

Abstracts of Current Literature

Anatomy

THE PROBLEM OF EXTRACTION IN ORTHODONTICS. H. BERGER. *Am. J. Orthodont. and Oral Surg.* 31:557, Nov. 1945.

SUPERNUMERARY TOOTH IN A CHILD OF TWELVE MONTHS. PETER P. DALE. *Am. J. Orthodont. and Oral Surg.* 31:325, June 1945.

A tooth resembling an atypical deciduous canine erupted into the maxillary right canine area forming a quarter inch diastema with the deciduous right central. A radiograph revealed the tooth to be supernumerary and it was removed. Seven months later the right lateral had erupted into normal position.

LEWIS, Dayton.

THE STUDY AND DEVELOPMENT OF THE MUSCLES OF MASTICATION, THE TEMPOROMANDIBULAR ARTICULATION, AND THE STYLOID PROCESS. LEROY M. ENNIS. *Am. J. Orthodont. and Oral Surg.* 31:495, Oct. 1945.

By studying the articulation at birth Ennis found it possible to study the joint at maximum development, when the jaws had not functioned, and could account for any variance in right and left sides by development. Skin and fascia were removed from the side of the head, the muscles of mastication dissected and each muscle covered with tin-foil. X-rays were then taken.

The muscles were removed leaving only the joint and ligaments. The ligaments were removed and the mandible separated from the fossae. Ennis found the heads of the condyles well developed but poorly calcified, the ligaments well formed, and asymmetrical development of the mandibular fossae, condyloid processes, and muscles of mastication. This asymmetrical condition he believes probably continues throughout life.

The paper is summarized by the statement that the problem of temporomandibular articulation is complex.

LEWIS, Dayton.

Case Analysis and Diagnosis

THE NORMAL AND THE ABNORMAL LABIAL FRENUM: CLINICAL DIFFERENTIATION. B. F. DEWEL. *J. A. D. A.* 33:318, March 1, 1946.

The author contends that a simple harmless enlargement of tissue at the midline of the maxillary arch is too frequently taken for an abnormality. He states that no frenum should be considered abnormal until every conceivable cause of a separation of the central incisors has been eliminated: he lists several of the possible causes of a median space in the maxillary arch, and illustrates with photographs. He advocates using the familiar test of looking for blanching in the palatine papilla when tension is applied to the upper lip, but he also insists that other causes be eliminated before recommending frenectomy. Since closure of the space may quite possibly cause recession of the frenum, he believes that no surgical interference should be used until an attempt to close the space orthodontically has been made.

WYLIE, San Francisco.

* 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.

TWO CASES REQUIRING BILATERAL MAXILLARY DISTAL MOVEMENT. SAMUEL H. STEIN. *Am. J. Orthodont. and Oral Surg.* 31:400, Aug. 1945.

Sved's distal moving appliance, in conjunction with mandibular anchorage was the mechanical method used for distal movement in the two cases. Stein says "a study of these two cases revealed the importance of anchorage in attempting mass distal movements in the upper arch; even with the effective techniques just described there is some disturbance in the anterior segment of the upper arch."

LEWIS, Dayton.

THE MAXILLATOR: A NEW INSTRUMENT FOR MEASURING THE FRANKFORT-MANDIBULAR BASE ANGLE, THE INCISOR-MANDIBULAR BASE ANGLE, AND OTHER COMPONENT PARTS OF THE FACE AND JAWS. J. A. SALZMANN. *Am. J. Orthodont. and Oral Surg.* 31:608, Dec. 1945.

A new instrument is presented by means of which various face and jaw measurements can be obtained directly on the patient without the use of time-consuming methods and costly apparatus. Among the measurements that can be obtained by using this instrument are the Frankfort-mandibular base angle, the importance of which in orthodontics has been described by Tweed; the incisor-mandibular plane angle described by Margolis; and other angles, lines, and relationships of value in orthodontics, prosthetics, and fields which require the measurements of facial landmarks, lines, and angles.

Methods of using the apparatus, a detailed description and accurate drawings are included in the article.

LEWIS, Dayton.

THE SURGICAL CORRECTION OF MESIOCCCLUSION. SAMUEL HEMLEY. *Am. J. Orthodont. and Oral Surg.* 30:241, May 1944.

Since conservative orthodontic therapy has not produced satisfactory results in the treatment of severe Class III cases, the author believes sectioning through the gonial angle permits correction of the position of dental arches, alteration of proportion between the ramus and body of the mandible, and the best possible esthetics.

Such a case is reported with facial photographs, models, and x-rays before and after treatment.

LEWIS, Dayton.

ON THE CLASSIFICATION OF DENTOFACIAL ANOMALIES. JOSE MAYORAL. *Am. J. Orthodont. and Oral Surg.* 31:429, Sept. 1945.

It is the opinion of the author that correct classification of dentofacial anomalies is the basis of all orthodontics. His classification points out first the seat or place of the anomaly such as (1) soft parts, (2) jaws, (3) teeth, (4) temporomaxillary joints, and (5) occlusion; second the nature or class of the alteration such as (1) time, (2) space, and (3) number; third, the pathogeny and etiology which is congenital or acquired.

LEWIS, Dayton.

ORTHODONTIC DIAGNOSTIC PROCEDURES. C. F. STENSON DILLON. *Am. J. Orthodont. and Oral Surg.* 31:458, Sept. 1945.

Orthodontic diagnosis is the act of determining in what way and to what extent the denture and related structures of a given case differ from the norm for that particular individual. There are three components: (1) morphologic, which includes orientation; (2) etiological; (3) functional.

A comprehensive diagnostic procedure includes the following: (1) a determination of the morphologic and orientative deviations from the norm; (2) a complete radiologic examination of the denture and investing tissues; (3) determination of the factors causing or contributing to the malformation; (4) a record of the physical findings of the case; (5) a tabulation and study of the above accumulated evidence; and (6) the selection of an appliance to fulfill the requirements of the case.

LEWIS, Dayton.

SOME POINTS OF SPECIAL INTEREST TO GENERAL PRACTITIONERS IN THE DIAGNOSIS OF DENTAL MALOCCLUSIONS. B. G. DEVRIES. *J.A.D.A.* 33:569, May 1, 1946.

The author points out some orthodontic facts which the general practitioner should know: that the chronologic age is of little value in determining when a case should be

treated, that the removal of deciduous teeth which have been retained beyond the average time for their loss should be undertaken with caution, and never without X-rays. Diseased and infected deciduous teeth should never be allowed to remain in the mouth on the pretext that thereby the patient can avoid probable dental malocclusion. Complete dental X-ray examination is indicated for all juvenile patients where the responsibility for dental development of the child rests upon the dentist. The dentist should be careful never to give casual or offhand advice to parents concerning the dental health of their children.

WYLIE, San Francisco, Calif.

CEPHALOMETRIC DIAGNOSIS: ITS IMPLICATION IN TREATMENT. L. B. HIGLEY. B.A., D.D.S., M.S., J.A.D.A. 32:3, Jan. 1, 1945.

The goal of orthodontics can no longer be the prevention and correction of malocclusion of the teeth alone, the terms "Normal occlusion and Malocclusion," unless defined to include face and cranial relationships, are liable to have a limiting influence upon orthodontic diagnosis and treatment. In many of the textbook illustrations, normal or ideal occlusion would appear as a bimaxillary protrusion if such a result were produced orthodontically in white patients. At present, whatever changes which result in basal bone is indirectly elicited through application of force to the teeth. In the future, stimulation may be attempted by direct application of force to the basal bone.

WYLIE, San Francisco.

NATURE'S PLAN AND ORTHODONTICS. BYRON O. HUGHES. Am. J. Orthodont. and Oral Surg. 31:360, July 1945. (See Treatment and Retention)

DIAGNOSTIC AND TREATMENT RECORDS. WILL G. SHEFFER. Am. J. Orthodont. and Oral Surg. 31:541, Nov. 1945. (See Technic and Metallurgy)

FORSYTH ORTHODONTIC SURVEY OF UNTREATED CASES. EDWARD I. SILVER. Am. J. Orthodont. and Oral Surg. 30:635, Dec. 1944.

This survey was done to gain some information as to what may be accepted as normal developmental changes as distinguished from deviations from normal which may definitely become progressive deformities of the teeth and jaws. 405 cases were observed of which 342 were classified and reported; the group age was from two to fifteen years. It was found that as age increases the incidence of malocclusion rises. In a group from two to six years inclusive of 390 cases, 51% had a definite malocclusion; in a group from seven to ten years inclusive of 199 cases, 59% had a definite malocclusion, and the final group from eleven to fifteen inclusive of 250 children showed 66.5% to have a malocclusion. Silver believes the increase in incidence of malocclusion as age increases is due in part to the premature loss of deciduous teeth.

Forty cases of thumbsucking were reported. 65% of those cases became worse, 15% improved and 20% remained unchanged by the habit. It is noted that if the habit is stopped before six years of age the chances for improvement are better than if the habit is stopped after six.

Fifteen open-bite cases were found in the 342 children studied. 60% became worse and the balance improved. Premature loss of deciduous teeth occurred in 158 cases. In every instance loss of a maxillary canine resulted in loss of arch space; in the mandibular arch in 8 out of 10 cases the space was lost; loss of maxillary and mandibular first molars respectively indicated a loss of space in 68% and 65% of these cases. With a loss of maxillary and mandibular second deciduous molars 79% and 77% of the cases respectively showed space closure.

Of 235 Class I cases 20% improved, 53% became worse, and 27% improved. 88 Class II cases were studied; 76% became worse and 24% remained the same. Class III cases were 19 in number; 89% became more severe and 11% remained the same.

LEWIS, Dayton.

Dentistry and Dental Relations

THE RELATIONSHIP OF ORTHODONTICS TO GENERAL PRACTICE. P. RAYMOND BEGG. *Am. J. Orthodont. and Oral Surg.* 31:507, Oct. 1945.

It is emphasized that every branch of dentistry contributes to the promotion and maintenance of a healthy and normal occlusion and that neglect of any one branch will result in failure of all. The diet of primitive man maintained dental health, whereas civilized man's diet has produced bacterial diseases of pyorrhea and tooth decay, and has tolerated the hereditary increase of malocclusion and jaw deformities.

LEWIS, Dayton.

Dental Hygiene and Public Health

TOOTHBRUSHES, TOOTHBRUSH MATERIALS AND DESIGN. H. BERTON McCaULEY. *J.A.D.A.* 33:283, March 1, 1946.

The author covers the history of the toothbrush, the increasing use of synthetic bristles of nylon, and the increase in sales of tooth brushes of American manufacture. The requisites in shape, bristling, size, etc., are covered; durability and uniformity are cited as advantages of nylon bristles, although the effectiveness of artificial and natural bristles have yet to be adequately compared. The multiplicity of designs in brushes may be attributed more to advertising zeal than to professional guidance; crystallized professional opinion still favors simplicity of design with small, straight-trim bristles.

WYLIE, San Francisco.

PROPOSAL FOR GROUP PRACTICE UTILIZING GRADUATE DENTISTS ONLY. CHARLES L. HYSER. *J.A.D.A.* 32(3) 853-58, July 1, 1945.

By delegating specific tasks in dental service to graduate dentists particularly qualified to perform them, and by breaking services into logical component steps, the dental profession should be able to meet demands for the extension of dental care to a greater number of people. The use of "sub-standard" dentists is not recommended. Benefits through increased research and postgraduate training are claimed in addition to the primary purpose of the program.

WYLIE, San Francisco.

Education, Legislation, Economics

POSTWAR ORTHODONTICS IN THE AVERAGE COMMUNITY. SCOTT T. HOLMES. *Am. J. Orthodont. and Oral Surg.* 31:57, Feb. 1945.

In this paper the author has visualized some of the problems of postwar orthodontics and has devised methods to handle them. He contends that the average family will have much less to spend for orthodontics in the postwar period and suggests that in order to utilize the money available to the best advantage that the approach to treatment be considered primarily on the basis of health needs. Cost of treatment may be minimized by a standardization of technique and such methods used by Holmes are outlined.

LEWIS, Dayton.

POSTWAR PROBLEMS IN ORTHODONTIA. FREDERICK B. NOYES, D.D.S. *J.A.D.A.* 31:1353, Oct. 1, 1944.

The future trend in orthodontia seems to be toward an increase in demand for orthodontic service. At present orthodontists have more demands made upon their time than they can fulfill, with the result that it is increasingly more difficult for them to maintain the standards and quality of service. This situation is caused by the increased load put upon civilian orthodontists when large numbers of practitioners entered the armed forces and also by demands from persons who have only recently been able to afford orthodontic services. The availability of socialized health services to increasing groups of persons will mean an increase in the demand for orthodontists.

As dentists are mustered from the services they may be classified in three groups. Those of the first group will wish to go into a specialty because of experience and training,

but they will need more education before entering civilian practice. Those of the second group will wish to go back to their old specialties, but will need the opportunity to take refresher courses. The third group will consist of those who have never engaged in private practice and they will need refresher courses or graduate courses if they wish to enter a specialty.

Orthodontic education had always been a problem to the dental schools and to the profession and we should recognize and avoid mistakes which have been made in the past. Those who are interested and active in orthodontic education should set up the facilities for refresher and graduate courses so that as the demand is made, such instruction shall be available.

BLACK, Berkeley.

POSTWAR PLANS OF DENTISTS IN SERVICE: I. GENERAL FINDINGS. C. W. CAMALIER, D.D.S. and ISIDORE ALTMAN, M.S. J.A.D.A. 32:9, 568, May 1945.

Dental officers in the armed forces were surveyed regarding post-war plans and more than one third answered the questionnaires. Ninety per cent of these men plan to engage in private practice. The greater percentage in relation to population plan to practice in cities of 5,000 to 100,000 population, rather than in the larger cities or in rural areas. About one fourth would like to engage in group practice. Twenty-eight per cent were willing to go to those areas designated as needing dentists if aided by some type of subsidy. Fifteen per cent would like to remain in service. Nine per cent would accept fulltime and about seventeen per cent part-time industrial positions. Seven per cent were interested in teaching. Twenty-nine per cent were willing to accept other salaried positions, but presumably for only part time. More than seventy per cent of the men will seek additional training after discharge. Fifty-five per cent entering private practice will require new outfits or some additional equipment and suggest that they be given opportunity to purchase government surplus supplies.

BLACK, Berkeley.

POSTWAR PLANS OF DENTISTS IN SERVICE. III. PRIVATE PRACTICE. C. W. CAMALIER and I. ALTMAN. J.A.D.A. 32 (3): 803-813, July 1, 1945.

This survey, based on more than 7000 responses from dental officers in the armed forces, shows that more than 90% intend to enter private practice upon separation from the dental corps. The Pacific Region may expect to see a greater number of dentists per thousand population than before the war, while the east and west North Central States are to lose dentists. In other words, the pre-war disparity may be expected to increase.

WYLIE, San Francisco.

Etiology

WHAT TYPE OF MALOCCLUSION IS PREVENTABLE? P. C. WILLETT. J.A.D.A. 31:1033, Aug. 1, 1944.

One of the intrinsic causes of malocclusion is a redundancy in the number of teeth, and careful early extraction is often indicated. There is not much to be done about prevention of malocclusion when teeth are missing, there must always be a compromise. When malocclusion is fundamentally hereditary in type, little is accomplished by preventive measures. The so-called "transitional malocclusion" is only a series of steps in the transition from the deciduous to the permanent dentition and should be recognized and not subjected to mechanical interference. The causes of extrinsic types of malocclusion should be recognized early and removed. The author practices the mechanical treatment of cross-bites and posterocclusion in the deciduous denture. The simplest treatment of neutroclusion is the slow and steady expansion of the mandible from the lingual.

Any professional person who gives advice regarding childhood dentition should have a thorough knowledge of normal occlusion during various stages of development. Lacking this knowledge he should refer the patient to someone who is competent to give advice.

BLACK, Berkeley.

HEREDITY AND VARIATION IN THE DENTOFACIAL COMPLEX. BYRON O. HUGHES. Am. J. Orthodont. and Oral Surg. 30:543, Oct. 1944. (See Heredity)

THE PROBLEM OF EXTRACTION IN ORTHODONTICS. H. BERGER. *Am. J. Orthodont. and Oral Surg.* 31:557, Nov. 1945.

The problem of extraction is essentially a problem of disrelation between size of teeth and size of jaws. Three causes of disrelation are: pathologic, constitutional heredity, and phylogenetic.

Disrelation due to pathology occurs in those children who in early life undergo severe illnesses that interfere with developmental processes. Disrelations on a constitutional hereditary basis are more complex to analyze. Size of teeth is determined by hereditary factors and not influenced by environment, while size of jaws is primarily determined by heredity it can in some degree be modified by environment.

Concerning the third cause of disrelation Berger compares the teeth and jaws of modern man to those of paleolithic man. He thinks the reduction in size of teeth has not kept pace with the reduction in size of jaws, and that recent man's mouth is a battleground of evolutionary forces, and that by reducing the amount of tooth material we are anticipating Nature's own intentions.

LEWIS, Dayton.

Fractures

CORRECTION OF MALUNION OF A MANDIBULAR FRACTURE WITH DISFIGURING MALOCCLUSION. CARL G. BURDICK and JACOB C. LIFTON. *Am. J. Orthodont. and Oral Surg.* 31:310, June 1945.

Following repair of mandibular fractures the patient presented herself to the authors with a badly mutilated occlusion and facial deformities. Refracture of the mandible was necessary, followed by correction of the occlusion by use of splints. Occlusion and facial esthetics were vastly improved.

LEWIS, Dayton.

Growth and Development

THE DEVELOPMENT OF THE DENTAL HEIGHT. MOSES DIAMOND. *Am. J. Orthodont. and Oral Surg.* 30:589, Nov. 1944. (See Physiology)

TOWARD A WORKING CONCEPT OF PHYSICAL GROWTH. HOWARD V. MEREDITH. *Am. J. Orthodont. and Oral Surg.* 31:440, Sept. 1945.

No useful and significant distinction can be drawn between the terms "growth," "development," and "maturation" as defined by numerous authors, so Meredith feels the three terms are equal in scope and can be used interchangeably. He prefers the term "physical growth."

Physical growth is defined as the sequence of somatic modification which a biologic organism undergoes during its ontogenetic life history or, as the entire series of anatomic and physiologic changes taking place between the beginning of prenatal life and the close of senility. A classification of the anatomic changes is presented and illustrated, it groups the series of known modifications in body structure into changes in complexity, changes in size, changes in shape, changes in position, changes in pigmentation, and changes in texture.

LEWIS, Dayton.

THE LOWER THIRD MOLAR PROBLEM. FRED ROTHENBERG. *Am. J. Orthodont. and Oral Surg.* 31:104, Feb. 1945.

Beginning with Charles Allen's book published in 1686 the author reviews the writings of many investigators including Broadbent, Brodie, Diamond, Hellman, and Schauer. He rejects Hellman's theory that there is a trend in human evolution to suppress the third molar teeth either by delayed eruption or total absence. Favored is Bateson's theory of variation in number of serial structures such as teeth, fingers, ribs, and vertebrae.

Factors involved in eruption of lower third molars are: growth and development of the mandible and of the crown portion of the tooth, change in inclination of the crown, and finally a sequential interrelated growth of all factors in phenomena concerned. Early removal of the tooth bud is not recommended nor is removal of any molar teeth mesial to the third to assure its eruption.

LEWIS, Dayton.

Habits

FORSYTH ORTHODONTIC SURVEY OF UNTREATED CASES. EDWARD I. SILVER. *Am. J. Orthodont. and Oral Surg.* 30:635, Dec. 1944. (See Case Analysis and Diagnosis)

HABITS ASSOCIATED WITH DENTAL ANOMALIES. DANIEL T. CARR. *Am. J. Orthodont. and Oral Surg.* 31:152, Mar. 1945.

Mouth breathing, thumb and finger sucking, and abnormal tongue and lip habits are reviewed by Carr with reference to cause, effect, and elimination. To understand these habits and their formation it is recommended that we search for a cause for the habit, and attempt to understand the action from the viewpoint of the child.

LEWIS, Dayton.

Heredity

THE PROBLEM OF EXTRACTION IN ORTHODONTICS. H. BERGER. *Am. J. Orthodont. and Oral Surg.* 31:557, Nov. 1945. (See Etiology)

HEREDITARY AND VARIATION IN THE DENTOFACIAL COMPLEX. BYRON O. HUGHES. *Am. J. Orthodont. and Oral Surg.* 30:543, Oct. 1944.

An investigation of the dentofacial complex has revealed the extensive operation of hereditary factors which contribute to the formation of normal occlusion and malocclusion. These findings are useful in determining etiology, in outlining procedures, and in prognosis of the treatment. Development or growth is an unfolding design of interrelated morphological and functional items; the pattern is supplied by genetics or heredity and the technique of application is provided by environment.

LEWIS, Dayton.

HEREDITARY AS A GUIDE IN DENTOFACIAL ORTHOPEDICS. GEORGE R. MOORE. *Am. J. Orthodont. and Oral Surg.* 30:549, Oct. 1944.

The author relates some examples of the way in which heredity, as studied at Michigan, is put into practice. Facial asymmetries, Class II, Div. I, Class III, anterior crowding, rotations, overbite, and extraction are some of the subjects discussed. It is advised that all members of the family of any patient be examined before concluding a diagnosis.

LEWIS, Dayton.

Histology

EXPERIMENTAL DEPRESSION OF TEETH. WILLIAM LEFKOWITZ and LEUMAN M. WAUGH. *Am. J. Orthodont. and Oral Surg.* 31:21, Jan. 1945.

Experiments on dogs by use of continuously acting springs and forces delivered by intermittent masculatory action show that teeth may be depressed in their alveoli. During tooth depression the periodontal membrane is stretched along the walls of the roots; the area normally occupied by the periodontal membrane becomes narrower and the fibers are attached to the cementum at a more acute angle. The periodontal membrane seeks to restore its original physiologic thickness which it does by resorption of the lamina dura. The entire surface of the lamina dura is not resorbed simultaneously, it occurs intermittently in isolated areas so that the entire periodontal membrane is not severed at one time. The resorption extends beyond the physiologic thickness of the periodontal membrane so that new fibers may be embedded in the newly formed bone during repair.

LEWIS, Dayton.

ORTHODONTICS AND TRANSEPTAL FIBERS. B. EDWIN ERIKSON, HARRY KAPLAN, and MYRON S. AISENBERG. *Am. J. Orthodont. and Oral Surg.* 31:1, Jan. 1945.

Following extractions of first premolar teeth, canine and second premolars were moved into approximal contact. In one case of two extractions the active period of treatment was thirteen months and retention of eleven months, in the second case it was thirteen months active treatment and five months of retention. Sections were made of the

second premolars and canines and for one patient of the lateral incisors following "block" extraction of these teeth.

From their experiments the authors conclude that transeptal fibers are persistent and continually being renewed, elongated fibers appear in the spaces caused by extraction, and when teeth opposite such spaces are brought together the transeptal fibers coil and become compressed and remain in the nature of scar tissue. The tendency for contacts to reopen after they have been once closed through a space caused by extraction is due to the compression of transeptal fibers during closure.

LEWIS, Dayton.

Historical

ORTHODONTICS' LAST DECADE OF PROGRESS. EDWARD MARTINIQUE. *Am. J. Orthodont. and Oral Surg.* 31:161, Mar. 1945.

This article is a review of some of orthodontics' accomplishments during the past decade. Changes and developments in appliances, treatment of Class II, dental caries, and root resorption are the main items discussed, with stress placed upon the latter subject.

LEWIS, Dayton.

AN HISTORICAL REVIEW OF THE PROGRESS OF ORTHODONTICS FROM 1840 TO 1940. O. I. SIVEN. *Am. J. Orthodont. and Oral Surg.* 31:203, April 1945.

Beginning with the introduction of the word "anchorage" to orthodontic literature in 1841 the author reviews the contributions of many men to the science of orthodontia. Much attention is given to the Dewey-Case controversy and to similarity of Case's viewpoints with those of Tweed.

LEWIS, Dayton.

Miscellaneous

SCULPTURE IN ORTHODONTICS. B. L. GAINSFORTH. *J.A.D.A.* 33:574, May 1, 1946.

An understanding of sculptural principles is of great value to the orthodontist. Many of the subtle, qualitative aspects of practice are brought home by study of, or experience in, sculpture.

WYLIE, San Francisco.

Nutrition and Metabolism

FUNCTION VERSUS NUTRITION IN DENTAL HEALTH. MEYER KLATSKY. *J.A.D.A.* 32:1416, Dec. 1, 1945.

The author disagrees sharply with Price and others who attribute degenerative changes in man's dentition almost entirely to nutritional factors. He points out that the nutritional deficiency should have the same effect upon other parts of the body, yet modern man compares favorably with ancient and primitive people with respect to other parts of the body. Klatsky is inclined to attribute underdevelopment of the jaw, malalignment of the teeth, and such degenerative changes of the masticatory apparatus entirely to lack of muscular exercise.

WYLIE, San Francisco.

SOIL FERTILITY AND ITS HEALTH IMPLICATIONS. WILLIAM A. ALBRECHT. *Am. J. Orthodont. and Oral Surg.* 31:279, May 1945.

The writer issues a plea for the dental profession to turn from drug store cures to the soil for prevention. Nutritional value of herbages is not the same as tonnage value. Calcium and phosphorus are reviewed fully and mention is made of the value of magnesium, potassium, and fluorine.

LEWIS, Dayton.

Oral Surgery

SURGICAL AND ORTHODONTIC CORRECTION OF PROGNATHISM. A. W. McCLELLAND. *Am. J. Orthodont. and Oral Surg.* 30:606, Nov. 1944.

Cases of mandibular prognathism are divided into two groups, those which do not require any orthodontic treatment prior to surgery and those cases which do. Examples are shown of each type and the operation preferred by the author is outlined.

LEWIS, Dayton.

PHASES OF MAXILLOFACIAL SURGERY OF INTEREST TO THE ORTHODONTIST. FREDERICK W. MERRIFIELD. *Am. J. Orthodont. and Oral Surg.* 31:145, Mar. 1945.

Cooperation of the plastic surgeon and orthodontist is the foundation on which to build better treatment of our patients and their deformities. Impacted and supernumerary teeth, abnormal muscle function, jaw fractures, and cleft palate surgery are among the subjects discussed.

LEWIS, Dayton.

Pathology

SUPERNUMERARY TOOTH IN A CHILD OF TWELVE MONTHS. PETER P. DALE. *Am. J. Orthodont. and Oral Surg.* 31:325, June 1945. (See Anatomy)

THE NORMAL AND THE ABNORMAL LABIAL FRENUM: CLINICAL DIFFERENTIATION. B. F. DEWEL. *J.A.D.A.* 33:318, March 1, 1946. (See Case Analysis and Diagnosis)

THE PROBLEMS OF EXTRACTION IN ORTHODONTICS. H. BERGER. *Am. J. Orthodont. and Oral Surg.* 31:557, Nov. 1945. (See Etiology)

TIMELY REMOVAL OF OBSTACLES AGAINST THE ERUPTION OF PERMANENT TEETH. B. GOTTLIEB. *Am. J. Orthodont. and Oral Surg.* 31:42, Jan. 1945.

Movement of teeth occlusally may be prevented by the slightest obstacle in their paths as the biologic force of eruption is small. Gottlieb illustrates by X-rays two cases of the non-eruption of teeth, one caused by supernumerary incisors followed by apparent ankylosis of the permanent centrals, and another case of lower premolars caused by ankylosis of the deciduous molars leading to ankylosis of the premolars.

LEWIS, Dayton.

ANOMALY OF THE UPPER RIGHT CENTRAL INCISOR. ADOLPH JUTKOWITZ. *Am. J. Orthodont. and Oral Surg.* 31:526, Oct. 1945.

A boy, nine years old, presented himself with the upper right central not fully erupted. X-rays disclosed the tooth to have a very large crown made up of two fused parts with two separate roots and pulp canals. The crown was divided with disks, the distal half extracted, and the mesial portion moved into position.

LEWIS, Dayton.

ENAMEL HYPOPLASIA AND ITS PROBABLE RELATION TO ORAL DISEASE. CARLOS GIRO. *Am. J. Orthodont. and Oral Surg.* 31:327, June 1945.

Hypoplasia not only of incisal or occlusal surfaces but also of buccal and labial surfaces and of deciduous teeth are considered in relation to periodontal dyscrasias.

LEWIS, Dayton.

Physiology

FUNCTION VERSUS NUTRITION IN DENTAL HEALTH. MEYER KLATSKY. *J.A.D.A.* 32:1416, Dec. 1, 1945. (See Nutrition and Metabolism.)

THE DEVELOPMENT OF THE DENTAL HEIGHT. MOSES DIAMOND. *Am. J. Orthodont. and Oral Surg.* 30:589, Nov. 1944.

Diamond believes the force of eruption is not the primary factor in increasing dental height, instead, growth in the length of the ramus causes the mandible to recede from the maxilla, thereby increasing the intermaxillary space. When this space is established the ramus growth length is retarded and the clinical eruption of teeth along with the vertical growth of the maxilla and the body of the mandible occurs.

Lack of growth in ramus-length will produce the following growth disturbances; 1) the intermaxillary space fails to increase, 2) the teeth remain submerged, 3) the vertical dimensions of the maxilla and of the body of the mandible fail to increase, 4) the anterior teeth continue in eruption resulting in an overbite relation which will inhibit the forward growth of the anterior part of the mandible.

Evidence for the author's views is furnished by twelve cases of delayed eruption of the first permanent molars, and one series of models taken from Sillman's study.

LEWIS, Dayton.

THE REST POSITION OF THE MANDIBLE AND ITS SIGNIFICANCE TO DENTAL SCIENCE. JOHN R. THOMPSON, J.A.D.A. 33:151, Feb. 1, 1946.

The general concept in dentistry has been that the vertical height of the face is determined by the teeth, increasing with their eruption, decreasing with attrition and then showing a marked decrease when they are lost. Through the study of cephalometric X-rays, it has been shown that the teeth do not determine the position of the mandible. Muscular balance is the determining factor and the position of the mandible is constant throughout life. This position of muscular balance is the so-called "rest position" and the resulting space between the teeth is known as the "freeway space," which in normal individuals is approximately 2 to 3 millimeters. Both rest position and the freeway space are constant and any attempt to change them by "opening the bite" beyond the normal rest position is doomed to failure.

In the treatment by extensive restorations and in the treatment of malocclusion it is important to determine the relation of the arches in rest position as well as in occlusion. Cuspal interference may cause an abnormal path of closure, a displacement of the mandible in occlusion and be accompanied by discomfort. Treatment should consist of the elimination of cuspal interference and the filling in of freeway space if indicated.

BLACK, Berkeley, California.

STUDIES ON THE RATE AND AMOUNT OF ERUPTION OF CERTAIN HUMAN TEETH. HARRY CARLSON. Am. J. Orthodont. and Oral Surg. 30:575, Nov. 1944.

This article deals with the rate, amount, and direction of eruption of the mandibular central, canine, premolars, and first molars. Carlson employed serial cephalometric roentgenology of children whose ages covered the range from three months to seventeen years. All children possessed normal occlusion.

All the teeth studied showed a constant increase in the distance between the tip of the crown and the lower border of the mandible. With the beginning of root formation the distance between the root end and the mandibular border decreased. Following this downward growth of the root there existed a period of rapid eruption until the teeth came into occlusion, afterward the root completed its formation. Upon completion of the root end the entire tooth continues to rise with the occlusal plane, substantiating Gottlieb's contention that there is perpetual eruption of human teeth.

LEWIS, Dayton.

Roentgenology

CEPHALOMETRIC ROENTGENOGRAPHY AND THE DENTIST. WENDELL L. WYLIE. Am. J. Orthodont. and Oral Surg. 31:341, July 1945.

After presenting the background and technique of the Broadbent-Bolton cephalometer the author discusses various aspects of growth and concepts of pattern as developed by Broadbent and Brodie. The application of cephalometric technique to denture prosthesis and surgery is demonstrated by cases from The University of California, and by reviewing the work of Thompson and Brodie in regard to full and partial denture prosthesis.

LEWIS, Dayton.

Technic and Metallurgy

THE APPLIANCE OF MY CHOICE AND THE REASONS WHY I EMPLOY IT. JAMES DAVID MCCOY. Am. J. Orthodont. and Oral Surg. 31:550, Nov. 1945. (See Treatment and Retention)

DIAGNOSTIC AND TREATMENT RECORDS. WILL G. SHEFFER. Am. J. Orthodont. and Oral Surg., 31:541, Nov. 1945.

Sheffer advocates the use of the gnathostatic technique as the simplest way of obtaining complete records. Illustrations are shown of the various charts used by him for diagnosis and record taking.

LEWIS, Dayton.

AN ADJUSTABLE LOCKING BRACKET FOR USE WITH MULTIPLE BAND THERAPY. J. E. LASKIN. *Am. J. Orthodont. and Oral Surg.* 31:618, Dec. 1945.

An adjustable locking bracket is introduced which will eliminate almost completely the use of ligatures and the formation of tip-back bends in the arch wire. A review of the edgewise arch technique with use of this bracket is outlined.

LEWIS, Dayton.

A UNIQUE WELDING JIG FOR ATTACHMENT BRACKET CONSTRUCTION. M. ALDEN WEINGART. *Am. J. Orthodont. and Oral Surg.* 30:612, Nov. 1944.

A welding jig is shown which serves as a guide for exact positioning and welding of various attachment brackets to strips of band material. It can be adapted for welding of any type bracket.

LEWIS, Dayton.

ONE COLLOID IMPRESSION FOR INDIRECT BAND AND APPLIANCE CONSTRUCTION AND RECORD MODEL MAKING. LOWRIE J. PORTER. *Am. J. Orthodont. and Oral Surg.* 31:138, Mar. 1945.

A detailed report is given for the construction of molar bands, appliances, and for making models from one impression made with a colloid material. Porter believes such a technique is easier for patient and operator and is worth the consideration of those using the labiolingual technique.

LEWIS, Dayton.

Treatment and Retention

WHAT TYPE OF MALOCCLUSION IS PREVENTABLE? P. C. WILLETT. *J.A.D.A.* 31:1066, Aug. 1, 1944. (See Etiology)

TIMELY REMOVAL OF OBSTACLES AGAINST THE ERUPTION OF PERMANENT TEETH. B. GOTTLIEB. *Am. J. Orthodont. and Oral Surg.* 31:42, Jan. 1945. (See Pathology)

SURGICAL AND ORTHODONTIC CORRECTION OF PROGNATHISM. A. W. MCCLELLAND. *Am. J. Orthodont. and Oral Surg.* 30:606, Nov. 1944. (See Oral Surgery)

ORTHODONTICS AND TRANSEPTAL FIBERS. B. EDWIN ERIKSON, HARRY KAPLAN, and MYRON S. AISENBERG. *Am. J. Orthodont. and Oral Surg.* 31:1, Jan. 1945. (See Histology)

EXPERIMENTAL DEPRESSION OF TEETH. WILLIAM LEFKOWITZ and LEUMAN M. WAUGH. *Am. J. Orthodont. and Oral Surg.* 31:21, Jan. 1945. (See Histology)

THE LOWER THIRD MOLAR PROBLEM. FRED ROTHENBERG. *Am. J. Orthodont. and Oral Surg.* 31:104, Feb. 1945. (See Growth and Development)

TWO CASES REQUIRING BILATERAL MAXILLARY DISTAL MOVEMENT. SAMUEL H. STEIN. *Am. J. Orthodont. and Oral Surg.* 31:400, Aug. 1945. (See Case Analysis and Diagnosis)

THE APPLIANCE OF MY CHOICE AND THE REASONS WHY I EMPLOY IT. JAMES DAVID MCCOY. *Am. J. Orthodont. and Oral Surg.* 31:550, Nov. 1945.

McCoy prefers the "open tube" appliance for: (1) simplicity of design which reduces discomfort to the patient and fatiguing effort to the orthodontist; (2) anchorage may be readily computed and controlled; (3) erupting teeth may assume normal approximal contacts; (4) the lower lip is not thickened from frictional contact against bands; (5) dentofacial anomalies may be promptly controlled and corrected; and (6) cooperation is obtained because "open tube" appliances are free from discomfort.

LEWIS, Dayton.

OCCIPITAL AND CERVICAL ANCHORAGE AND THEIR APPLICATION TO THE ORTHODONTIC PROBLEM. HARRY E. JERROLD. *Am. J. Orthodont. and Oral Surg.* 31:597, Dec. 1945.

Use of occipital anchorage for both stabilizing and active force is discussed by the author for all types of malocclusion. The work of Oppenheim, Atkinson and others is mentioned.

Favored by Jerrold is the arch designed by Waldror, a labial arch of .040 to which another anterior segment of .050 wire with wings is soldered and so shaped that it clears the lips and teeth and is curved at the ends to secure the elastics.

LEWIS, Dayton.

PREVENTION AND TREATMENT OF ORAL DISEASES OF ADULTS BY ORTHODONTIC MEANS. AGE OFFER-SPITZ. *Am. J. Orthodont. and Oral Surg.* 31:391, Aug. 1945.

Rehabilitation and correction of the denture as can be achieved by orthodontic treatment is outlined in this series of twelve case reports. All the patients were adults aged 26 to 45 with a variety of malocclusions. Mechanical therapy was usually a combination of splints and labial or lingual arches with splints used on every case.

LEWIS, Dayton.

INDICATION FOR THE OCCLUSAL GUIDE PLANE. OREN A. OLIVER. *Am. J. Orthodont. and Oral Surg.* 31:520, Oct. 1945.

The philosophy, indications, limitations, proper purpose, use and advantages of the occlusal guide plane are discussed by Oliver.

The plane is a positive addition to the labiolingual appliance technique. It is constructed so the mandibular teeth will bear a definite relation to it, and will be placed in a definite predetermined relation with the maxillary teeth. There are two factors to be considered; the angle and the depth.

Class II cases, and Class I cases with closed bites are treatable by the guide plane. Contraindicated are Class III malocclusions or any case with a tendency toward an open bite.

LEWIS, Dayton.

A STUDY OF ORTHODONTIC ANCHORAGE POSSIBILITIES IN BASAL BONE. B. L. GAINSFORTH and L. B. HIGLEY. *Am. J. Orthodont. and Oral Surg.* 41:406, Aug. 1945.

The purpose of this work was to test a method of basal bone anchorage. Two factors were involved, one, to find a means of anchorage other than teeth, and second, to transfer stimulation to basal bone for the motivation of mandibular growth.

Experimental procedures were carried out on six dogs by placing vitallium screw-hooks and stainless steel rings in the rami of the mandibles. Traction when applied, was by means of elastics from the screws or hooks to a maxillary appliance. All the screws and rings came out in from sixteen to thirty-one days. Without elastic traction screws came out in twenty-one days and a ring in fourteen.

It is concluded that the results do not warrant the procedure being used, in addition to danger from infection, the attachments remain stable for only a short time.

LEWIS, Dayton.

THE RATIONALE OF THE LABIOLINGUAL APPLIANCES IN PRESENT-DAY ORTHODONTIC TREATMENT. OREN A. OLIVER. *Am. J. Orthodont. and Oral Surg.* 31:381, Aug. 1945.

Those who use the labiolingual appliance, with its auxiliary spring attachments and the occlusal guide plane, do so because they believe the appliance more than any other, approaches the standards of the ideal appliance. Such standards are stability and durability, ease of construction, ease of placing and manipulation, cleanliness, comfort, inconspicuousness, and efficiency.

The appliance is efficient because it can produce any basic tooth movement and more physiologically than any other appliance. Also it can stimulate and direct the growth of entire segments or complete arches more physiologically. With it can be obtained either constant or intermittent pressure, whichever is indicated. It does not have rigid, fixed attachments to the teeth promoting unknown directional changes in the applied force.

LEWIS, Dayton.

SOME METHODS OF CONTROL AND CORRECTION OF DEVELOPING MALOCCLUSIONS. ARTHUR THORNTON TAYLOR, D.D.Sc. D. J. Australia 17: June 1945.

In a paper delivered at a general dental assembly the author feels that the control of malocclusions could be instituted by (1) encouraging the patient to chew vigorously with particular emphasis on the exercising of the lateral excursions of the mandible (2) mouth hygiene (3) normal respiration which is necessary for a proper balance of forces in normal developments.

In the correction of malocclusions he advocates maintaining functional efficiency of denture, use of space maintainers and simple orthodontic movements.

LOGAN, Chicago.

THE SURGICAL CORRECTION OF MESIOCLUSION. SAMUEL HEMLEY. Am. J. Orthodont. and Oral Surg. 30:241, May 1944. (See Case Analysis and Diagnosis)

ADAPTING THE JOHNSON PROCEDURE TO THE PLAIN LABIAL APPLIANCE IN CERTAIN CLASS II, DIV. I CASES. WALTER R. BEDELL. Am. J. Orthodont. and Oral Surg. 30:671, Dec. 1944.

With this technique the upper incisors are retracted first, thereby "jamming up" the canines and premolars. The second step consists of moving the maxillary posterior teeth distally and buccally by means of coiled springs between the molars and stops anteriorly. Advantages of the appliance are that it is simple to make and operate, causes no pain or injury to roots, and accomplishes the desired results with a minimum of bands.

LEWIS, Dayton.

PROBLEMS IN TREATMENT, FROM A CLINICAL VIEWPOINT. ROBERT H. W. STRANG. Am. J. Orthodont. and Oral Surg., 31:125, Mar. 1945.

The following factors are emphasized for the clinician: (1) a careful study of the patient and of the malocclusion should be made, (2) a written record should be prepared of all tooth movements required, (3) a record of appliance manipulation to perform the above tooth movements is necessary, and (4) the operator should use an appliance capable of moving tooth crowns and roots in all three dimensions of space.

LEWIS, Dayton.

A PHILOSOPHY OF ORTHODONTIC TREATMENT. CHARLES H. TWEED. Am. J. Orthodont. and Oral Surg. 31:74, Feb. 1945.

Tweed concludes that in normal occlusion the mandibular incisors are always positioned on basal bone with the range of normal variation of -5 to 5; that the ultimate in balance and esthetics is achieved only when these teeth are so placed and that in Class I, Class II, and bimaxillary protrusion cases the relationship of lower incisal teeth to their basal bone is the most reliable guide in diagnosis and treatment.

He further states the attainment of normal occlusion as a result of orthodontic treatment is limited; and that if the objectives of treatment are the best in facial esthetics, a mechanically efficient masticatory apparatus, healthy investing tissues and permanency of tooth positioning it is necessary to remove teeth in more than half of all cases that are presented for treatment.

LEWIS, Dayton.

THE EDGEWISE ARCH MECHANISM AND SOME PRESENT-DAY TRENDS. WILL MCLAIN THOMPSON, JR. Am. J. Orthodont. and Oral Surg. 30:660, Dec. 1944.

After a brief introduction about the evolution of the edgewise arch mechanism Thompson considers Tweed's variation of treatment by use of the edgewise arch, his concept of the relation of teeth to their bony bases and his opinion on extraction. The findings of Brodie, Broadbent, Todd, and Hellman are quoted and Thompson believes that their research indicates the procedure of extraction to be proper rather than radical. The author, in addition, hopes for a closer working relationship between clinical and research orthodontists.

LEWIS, Dayton.

A METHOD OF REPLACING MISSING ANTERIOR TEETH ON LINGUAL ARCH, USING ACRYLIC RESIN. DONALD A. CLOSSON. *Am. J. Orthodont. and Oral Surg.* 30:679, Dec. 1944.

Closson describes a technique for replacing an anterior tooth by means of attaching it to a lingual arch, either fixed or removable. Illustrations are shown and the method fully explained.

LEWIS, Dayton.

AN APPROACH TO THE TREATMENT OF MALOCCLUSION, MORE PARTICULARLY CLASS II, DIV. I, USING THE UNIVERSAL TECHNIQUE OF ATKINSON. CARL PRESTON CLINE. *Am. J. Orthodont. and Oral Surg.* 31:37, Jan. 1945.

The universal appliance constructed with steel is highly recommended by Cline who comments on the various advantages of the technique.

LEWIS, Dayton.

RESTORATION OF FUNCTION THROUGH EARLY CORRECTION OF MALOCCLUSION. WALTER J. SLY. *Am. J. Orthodont. and Oral Surg.* 31:304, June 1945.

Four case reports are given in which the growth and development of the patients has been inhibited at a very early age due to disturbances in function. Three of the patients were aged four and the other about six.

Sly feels it is not necessary to treat all malocclusions that are presented between the ages of three and six, but those similar to the ones reported in this article should be given the slight mechanical treatment needed to allow the forces of occlusion to exert their influences. One case was a Class II, Div. I; another a Class I with retruding upper incisors, the third case an open bite, and the last had impacted upper first molars.

LEWIS, Dayton.

THE UNERUPTED CUSPID. BEN L. REESE. *Am. J. Orthodont. and Oral Surg.* 31:214, April 1945.

Reese describes the technique he uses for exposing and moving into position maxillary unerupted canines, both labially and lingually situated teeth. Canines erupting lingually are exposed by the surgeon and an impression is taken with a copper band and compound. A swedged gold cap is made and cemented to the tooth by the use of Ames black copper cement. The tooth is moved labially and occlusally by finger springs from a lingual arch. After a band can be made attachments of the universal appliance are used to finish the case.

LEWIS, Dayton.

THE PHILOSOPHY OF THE TOOTH POSITIONING APPLIANCE. H. D. KESLING. *Am. J. Orthodont. and Oral Surg.* 31:297, June 1945.

This appliance, which has many uses, is found to be most practical for the final artistic positioning and retention of teeth after basic treatment has been accomplished. It allows the teeth to flow into their most ideal positions without interference from bands, caps, or wires; it is most effective under functional forces.

The positioner is a one-piece pliable rubber appliance made to fill the freeway space between the upper and lower dentures and to cover the labial, buccal, and lingual surfaces of maxillary and mandibular teeth. After basic treatment the teeth are arranged in wax to the desired arch form on models from which the positioner is constructed. Basic treatment is defined as treatment carried on by conventional appliances until each tooth is properly rotated and is approaching its desired position. Through use of this device slight spaces are closed, moderate rotations adjusted, maxillary and mandibular discrepancies corrected and proper interdigitation of teeth is achieved.

LEWIS, Dayton.