that Dr. Angle could not be alive to see the record of achievements of the Eastern Association.

LEWIS, Dayton.

THE EFFECT OF THE ANGLE COLLEGE. FREDERICK B. NOYES. *Am. J. of Orthodont. and Oral Surg.* 25:982, Oct. 1939.

The effect of the Angle College was to produce a number of men who have been and are most influential in the development of the specialty of orthodontics; to develop the importance of the fundamental sciences as the basis for all technical procedures; and to develop certain fundamental concepts of education as applied to professional and technical training.

LEWIS, Dayton.

THE SIGNIFICANCE OF THE ANGLE SCHOOL. JOHN V. MERSHON. *Am. J. of Orthodont. and Oral Surg.* 25:969, Sept. 1939.

An appraisal of the individuals of the Eastern Association of Graduates of the Angle School, and mention of the contributions of Milo Hellman, J. Lowe Young, B. W. Weinberger, Alfred Rogers, Leroy Johnson and Frederick Kemple is presented in the article.

LEWIS, Dayton.

THE TRADITION OF THE ANGLE SCHOOL. ALFRED P. ROGERS. *Am. J. of Orthodont. and Oral Surg.* 25:969, Oct. 1939.

Dr. Angle had the ability to impart to each of his students, if they were at all receptive, the essence of each one of his living qualities. These qualities have been handed down so that the influence of the Angle School is still active.

LEWIS, Dayton.

THE TREND OF ORTHODONTIC TEACHING AND INVESTIGATION AS A PRIMARY DENTAL CONCERN. WILLIAM W. WOODBURY. *Am. J. of Orthodont. and Oral Surg.* 26:130, Feb. 1940.

The increasing interest being taken by orthodontists in the biologic sciences is the result of a trial-and-error approach to the question of malocclusion of teeth. For many years there was the underlying conviction that given sufficient mechanical ingenuity all orthodontic problems could be solved. But the failure to produce appliances that would always bring about desired movements and assure their maintenance brought out the fact that mechanical ingenuity had brought us to a dead end.

Orthodontics has started along a road that the whole of dentistry must travel if it is to move out of its present position of relative impotence. The effect of the Report of the Curriculum Survey Committee of the American Association of Dental Schools on orthodontic teaching is examined and discussed. Woodbury is encouraged by the anxiety shown by some teachers to make orthodontics more helpful to the dentist in his daily practice, and because some teachers have discontinued active student participation in orthodontic clinics. Programs of longitudinal study of development are to be encouraged, along the lines of the studies of Hatfield, Lewis and Lehman, and Waldo.

LEWIS, Dayton.

## Etiology

A CASE REPORT ON THE HEREDITARY FACTOR IN THREE CASES OF MESIOCLUSION. BROOKS BELL. *Am. J. of Orthodont. and Oral Surg.* 25:1079, Nov. 1939.

Three cases of Class III are reported. In all a tendency for protrusive mandibles was noted in the mother, and in one case the maternal grandmother. Bell believes we should be conservative in our prognoses of malocclusions of this type, for the limitation placed by inheritance surely controls the utmost extent of response to mechanical stimulation.

LEWIS, Dayton.

DENTAL OCCLUSION IN PATIENTS WITH MUSCULAR DYSTROPHY. JOHN C. BROWN and PAUL K. LOSCH. *Am. J. of Orthodont. and Oral Surg.* 25:1040, Nov. 1939.

Five cases of muscular dystrophy are reported, four of which show enlargement of the tongue. In each patient there is beginning or actual arch deformity in the shape of open-bite. Loss of muscular strength and increase in the size of the tongue are believed to be the etiological factors.

LEWIS, Dayton.

RATE AND DIRECTION OF ORTHODONTIC CHANGE AND THE EFFECT ON INCIDENCE OF CARIES IN FIVE HUNDRED ADOLESCENTS FOLLOWING CARIES, FILLING OR EXTRACTION OF FIRST PERMANENT MOLARS. J. A. SALZMAN. *J. A. D. A.* 26:1991, Dec. 1939. (See Dental Caries)

A REPORT OF TWO CASES OF MALOCCLUSION ACCOMPANIED BY DISTORTION OF THE FINGERS AS A RESULT OF FINGER-SUCKING. IRWIN F. STEURER. *Am. J. of Orthodont. and Oral Surg.* 26:242, March, 1940. (See Treatment and Retention)

SIGMATISM AND MALPOSITION OF THE TEETH. EUGEN SCHORR. *Am. J. of Orthodont. and Oral Surg.* 25:1143, Dec. 1939.

Man is born with two phenomena of coordination, breathing and sucking. For both certain muscles are innervated, already coordinated. Except these two phenomena coordination can only be learned through self-experimentation. Normal coordination of the lips, tongue and mandibular muscles takes place when the infant sucks at the breast. A bottle-fed baby will learn a special, but not natural, kind of innervation. In sucking at the breast the infant lowers, thrusts forward, and raises the mandible in a sequence. Thus the physiologic distal bite of the newborn infant is removed. Bottle feeding is entirely mechanical. The tongue is pressed against the anterior portion of the maxilla and presses the milk out of the nipple. The author expresses the conjecture that the tendency, evident in cases of sigmatism, to thrust the tongue too far forward is probably due to the same impulse as in bottle feeding.

LEWIS, Dayton.

SOME FACTORS INVOLVED IN THE TREATMENT OF ANGLE'S CLASS II, DIVISION 2. CHARLES J. VOSMIK. *Am. J. of Orthodont. and Oral Surg.* 25:865, Sept. 1939. (See Case Analysis and Diagnosis)

A STUDY OF THE HEREDITY OF THE ANOMALIES OF THE JAWS. O. RUBBRECHT. *Am. J. of Orthodont. and Oral Surg.* 25:751, Aug. 1939.

The author concludes that the shape and size of the jaws are in a great measure determined by heredity, and consequently endognathism and exognathism are dependent to a great extent upon heredity. Various and numerous family pedigrees are shown, and illustrated with photographs and casts.

LEWIS, Dayton.

TREATMENT OF CLASS I ANOMALIES. EARL G. JONES. *Am. J. of Orthodont. and Oral Surg.* 25:70, Dec. 1939. (See Treatment and Retention)

## Growth and Development

DEVELOPMENTAL GROWTH OF THE FACE IN RELATION TO THE DENTURE. LEONARD P. WAHL. *Am. J. of Orthodont. and Oral Surg.* 25:234, March, 1940.

A conception of some of the knowledge gleaned from research and investigations on the interrelation of growth and development of the face and denture is presented. The works of Angle, Hellman, Broadbent, Brodie, Todd, John Hunter, Brash and others quoted. LEWIS, Dayton.

A PLASTIC AND GRAPHIC TECHNIQUE FOR RECORDING DENTAL CHANGES AND FACIAL GROWTH. HERBERT I. MARGOLIS. *Am. J. of Orthodont. and Oral Surg.* 25:1027, Nov. 1939.

This is the first of a series of articles on facial growth and changes, and a manner in which to record such changes. A standardized technique for stereoscopic photography is described in detail. Margolis believes the orthodontist should think in terms of three-dimensional records, since his work is moving teeth in space.

LEWIS, Dayton.

## Habits

†DISTURBANCES IN SUCKING. A. PEIPER. *Monatschr. f. Kinderh.* 79:241, Aug. 1939.

Peiper submits tracings attempting to show that the rhythm of the sucking center may suppress the rhythm of the respiratory center. In the sick infant there is frequently a disturbance of this control, so that the influence of the sucking center on respiration is not so constant. The writer pictures three different steps in the creation of an abnormal interrelationship, the first being a marked inhibition of respiration by the sucking center; in the third stage the centers conduct independent rhythms.

The interdependence of the two centers can be demonstrated during the first meal of the newborn.

GERSTLEY, Chicago.

†JAW-WINKING IN AN INFANT. J. N. O'REILLY. *Proc. Roy. Soc. Med.* 32:607, April, 1939. (See Pathology)

A REPORT OF TWO CASES OF MALOCCLUSION ACCOMPANIED BY DISTORTION OF THE FINGERS AS A RESULT OF FINGER-SUCKING. IRWIN F. STEURER. *Am. J. of Orthodont. and Oral Surg.* 26:242, March, 1940. (See Treatment and Retention)

## Historical

THE AMERICAN BOARD OF ORTHODONTICS. HARRY E. KELSEY. *Am. J. of Orthodont. and Oral Surg.* 26:57, Jan. 1940. (See Education)

THE ANGLE COLLEGE. WALTER M. DUNLAP. *Am. J. of Orthodont. and Oral Surg.* 25:979, Oct. 1939. (See Education)

THE EASTERN ASSOCIATION OF GRADUATES OF THE ANGLE SCHOOL OF ORTHODONTIA: ITS CONTRIBUTIONS TO THE ADVANCEMENT OF ORTHODONTICS. BERNHARD WOLF WEINBERGER. *Am. J. of Orthodont. and Oral Surg.* 25:984, Oct. 1939. (See Education)

THE EFFECT OF THE ANGLE COLLEGE. FREDERICK B. NOYES. *Am. J. of Orthodont. and Oral Surg.* 25:982, Oct. 1939. (See Education)

JOHN HUNTER AND HIS NATURAL HISTORY OF THE HUMAN TEETH. BERNHARD WOLF WEINBERGER. *Am. J. of Orthodont. and Oral Surg.* 26:246, March, 1940.

A review of Part 1 of "The Natural History of the Human Teeth" by John Hunter. The author believes Hunter's work was one of the brilliant milestones in the history of dentistry. It is significant that it was written by a physician who had made a thorough study of a subject not previously known at the time. The remarkable part is the keenness

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of Hunter's observations and how many of those made over two hundred years ago are still to be found correct, and are the basis of our present theories.

LEWIS, Dayton.

THE SIGNIFICANCE OF THE ANGLE SCHOOL. JOHN V. MERSHON. *Am. J. of Orthodont. and Oral Surg.* 25:969, Sept. 1939. (See Education)

THE TRADITION OF THE ANGLE SCHOOL. ALFRED P. ROGERS. *Am. J. of Orthodont. and Oral Surg.* 25:969, Oct. 1939. (See Education)

## Miscellaneous

DENTAL PHASES OF BRONCHOSCOPY. PAUL HOLINGER. *J. A. D. A.* 27:184, Feb. 1940.

Objects of dental origin are occasionally lost down the trachea, knowingly or unknowingly. If knowingly the patient should be advised to consult a physician immediately. Such occurrences are rare and the normal protective mechanisms are a surprisingly efficient barrier. These constitute a series of reactions which may be designated as a first line of defense, among which are the spastic closure of the glottis itself and the all-important cough. Another mechanism is the constant rhythmic action of the cilia of the tracheo-bronchial mucosa. These may be lost under certain conditions, i.e. alcoholic intoxication, laryngeal cord paralysis, anesthesia or even normal sleep.

Symptomatology: (1) "The patient chokes, coughs, gags and wheezes and may become dyspneic or cyanotic." These symptoms may last from a few minutes to a few hours before they subside. (2) "A treacherous symptomless interval usually follows the violent initial coughing" which may last from a few hours to several months. (3) ". . . obstruction of the bronchus or inflammation or erosion of the bronchial wall."

STEADMAN, St. Paul.

FACTORS IN SALIVA CORRELATED WITH THE OCCURRENCE OF CALCULUS. BENJAMIN TENENBAUM AND MAXWELL KARSHAN. *J. A. D. A.* 26:1965, Dec. 1939.

This report confirms the findings of earlier reports. The mean values for calcium and inorganic phosphorus were lower in the calculus-free group of adults than in the group having calculus, in both the stimulated and unstimulated saliva. Also the average pH of stimulated saliva from subjects having calculus was found to be at a level favoring the precipitation of the inorganic salts found in the deposits. Moreover, a sufficient concentration of total calcium and inorganic phosphorus in both stimulated and unstimulated saliva from the group of adults having calculus was found further supporting the hypothesis.

STEADMAN, St. Paul.

FURTHER EXPERIMENTS IN ORAL GALVANISM. M. C. REINHARD, H. A. SOLOMON, H. L. GOLTZ. *J. A. D. A.* 26:1846, Nov. 1939.

The author concludes that "the diminution of current flow is due in part to polarization and in part to deposition of an insulating film. Further diminution in current flow could be caused by chemical changes occurring on the exposed surfaces of the metals used in the restorations."

STEADMAN, St. Paul.

## Pathology

BONE INFECTION. WILFRED FISH. *J. A. D. A.* 25:691, May, 1939.

A very clear and unusual picture of bone infection is presented with illustrations of histologic sections. Experimental as well as clinical material is submitted. Bacterial organisms do not penetrate the tissues in pyorrhea, but their toxins do and the toxins destroy the bone through the action of osteoclasts which are stimulated to activity by a certain dilution of the toxins. If the toxin is too great the osteoclasts are killed or do not form, and if too dilute the osteoclasts do not form or function.

The author states that the organisms found at the apices and in the pulp of living teeth or in the blood stream after extraction came from the debris in the pocket, not from parodontal tissues. The following reactions were reported when organisms were introduced

on a pledget of cotton wool into a hole drilled in the bone: a) There was a central "zone of infection" wherein the organisms were rapidly controlled by the polymorphonuclear leukocytes. b) This was surrounded by a "zone of contamination" which was free from infection but poisoned by the soluble toxic products of the infection. All normal cells were dead and replaced by round cells. c) Beyond this was a "zone of irritation" where some normal cells survived. It was heavily infiltrated with round cells. There was a very active phagocytosis. Typical cells were the osteoclast and the histiocyte. d) At the periphery where the poisons are most dilute was a "zone of stimulation" with very active fibroblasts and osteoblasts.

STEADMAN, St. Paul.

†CONGENITAL ANODONTIA WITH ABNORMALITIES OF THE DERMAL SYSTEM (ECTODERMAL IMPERFECTION), WITH REPORT OF A CASE. R. RINVIK and A. SYRRIST. *Acta pædiat.* 23:548, 1939.

A 5 year old boy exhibited not only absence of teeth but, roentgenographically, a lack of all dental rudiments save one bud. In addition, he showed many of the features characteristic of hereditary ectodermal dysplasia: specifically, saddle nose, ozena, a sparse growth of lanugo-like hair and absence of sweat glands and sebaceous glands. Mental development was retarded. Approximately 6 cases of this sort have been reported in the literature. The cause, which is doubtless genetic, and the genesis are discussed. The bibliography is useful.

MCCUNE, New York.

†DYSTOSIS CRANIO-FACIALIS (CROUZON). A. C. KRAUSE and D. N. BUCHANAN. *Am. J. Ophth.* 22:140, Feb. 1939.

Krause and Buchanan discuss malformations of the head, the classification of such malformations and the symptoms, signs, prognosis and treatment of craniofacial dysostosis. They report the occurrence of craniofacial dysostosis or Crouzon's disease in a 2½ year old American boy. The symptoms were typical, and the diagnosis was confirmed by roentgen ray examination. There is no apparent record of this disease in the American literature. In spite of operative decompression of the cranium and right orbit there is "no reason to believe the prognosis will be favorable for either the eye, mentality, or life."

REESE, Philadelphia [*Arch. Ophth.*]

†JAW-WINKING IN AN INFANT. J. N. O'REILLY. *Proc. Roy. Soc. Med.* 32:607, April, 1939.

The case of a boy aged 6 months is reported. Movements of the left eyelid coordinated with sucking movements of the jaw had been noticed since birth. There was no history of trauma at birth. On examination there was a considerable degree of ptosis on the left side. Sucking movements caused elevation of the left upper lid, which was otherwise motionless. The right side appeared normal.

WILLIAMSON, New Orleans.

THE PATHOLOGY OF DENTAL CEMENTUM. KURT H. THOMA and HENRY M. GOLDMAN. *J. A. D. A.* 26:1943, Dec. 1939.

Hypercementosis is observed in teeth that are in normal occlusion as well as in those unerupted. There are two kinds of cementum, lamellar (without cells) and osteocementum (with cells). Functions of the cementum include retention of the tooth and repair of damage inflicted on the root.

Four processes of secondary cemental deposition are: 1) "general hypercementosis" (deposited concentrically about the root), which occurs on embedded unerupted teeth and retained fragments of a root as well as on roots of erupted teeth. Erupted teeth without antagonists have hypercementosis while teeth with antagonists do not. 2) "hypercementosis due to infection" occurs about the root except at the site of infection; 3) "spike formation" is a calcification of certain of the periodontal fibers which have become thickened due to unusually heavy stress over a long period of time; 4) "tooth repair." Where roots are fractured or pieces of cementum are torn away from the root, repair is accomplished by cementum forming over the fractured area and over the area of the root from which the fragment of cementum was torn which often leaves the cementum fragment in the

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peridental tissue between the root and the alveolar bone with fibers running from root to fragment to alveolar process. In perfectly filled root canals the cementum often closes over the apical foramen or foramina.

Neoplastic cementum consists of cementicles and cementomas. "Cementicles are calcified bodies which may be found in the peridental membrane." Cementomas are tumors made up of cementum and are usually found in the subapical areas.

STEADMAN, St. Paul.

## Physiology

A COMPARATIVE STUDY OF ROOT RESORPTION IN THE HUMAN AND THE CAT. WILLIAM M. ROGERS and HARRY H. SHAPIRO. *Am. J. of Orthodont. and Oral Surg.* 25:1147, Dec. 1939.

Permanent tooth germs were surgically removed from a litter of cats, but apparently had no effect on the resorption of the deciduous teeth. For this reason the authors assume that the resorption of the root of deciduous teeth of both the human and the cat is not dependent upon the presence of the developing tooth. Resorption has been shown to occur in instances of congenital absence of the permanent tooth germ in the human. These observations are given as evidence of the inadequacy of the long-held theory that resorption of the deciduous root is dependent upon pressure exerted by the developing permanent tooth germ.

LEWIS, Dayton.

STUDIES CONCERNING THE ORAL CAVITY AND SALIVA. ROBERT E. BRAWLEY and H. JOBE SEDWICK. *Am. J. of Orthodont. and Oral Surg.* 26:41, Jan. 1940.

Biting pressure measurements were made on a representative cross section of 783 American school children from six to seventeen years. The range for individual measurements was 0 to 235 pounds. The mean value for the entire group was 83 pounds.

LEWIS, Dayton.

## Roentgenology

CLINICAL PHOTOGRAPHY FOR ORTHODONTISTS. MARTIN HAGGETT. *Am. J. of Orthodont. and Oral Surg.* 25:1085, Nov. 1939.

Stereoscopic photography is recommended for the orthodontist, as it produces an effect of the third dimension. Cameras and lighting effects are discussed as well as photography of plaster casts.

LEWIS, Dayton.

THE OBJECTIVITY OF A METHOD OF ORIENTING SUBJECTS FOR TEMPOROMANDIBULAR ROENTGENOGRAMS. T. D. SPEIDEL and L. GOLDBERG. *Am. J. of Orthodont. and Oral Surg.* 25:1069, Nov. 1939. (See Temporomandibular Joint)

ORTHODONTIC PHOTOGRAPHIC RECORDER. BERCU FISCHER. *Am. J. of Orthodont. and Oral Surg.* 26:139, Feb. 1940.

Standardized facial photographs are obtained by means of a head-positioner and miniature camera. The head is related to the camera by means of the cephalophore (or head-positioner), which is not removed while the photograph is taken. On this cephalophore the eye-ear and median planes are fixed in a definite relation to the camera, while the orbital plane is adjustable to the individual case. These planes are registered directly on the film and not drawn in after the film is processed.

The equipment and procedures are described in detail.

LEWIS, Dayton.

## Speech

AN ANALYSIS OF ARTICULATE SOUNDS AND ITS USE AND APPLICATION IN THE ART AND SCIENCE OF DENTISTRY. GEORGE J. ROTH. *Am. J. of Orthodont. and Oral Surg.* 26:1, Jan. 1940.

An investigation was made of the phenomena of sound and speech, and the application to the practice of dentistry of the physical, anatomic, physiologic and psychologic factors.

In Class II cases there may be considerable impairment in effective speech output of the sounds of P, B, and M, T and D, S, and Z. In Class II cases the above sounds and those of the letters F and V may not be perfectly enunciated. Persons with "open bite" cannot distinctly pronounce S and Z, TH, SH and CH. Three basic fundamentals for the production of normal speech are (1) correct breathing and proper utilization of breath; correct kinesthetic or muscular imagery, designated as oral position; and a combination of one and two.

LEWIS, Dayton.

## Technic and Metallurgy

BITE PLANES. STEPHEN C. HOPKINS. *Am. J. of Orthodont. and Oral Surg.* 26:107, Feb. 1940. (See Treatment and Retention)

CONSIDERATIONS ON THE MECHANICS OF THE PIN AND TUBE APPLIANCE. PETER ADLER. *Am. J. of Orthodont. and Oral Surg.* 25:883, Sept. 1939. (See Treatment and Retention)

MEASURING OF ORTHODONTIC FORCES. FRANK PAULICH. *Am. J. of Orthodont. and Oral Surg.* 25:817, Sept. 1939.

Literature dealing with the following subjects is reviewed: (1) metallurgic considerations of materials, heat treatment, and soldering; (2) orthodontic force, its intensity, and application; (3) measuring forces of arch wires, finger springs, and rubber bands; (4) biologic facts; (5) properties of the peridental membrane.

Four experiments are described: (1) rubber bands and the forces they develop; (2) forces developed by the arch wires; (3) forces developed by the finger springs; (4) tension developed by .032 stainless wire.

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RETENTION PROCEDURES. FRED E. MCINTOSH. *Am. J. of Orthodont. and Oral Surg.* 26:37, Jan. 1940.

Methods of using chrome alloy in construction of mandibular canine-to-canine and Hawley retainers are described.

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SOME PHYSICAL PROPERTIES OF THE LABIAL EXPANSION ARCH, PETER ADLER. *Am. J. of Orthodont. and Oral Surg.* 25:1161, Dec. 1939. (See Treatment and Retention)

A STUDY IN TEMPERING PRECIOUS METAL ALLOYS. FREDERIC T. MURLLESS, JR. *Am. J. of Orthodont. and Oral Surg.* 25:29, Jan. 1940.

Physical and mechanical properties of gold-platinum orthodontic wire are discussed, with much emphasis given to tempering. The proportional limit of chrome alloy is only half as high as that of precious metal, the initial resiliency is only 25 per cent that of precious metal, and in addition chrome alloy cannot be heat-tempered. A particular heat-treater (Dee and Co.) is recommended.

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TREATMENT OF CLASS I ANOMALIES. EARL G. JONES. *Am. J. of Orthodont. and Oral Surg.* 25:70, Dec. 1939. (See Treatment and Retention)

THE USE OF BITE PLATES. GEORGE S. CALLAWAY. *Am. J. of Orthodont. and Oral Surg.* 26:120, Feb. 1940. (See Treatment and Retention)

THE USE OF HYDRO-COLLOIDAL IMPRESSION MATERIAL IN ORTHODONTICS. GEORGE E. ORSECH. *Am. J. of Orthodont. and Oral Surg.* 26:228, March, 1940.

A description of the use of hydro-colloidal material in taking impressions for records, and for the construction of labial and lingual arch appliances. A method of reclaiming the material after being used is also outlined.

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## Temporomandibular Joint

THE OBJECTIVITY OF A METHOD OF ORIENTING SUBJECTS FOR TEMPOROMANDIBULAR ROENT-  
ENOGRAMS. T. D. SPEIDEL and L. GOLDBERG. *Am. J. of Orthodont. and Oral Surg.*  
25:1069, Nov. 1939.

Purpose of the experiment was to see how nearly two operators, working inde-  
pendently, could obtain identical results with a temporomandibular roentgenographic  
procedure. The position of the roentgen tube was constant and the cassette located  
mechanically. Right and left temporomandibular X-rays were taken of thirty-four subjects  
by two different operators. The position of the condyle, relative to standard reference  
lines common to all films, was measured on each roentgenogram. Data indicate that the  
technique used allows two operators to position subjects for temporomandibular X-rays  
with vertical and horizontal deviations of less than 3.0 mm. in 75 per cent of cases.

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## Treatment and Retention

BITE PLANES. FRED RALPH BLUMENTHAL. *Am. J. of Orthodont. and Oral Surg.* 26:125,  
Feb. 1940.

Three cases are presented where some part of the treatment was carried out by means  
of a bite plane.

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BITE PLANES. STEPHEN C. HOPKINS. *Am. J. of Orthodont. and Oral Surg.* 26:107, Feb. 1940.

All forms of bite planes may be grouped together and considered the same insofar  
as tissue changes are concerned. Reference to the literature of Reisner, Rogers, Mershon,  
Hemley, Strang, Kelsey and others is made; correspondence with McCoy, Woodbury, and  
Grieve is quoted. Treatment with the bite plane is still more or less empirical.

Some of the advantages of the bite plane are: it changes the bite to normal im-  
mediately; muscular exercise is possible from the beginning of treatment; vertical growth  
in the molar and premolar regions is obtained quickly; it fixes the bite at the perfect  
normal relation as far as may be determined; it breaks up tongue, lip and other deleterious  
habits; failure due to lack of cooperation in wearing elastics, is overcome; it changes the  
profile immediately, creates confidence, parents are impressed favorably.

Some disadvantages are: tissue actions may be unfavorable in the region of the condyle,  
its neck, and the eminentia articularis; it is a radical and sudden change; it is difficult for  
the patient to chew; technical aspects of construction must be most exacting.

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CHILDREN'S BRIDGEWORK PREVENTS CROOKED TEETH. LEONARD KOHN. *Am. J. of Orthodont.*  
and *Oral Surg.* 26:259, March, 1940.

A radio talk offering a lesson in dental health education. Replacement of early lost  
deciduous teeth is considered.

LEWIS, Dayton.

CONSIDERATIONS ON THE MECHANICS OF THE PIN AND TUBE APPLIANCE. PETER ADLER. *Am. J.*  
of *Orthodont. and Oral Surg.* 25:883, Sept. 1939.

A mathematical dissertation concerning the pin and tube appliance.

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ESTHETIC TREATMENT OF AN ADULT CASE OF CLASS I MALOCCLUSION. GEORGE S. HARRIS.  
*J. A. D. A.* 26:741, May, 1939.

The patient was a male concert and radio singer, 29 years of age. Both upper laterals  
were peg shaped and the upper right central incisor was tipped distally from the midline  
so that space of 2.4 mm. occurred between the centrals. After two months of lingual arch  
treatment the upper right central moved only 1 mm. mesially. A pin and tube appliance  
was used to complete the closure of the space. The laterals were moved to the middle of  
their spaces and porcelain jacket crowns placed on them to complete the esthetic treat-  
ment. Photographs of the patient, models, teeth, and X-rays both before and after treat-  
ment are shown.

STEADMAN, St. Paul.

THE EXTRACTION OF MAXILLARY SECOND MOLARS TO REDUCE GROWTH STIMULATION. WALTER COOLIDGE CHAPIN. *Am. J. of Orthodont. and Oral Surg.* 25:1072, Nov. 1939.

Second and third molars on one side and the third molar on the other side were missing in this patient. The maxillary second molars were removed to reduce the growth stimuli in the maxilla so as to make the conditions for growth in both jaws more equal. Clinically the case is a success.

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FACTORS WHICH CONTROL THE TREATMENT OF THE DWARFED MANDIBLE. JAMES DAVID MCCOY. *Am. J. of Orthodont. and Oral Surg.* 25:805, Sept. 1939.

In this study the author concludes that the successful treatment of the dwarfed mandible requires: (1) the preparation for growth responses, by establishing the best possible metabolic balance; (2) the necessity for growth responses, by prompt and aggressive orthodontic measures that the mandible can be moved forward into normal relationship; (3) the achievement of such growth responses by increased functional activity; (4) the perpetuation of growth responses by sustained metabolic balance and normal functional habits.

In support of his views, McCoy reports a series of eight cases in which the dental anomaly was similar in all cases; that is, all the lower teeth occupied a posterior malrelationship. Photographs taken with a photostatic clinical camera, and tracings made from them are shown. The sequence of records demonstrated the general nature of growth responses.

Similar records are also shown of patients with lower dental posterior malrelationships and mandibles within the range of normal; and also of those with buccal segments in normal relationship and possessing dwarfed mandibles.

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PRELIMINARY REPORT OF A CASE INVOLVING LOSS OF ROOT SUBSTANCE. FRANCIS W. NASH. *Am. J. of Orthodont. and Oral Surg.* 25:1180, Dec. 1939.

Detailed case report covering etiology, diagnosis, physical examination, treatment, and results. Patient is a girl of 16, who had been under treatment for three years before coming to the author. At that time extensive root resorption was evident, but treatment was continued to improve function and esthetics. At the time this report was made no further resorption had occurred.

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A REPORT OF TWO CASES OF MALOCCLUSION ACCOMPANIED BY DISTORTION OF THE FINGERS AS A RESULT OF FINGER-SUCKING. IRWIN F. STEURER. *Am. J. of Orthodont. and Oral Surg.* 26:242, March, 1940.

Finger-sucking, done so vigorously that calluses formed on the offending fingers, was the etiological factor in these two cases. Both cases were treated successfully by stopping the habit with elbow appliances.

LEWIS, Dayton.

THE RESULTS OF THE USE OF THE SLIDING YOKE. WILLIAM R. JOULE. *Am. J. of Orthodont. and Oral Surg.* 26:24, Jan. 1940.

Treatment of a Class II, Division 1 case by means of edgewise brackets, edgewise arch wire and the sliding yoke. With this accessory the upper molars are carried distally, then the second premolars, and the first premolars and canines in order. Advantages of the sliding yoke seem to be the distal movement of teeth without tipping, ease of manipulation, and simplicity of technique.

LEWIS, Dayton.

SOME PHYSICAL PROPERTIES OF THE LABIAL EXPANSION ARCH. PETER ADLER. *Am. J. of Orthodont. and Oral Surg.* 25:1161, Dec. 1939.

Only a part of the elastic force of an expanding arch is consumed in the transverse expansion of the dental arch or jaw. Its amount depends *ceteris paribus* on the shape of the arch. The expansive work of the arch increases from the center toward its ends. Therefore, for the expansion in the canine premolar region the use of oval molar sheaths

is recommended (Oppenheim). The lingual movement of protruded front teeth occurs simultaneously with the expansion of the lateral parts of the dental arch and corresponds to the static and mechanical properties of the denture and jaw (physical expansion). The relation of the transverse expansion to the decrease of the altitude of the arch is constant.

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TREATMENT OF CLASS I ANOMALIES. EARL G. JONES. *Am. J. of Orthodont. and Oral Surg.* 25:70, Dec. 1939.

Here is offered an outline of a detailed classification of Class I anomalies. Etiologic factors, appliance design, and treatment are correlated.

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THE USE OF BITE PLATES. GEORGE S. CALLAWAY. *Am. J. of Orthodont. and Oral Surg.* 26:120, Feb. 1940.

This paper is limited to the use of the bite plate as a working appliance and not a retainer. Bite plates can be used for: (1) correction of overbite; (2) to stimulate development of the upper incisal region; (3) to stimulate development of other limited areas; (4) to prevent extrusion; (5) to intrude teeth; (6) for space maintainers; (7) to remove interferences in movement of other teeth.

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