Abstracts

† 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, Journal of Dental Research, Journal of Dental Education, Journal of the Canadian Dental Association, British Dental Journal, Dental Record (British), Child Developments 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 orthodontists.

Cephalometrics

CEPHALOMETRIC APPRAISAL OF A TREATED MANDIBULAR DISPLACEMENT CASE IN AN ADULT PATIENT. JAMES W. FORD AND WILLIAM F. FORD. Amer. J. Orthodont. 36:222, Mar. 1950.

Functional analysis of this adult malocclusion showed a posterior mandibular displacement resulting from a shortened upper arch. The use of a biteplate and lengthening of the upper arch by tipping the incisors labially, gave a correct path of closure and relieved the displacement thus ending the severe pains in the condylar and neck regions. The report is documented with "before" and "after" oriented headplates, tracings and photos of the plaster records.

NEWCOMB.

Cleft Palate

REHABILITATION OF THE CLEFT PALATE PATIENT. WILLIAM G. HOUGHTON. Amer. Jour. Orthodont. 36:342, May 1950.

As seen in an orthodontic office cleft palate cases are grouped as follows: 1) surgically successful cases, there being complete closure of the palate and normal function of the soft palate; 2) partial surgical success, palatal closure but impairment of soft palate function; 3) non-operated clefts; 4) normal cases in which a short soft palate produces a poor anatomical relationship between soft palate and pharynx. The construction of a speech appliance to replace the defective or too short soft palate is described in three stages. Principles followed are: 1) balancing of the occlusion and provision for occlusal rests; 2) an accurate reproduction of the teeth and soft tissues; 3) exact and balanced clasp retention; 4) passive adaptation of the extension piece over the soft palate; 5) proper muscle trimming of the impression for the tailpiece extending into the pharynx; 6) exact horizontal location of tailpiece in relation to Passavant's cushion. The author credits Dr. Herbert Cooper and his technician for elucidation of these principles and for the three-stage technical work. The technic is illustrated as are exercises for muscle trimming. Collaboration of prosthodontist and speech instructor is emphasized.

NEWCOMB.

REHABILITATION OF THE CLEFT PALATE PATIENT. WILLARD M. WOOD. Amer. Jour. Orthodont. 36:348, May 1950.

The cleft palate patient is unable to partition the mouth from the nose and this produces the nasality of tone and the softness of articulation. All vowels and all consonants, excepting the three nasal resonant consonants M, N and Ng, require more or less mouth pressure and mouth delivery, with variations. The mechanism by which normal speech partitions the mouth from the nose is described, the sphincterlike action of the pharyngeal muscles being the critical factor. This action forms Passavant's cushion and by contact with the soft palate, walls off the mouth from the nose both laterally and posteriorly. The tailpiece of the appliance replaces the defective soft palate and permits the patient to partition mouth from nose. The problem of training the patient to use the appliance is described briefly, with emphasis on the difficulties of teaching him new auditory and kinesthetic patterns and of helping him over psychological hurdles. Cooperative effort between prosthodontist and speech instructor is an absolute requirement.

NEWCOMB.

Etiology

NAIL BITING — A REVIEW. MAURY MASSLER AND ANTHONY J. MALONE. Amer. Jour. Orthodont. 36:351, May 1950.

Nail biting is interesting because of near universality and as a sign of internal tension. Being socially taboo it readily leads to emotional conflicts. Where severe and of long duration it may have physical aspects. The authors' purpose is to evaluate the literature (there is an extensive bibliography) to determine the habit's normalcy and significance. Among children the habit is second in frequency to thumbsucking, being unusual before three years and common, if not normal, after five. Since thumbsucking is normal in the infant but uncommon after five years, nail biting is regarded as a transfer from thumbsucking habit. In the sense of the "usual," nail biting is assumed to be "normal" from about four years through adolescence. After fifteen years, the habit decreases markedly, often by transfer to other oral habits. Continued after eighteen years, it is more than a habit and is considered "abnormal" after thirty. The assumption that nail biting is a "nervous habit" seems well founded since it is more prevalent among children in maladjusted homes, characterized by various tensions, and in institutions. Among adults under emotional tension the same is true. Among abnormal personality types the habit suggests a symptom complex rather than a causal relationship; per se, it is not indicative of abnormal personality. There is no objective evidence in the literature that the habit leads to malocclusion or dental trauma; this contrasts with sucking habits. Significance of the habit, if correctly evaluated, must consider the child's total personality, his age, intensity of the action and relation to the situation under which it occurs. Since nail biting is symptomatic in nature its management must not be punitive, in any sense, but designed to reduce environmental stress. The authors state that no studies have assessed possible differences between mild or occasional nail biting and the severe, persistent type.

NEWCOMB.

Growth and Development

SIGNIFICANT FACTORS AFFECTING THE GROWTH AND DEVELOPMENT OF THE FACE. FRANZ WEIDENREICH. J.A.D.A. 40:193, Feb. 1950.

During the fetal period the growth and development of the brain surpasses that of all other parts of the body, when the growth rate of the brain slows down about the time the deciduous dentition is completed the growth rate of the face exceeds that of the brain. Phylogenetic evolution shows that early phases compared with later ones are characterized by smaller brains and brain cases and larger prognathic faces.

The reduction of the human face is uncontestable fact and is correlated with the expansion of brain and brain case. The reduction consists of shortening of the body and alveolar process of mandible and maxilla, and also a reduction in the thickness and massiveness of all the bones forming the skull. Chief factor behind the transformation of the skull was the adaption of the erect posture. It is difficult to determine whether an ascertained facial reduction of an individual is the result of individual factors or should be attributed to a general trend.

LEWIS.

Practice Management

OFFICE ROUTINES. BROOKS BELL, Amer. J. of Orthodont. 36:81, Feb. 1950.

Part I describes and illustrates the standardizing of office paper work. Part II discusses psychological factors in effecting a pleasant patient-parent-doctor relationship.

NEWCOMB.

Public Relations

MESSAGE FROM THE PRESIDENT OF THE AMERICAN DENTAL ASSOCIATION. PHILIP E. ADAMS. Amer. Jour. Orthodont. 36:329, May 1950.

The objectives and duties of the Association are outlined together with the problems arising from the rapid growth of the Association. These (increased activities and services) have created a serious financial problem. The professions' action in fighting Federal control is pictured and there is some "old fashioned" philosophy on the nation's choosing between liberty and security.

NEWCOMB.

PRESIDENT'S ADDRESS, NORTHEASTERN SOCIETY OF ORTHODONTISTS. ROBERT H. W. STRANG. Amer. Jour. Orthodont. 36:325, May 1950.

The following suggestions are made: 1) initiation of action to counteract Federal control of health service; 2) concerted action against the tendency to allow non-dentists to perform dental operations; 3) opposition to Federal financial aid to medical and dental schools; 4) study methods of widening the scope of orthodontic service via public health service; 5) publication of the Orthodontic Directory of the World by the American Association of Orthodontists.

NEWCOMB.

THE DENTIST AND THE ORTHODONTIST — A STUDY IN INTEGRATION. A. S. BUMGARDNER. Amer. J. Orthodont. 36:207, Mar. 1950.

This preliminary report on the integration of general practise and orthodontics is based on interviews and a questionnaire formulated with the aid of one trained in psychological testing and interviewing. Under the heading of general attitudes, it was found many dentists felt that the orthodontist had an income not justified by his training, that orthodontic interest was strictly limited and that the specialty had failed to face the challenge of expanding orthodontic services. Under specific problems, data are given on patient education, adult treatment and the over-all problem of increasing the cooperation between the general practitioner and orthodontist. The questionnaire showed some confusion as to procedures between specialist and the dentist but indicated a desire to cooperate on the part of the latter.

NEWCOMB.

Research

APPLICATION OF THE PHOTOELASTIC METHOD OF STRESS ANALYSIS TO ORTHODONTIC TOOTH MOVEMENT IN BONE. RICHARD A. SHWALB AND ALFRED RICHTER. Amer. J. Orthodont. 36:192, Mar. 1950.

Subjecting a transparent material to stress causes it to become doubly refractive; this change is called the "photoelastic effect." This the authors measured with a polariscope translating the color changes in terms of stress, using a plastic tooth inserted in a Bakelite alveolus. The forces applied were those of Angle's three orders of tooth movement. The authors concede the absence of cellular response in their model but assume an orthodontic force produces contact between root and alveolar bone as was done in their experiment. They feel further study along these lines, using a three-dimensional technique, is indicated, and assert the validity of their analogy.

NEWCOMB.

A STUDY OF THE ANGULAR RELATIONSHIP IN THE UPPER AND LOWER ANTERIOR TEETH. M. B. MARKUS. Amer. Jour. Orthodont. 36:281, April 1950.

Reviewing the literature the author found that clinical observations on incisor angulation differed from scientific findings. Scientific investigations indicate a broad range of incisor angulation in both normal occlusion and malocclusion. Hence, the author distinguishes between procumbency, per se, and the angular relationship of lower incisors to inferior mandibular border. The author further states that investigations based on cephalometric X-ray films are subject to numerous variables. These differences and variables led to an analysis of incisor crown-root angulations on extracted teeth. The results cause the author to assert that incisor crown-root angle is directly related to the incisor-mandibular plane angle and hence previous cephalometric investigations may not have correctly measured the true angle. Thus, interpretations from projected tracings should be made with care when applied to diagnosis and treatment.

NEWCOMB.

Surgery

ORTHODONTIC CONSIDERATIONS IN THE SURGICAL MANAGEMENT OF DEVELOPMENTAL DEFORMITIES OF THE MANDIBLE. GERALD V. BARROW AND REED O. DINGMAN. Amer. J. of Orthodont. 36:121, Feb. 1950.

A summary of a more detailed paper previously published in Plastic and Reconstructive Surgery; 124-136: March, 1948. The author's operation is performed through the body of the mandible, their earlier operations through the rami having resulted in numerous complications. They list the following as the orthodontist's responsibility in management of these cases: 1) determination of the size and shape of the bone segments to be removed; 2) appliance application prior to the surgery and during healing; 3) maintenance of pre- and post-operative records; 4) orthodontic adjustment before and after surgery, as indicated. Discussion of No. 1, above, is profusely illustrated and discussed at length and there is also discussion of the fixed appliances and the acrylic splints advocated in certain cases. Three cases are reported by means of photographs and plaster records.

NEWCOMB.

PROGRESSIVE ASYMMETRY OF THE MANDIBLE. W. B. BALDERSTON. British Dental Journal, 88:25-28, Jan. 1950.

A case of progressive asymmetry of the mandible is reported, in which the progress of the condition can be followed by means of photographs from the age of 10 till operation at the age of 27½.

The overgrowth causing the asymmetry seems to have been confined to the condylar process, but there is no histologic evidence to suggest how the overgrowth was produced.

An interesting feature of the case is the adaptation to altered functional requirements shown by the increase of alveolar bone on the affected side, keeping the teeth in occlusion in spite of the constant tendency of the condition to produce an open bite on that side.

RUSSELL K. SMITH.

(Courtesy Journal of American Dental Association.)

Treatment

CASE REPORT OF TOOTH SUBSTANCE COMPLETELY DEVELOPED ABOUT A FOREIGN BODY. RICHARD E. BARNES. Amer. J. Orthodont. 36:215, Mar. 1950.

Original dental x-rays revealed a heavy wire in the mandibular body placed some years previously in connection with a mandibular fracture. Repeated efforts to erupt a second premolar were unsuccessful, this seeming to confirm the original thought that the wire passed through the premolar root. The wire being ultimately removed surgically, the tooth was subsequently aligned properly. Tests three and one-half years after removal of appliances showed the premolar vital but some root deficiency. Five years after appliance removal the tooth was vital and in satisfactory position.

NEWCOMB.

EXTRAORAL ANCHORAGE, ITS INDICATIONS, USE, AND APPLICATION. DONALD A. CLOSSON. Amer. Jour. Orthodont. 36:265, April 1950.

Indications for the headgear are listed by the author as follows: 1) treatment of severe Class II malocclusions in the deciduous and mixed dentitions; 2) correction of the mesial shifting of a maxillary first permanent molar following the premature loss of the second deciduous molar; 3) treatment of unilateral Class II cases, especially where there has been mesial drifting of lower buccal segments; 4) as a supplement to conventional Class II appliance therapy; 5) extreme bimaxillary protractions requiring removal of four bicuspids: this requires two traction bars. Absolute patient cooperation is required. The degree of elastic pull varies with the individual and with application of the force to the molars alone or to the entire arch; molar spacing is an indication of excessive elastic force. Assembly of the headcap, traction bar and archwire is described and illustrated.

NEWCOMB.

IMPROVED DESIGN OF THE SLIDING SLEEVE ATTACHMENT. HOWARD YOST. Amer. Jour. Orthodont. 36:375, May 1950.

This improved design renders the sleeve less bulky and provides greater retention in the open tube. There are illustrations of the improvement.

NEWCOMB.

INVERTED, UNERUPTED SUPERNUMERARY TOOTH — REPORT OF A CASE. GEORGE W. MATTHEWS. Amer. Jour. Orthodont. 36:299, April 1950.

A patient referred for frenectomy was found to have an inverted supernumerary tooth between the maxillary central incisors. The tooth was removed palatally, healing was uneventful and the diastema closed spontaneously in fourteen months. This illustrates the protection to all concerned of routine roentgenographic examination.

NEWCOMB.

PREPARATION OF THE CHILD'S MOUTH FOR ORTHODONTIC TREATMENT. FLOYDE EDDY HOGEBOOM. Amer. Jour. Orthodont. 36:302, April 1950.

The author recommends bite-wing X-rays, repair of all caries, nitrating of posterior interproximal areas and the use of immunizing solutions. Mesial contact caries on the permanent first molar is especially dangerous and he advises a distal cavity preparation in the second deciduous molar, to secure access and to avoid excessive cutting of the first molar, followed by repair of the deciduous tooth. Copper amalgam is often used in deciduous molars and a permanent cement in incisor caries during the orthodontic period. He also advocates application of the fluoride solution by the orthodontist and the use of the ammoniated powders by the patient.

NEWCOMB.

PSYCHOSOMATIC CONSIDERATIONS IN ORTHODONTICS. ARTHUR S. ASH. Amer. Jour. Orthodont. 36:292, April, 1950.

As orthodontics has tried to keep pace with medical advances, so the specialty should evaluate the application of psychosomatics. The physical expressions of emotion are outlined and contrasted with their physiologic accompaniments. The psychogenesis of physical complaints is attested by medical literature and applied to the dental field. Three cases are cited; two show how emotional factors extended treatment unnecessarily and the third is an instance of a young adult compensating for his own failure by blaming a mild orthodontic relapse following highly successful correction of his malocclusion.

NEWCOMB.

SOME OBSERVATIONS ON THE HISTORY AND USES OF THE KESLING POSITIONER. WILLIAM A. ELSASSER. Amer. Jour. Orthodont. 36:368, May 1950.

The desire for a tooth moving device independent of bands and wires, which would also create correct arch form, led to the positioner. Ultimately, the designer developed the present appliance which will complete treatment properly, providing jaw and cuspal relations and gross rotations have been corrected. First used as a retaining appliance, it has become common practise to use it for one or two months to complete fine details and then to shift to regular retainers. The ideal of orthodontic treatment being equilibrium of the denture (rarely gained), a retainer acts as a splint on the teeth against forces of occlusion; the author implies that a closer approach to this equilibrium is gained by using the positioner. The appliance's simplicity and the refinement of tooth position accomplished by it, are its chief advantages. Improperly made it will produce bite closure and it will not close spaces. Bite closure is avoided by providing for depressing force on the anterior teeth in fabricating the positioner; space closure is a function of basic treatment and not of the positioner. The author asserts its correct use will give satisfactory results.

NEWCOMB.

SPACE CLOSURE IN EXTRACTION CASES. PAUL D. LEWIS. Amer. J. Orthodont. 36:172, Mar. 1950.

A step-by-step outline of a technique for space closure in extraction cases. The author advocates a removable palatal plate to start maxillary treatment. A lingual appliance on the lower is used in mesial drift cases. The technique is completed with the edgewise appliance, using coil springs to position the cuspids and closed loops to retract the incisors. Occipital anchorage is advocated both to prepare teeth to withstand intermaxillary traction and to reinforce intramaxillary resistance.

NEWCOMB.

SUGGESTION: AN ADJUNCT IN ORTHODONTIC TREATMENT. JACOB STOLTZENBERG. Amer. J. Orthodont. 36:198, Mar. 1950.

The thesis is the author's belief that a successful orthodontic service includes the management of psychic and emotional factors. In particular he advocates conscious suggestion to secure the patient's cooperation at the first visit and as a constructive aid in correcting muscular habits.

NEWCOMB.

THE USE OF THE TWIN-WIRE MECHANISM IN TREATING CLASS II, DIVISION 2 CASES OF MALOCCLUSION. JOSEPH E. JOHNSON, Amer. Jour. Orthodont. 36:245, April 1950.

Five cases are reported. The reports are well illustrated with photos of the plaster casts and patients and clinical progress is depicted with oral photographs. About ten per cent of the author's patients show this type of malocclusion which he says is characterized by lingual inclination of the incisors, lack of vertical development and the absence of severe facial deformity. Etiology is not mentioned; there were no extractions. All cases were started with tubular lingual arches and a maxillary twin-arch. Finger springs attached to the former produced expansion by gentle pressure (one and one-half ounces) and moved the teeth bodily, it is stated. When the mesiodistal correction is started, with elastics and coil springs against the upper molars, the maxillary lingual arch is removed. Application of the twin-arches serves to correct incisor irregularities and to depress these teeth.

NEWCOMB.