BOOK REVIEWS

SCHUCHARDT, KARL (ed.), *Treatment of Patients with Clefts of the Lip, Alveolus and Palate.* New York: Grune & Stratton, Inc., 1966, Pp. 237. $25.00.

Two important conferences on cleft palate were held in Central Europe in 1964 and have recently been published. The Zurich Symposium, edited by Rudolf Holtz, was entitled "Early Treatment of Cleft Lip and Palate." The Second Hamburg Symposium, edited by Karl Schuchardt and titled "Treatment of Patients with Clefts of Lip, Alveolus and Palate" is reviewed here and represents a major compilation of present day thinking in the field.

Unlike the Zurich Symposium, which concentrated on early treatment (essentially, presurgical orthopaedics and primary bone grafting), the Hamburg Conference covers every aspect of cleft palate treatment in a systematic manner. The symposium progresses as a cleft lip and palate patient might from initial surgical procedures (on lip, alveolus, hard palate, soft palate) to the secondary procedures (revision of lip and nose surgery and secondary procedures to correct palatal insufficiency). Each topic (there were 19 in number) starts with an introductory survey, followed by invited papers, and then by open discussion. Despite this laudable format, the participants rarely commented directly on the material of the preceding papers.

An introductory paper by Dr. Pfeifer of Hamburg emphasized the importance of observing the details of presurgical morphology. For instance, he separates clefts of the lip into primary cleft and secondary cleft groups on the basis of the morphology of the vermillion. Unfortunately, he progresses from proposing to accepting without having tested his hypothesis.

The symposium was a gathering of outstanding plastic surgeons and some of their associates in the non-surgical fields. Independent speech pathologists, orthodontists, and basic scientists were simply not participants. Their presence may have subjected the clinical reports to critical evaluation and supplied the necessary methodological and quantitative discipline. The absence of members from the important American cleft palate centers such as Iowa, Pittsburgh, Illinois, and Rochester from an international symposium is most unfortunate. However, a concept of present day surgical thinking does emerge from this conference largely by consensus rather than by scientific observation.

In the discussion of secondary corrections of the palate, the consensus of the speakers was that pharyngeal flap procedures were highly successful, although there was no standard for evaluation agreed upon.

Early in the conference, Dr. Stark of New York advanced the use of the primary pharyngeal flap at the age of one year on the premise that better speech would result. Undoubtedly, many children who would have developed normal speech after the usual palatal lengthening and repair procedures are twice blessed by the benefit of a pharyngeal flap. The possibility of complications in these cases, such as denasality, is not discussed or even suggested.

Later in the symposium, Dr. Spiessl of Hamburg noted that patients with post diphtheric synechia of the pharyngeal region developed hypoplasia of the middle face.

The participants of the symposium generally agreed that bone grafting of clefts of the alveolus was beneficial to the developing morphology. However, there was little unanimity as to case selection, the age for the procedure, the necessity for preliminary orthodontics, et cetera. Drs. Johanson and Kling of Göteborg, participants in this symposium, were among the first advocates of early bone grafting and have subjected their procedures to evaluate techniques. They report no improvement in the resulting occlusion following bone grafting when compared to a control group that was not bone grafted (page 53).

The symposium presented several inventive variations in surgical technique, and these reports were rarely negative. Apparently, advocates of new surgical procedures do not inhibit their enthusiasms by comparison with control groups or analytic evaluation of standardized data.

It must be admitted that different surgeons and different cleft palate centers do get vastly different results. However, this reviewer doubts if the scarred immobile soft palate or the hypoplastic maxilla will be prevented by the adoption of the many ingeneous variations suggested by the participants of this symposium. The important issue (often overlooked when the experts discuss whether to bone graft or not, or to turn a mucosal flap right or left) is that basic surgical competence is undoubtedly the central factor in successful cleft palate habilitation.

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GREENE, MARGARET C. L., *The Voice and Its Disorders.* Philadelphia: J. B. Lippincott Company, 1964. Pp. 343. $10.00.

These days there are very few texts written solely about the voice and its disorders. This one is probably the best of the lot, at least as far as use by speech pathologists is concerned. Dr. Greene, who is British, has had extensive clinical practice in the disorders of voice and the volume reflects, by and large, that clinical facility.

The volume is divided in two sections: normal voice and voice disorders. Of the two, the section on normal voice is probably less valuable

since material of this sort may be found in a number of other texts. In addition, at least in my opinion, the author relies pretty heavily on inferences which may not be wholly justified by the evidence and indeed, at least once or twice, inferences for which we have no evidence at all. The material on respiration and that on development of vocal quality are examples. Nevertheless, some of the discussions in the section on normal voice make very good reading and provide a glimpse of 'voice training', which, in my experience, many speech pathologists (particularly those trained in the United States) have not had.

The second section, that on voice disorders, is made worthwhile because of Dr. Greene's vast clinical experience in the area of voice. Not only does she speak with authority about many of the 'better known' voice disorders, but she also describes in rare detail her impressions of other voice disorders which relatively few professional workers have seen. In addition, because she had many of these patients in therapy over a period of time, she is able to describe possible therapy techniques as well as outcomes of therapy which one may expect. Hence her case reports, which are presented throughout this second section, are particlarly helpful.

I commend this book to clinical speech pathologists who are interested in voice disorders.

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KARLIN, ISSAC W., KARLIN, DAVID B., AND GURREN, LOUISE, *Development and Disorders of Speech in Childhood.* Springfield: Charles C Thomas, 1965. Pp. 311.

This book should be viewed basically as an introductory book designed to familiarize various specialists, including prospective speech clinicians, with the area of speech pathology and audiology. The work could serve as a basic textbook in a beginning survey course in speech pathology and audiology. The book has more of a medical slant than is found in the majority of beginning texts in this field, since two of the authors are medical doctors. Many of the views presented throughout the work are somewhat controversial and differ from views expressed in other texts, and therefore it is a valuable addition to the library of anyone concerned with the field of speech pathology and audiology. In the opinion of the reviewer, many textbooks tend to make dogmatic statements which have little, if any, support from research. This work is no exception.

The book is basically divided into three parts, with several chapters in each part. Part I is entitled 'Origin and Normal Development of Speech and Language'. The material presented in this section is neces-

sarily limited due to the purposes of the book. However, it appears that some of the more important studies and theories relating to this general area have not been included in the discussion.

Part II is entitled 'The Mechanism of Speech Production'. Some of the material presented in this section seems to be rather naive in view of more recent research. An example of this apparent naivete is the treatment of 'breathing and speech' in Chapter 4. Of special interest to those concerned with cleft palate is the treatment of normal velopharyngeal closure, which is sketchy at best and of questionable accuracy. Some material seemed to be unnecessarily detailed in view of the purposes of the book, such as the treatment of the anatomy of the eye in Chapter 6. Although this information may be useful to readers of the book, it would appear that a more detailed coverage of structure directly related to the communication process would be more helpful.

Part III is entitled 'Disorders of Speech and Language' and includes the major portion of the book. The chapters in this part deal with the various speech problems, such as stuttering, disorders of articulation, and so forth. It is the impression of the reviewer that some of these chapters have considerably more merit than others. For the purpose of this review, attention will be given only to Chapter 13, dealing with cleft palate and cleft lip. The material presented in this chapter, dealing with the nature of the problem, etiology, classification and the like, appears to be a relatively good summary, although the material presented adds little new information to those who are familiar with the problems involved in cleft lip and palate. The section of the chapter dealing with speech therapy gives very little information that would be beneficial to the speech clinician, in the opinion of the reviewer. The importance of a thorough diagnostic evaluation of the speech problems associated with the cleft palate is not stressed. The heterogeneity of individuals who have had clefts is also neglected. The entire discussion concerning treatment of the cleft palate and cleft lip would appear to be of limited value to those sophisticated in the area of cleft palate rehabilitation. Nevertheless, the chapter is valuable and contains useful information for those who are less familiar with the problem.

In summary, this book should be viewed as a valuable edition to the library of those interested in the field of speech pathology and audiology. It contains new information in certain areas and clearly states some of the theories of the authors that have not been synthesized before. However, for professional workers whose area of interest centers around the problems of cleft palate, little new information is given.

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DRILLIEN, CECIL M., INGRAM, J. J. S., AND WILKINSON, ELSIE M., *The Causes and Natural History of Cleft Lip and Palate.* Baltimore: Williams & Wilkins Co., 1966. Pp. 304. $11.50.

This book reports a careful statistical study carried out by the Department of Child Life and Health of the University of Edinburgh on all known children born with clefts in South-East Scotland and Fife during the period 1953 to 1961. The sample (169 patients) was studied in regard to family history, maternal history, pregnancy and delivery, associated anomalies, neonatal complications and feeding difficulties, growth and development, and speech. Chromosomal studies were performed on all cleft patients suffering from associated congenital anomalies and the results are reported in a chapter by contributing author W. H. Schutt. All data collected are presented in detail. Also included are survey chapters on orthodontia and plastic surgery written by D. A. Dixon and A. D. R. Batchelor respectively.

This study provides no solution to the cleft palate problem, but it does serve as a reliable source for clinical statistics about clefts. Even those who consider statistics tedious will find this volume a useful reference work. The investigators compare their findings with those of other studies reported in the literature and furnish an excellent list of references. The chapters on orthodontia and plastic surgery are well written and will be useful to those seeking a concise introduction to the basic principles of these specialties as they relate to clefts.

This study adds further support to the thesis that clefts have various causes. Particularly interesting are the data which indicate that cleft patients with the history of cleft in a close relative (that is, patients in whom the anomaly is 'familial') are less likely to have associated congenital anomalies and are more likely to be generally healthy children than those suffering from the sporadic or 'non-familial' form of the disease. One gathers that familial clefts tend to reflect some rather specific hereditary predisposition while non-familial clefts are likely to be the mark of a more generalized disturbance in which environmental (maternal) factors predominate over the purely genetic. (It is recognized, of course, that all developmental malformations must result from a gene controlled process.) This interpretation is consistent with the observation that patients with isolated cleft palate are more likely to have associated disorder because isolated cleft palate tends to have a sporadic rather than a familial incidence. Seemingly, a genetic predisposition is of more importance in the etiology of cleft lip (with or without cleft palate) than in the etiology of isolated cleft palate.

The one regretable feature of this book is the continual use of the word *hypomandibulosis,* a hybrid of Latin and Greek roots which the authors do not defend or define and which the *Webster's Third New International,*

Oxford English, Dorland's Medical, Stedman's Medical, and Butterworth's Medical Dictionaries do not list. The superiority of this term over the well-established *micrognathia* or *mandibular hypoplasia* is questionable.

This minor criticism is in no way intended to detract from the genuine worth of this book, which is highly recommended to all who are interested in the public health aspects of cleft lip and palate.

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ABSTRACTS

Trauner, R., and Trauner, M., Results of cleft palate operations. *Plastic reconstr. Surgery, 39,* 168–174, 1967.

Details of the Veau push-back technique as applied by the authors to 264 cases of palate clefts are discussed. Primary palate closure was accomplished at age 1½ to 2. Better than 80% of the speech results were said to be good. Approximately 7% of the cases required later pharyngeal flaps. The precise lengths of follow-up and the means of evaluation are not presented. Secondary operations of various types were performed in an apparently separate group of 311 cases. Chief among these pro-

cedures was the superiorly based pharyngeal flap preferred by the authors. Late dental arch deformities were treated by osteotomy of the maxilla or by overlay dentures. Mandibular prognathism was treated by the rectangular ramus osteotomy designed by the authors. A heavy reliance appears to have been placed on telescopic dental prostheses for final dental functional and esthetic results. (Cosman)

Schatten, W. E., and Tidmore, T. L., Jr., Airway management in patients with Pierre Robin Syndrome. *Plastic reconstr. Surg., 38,* 309–311, 1966.

The respiratory difficulty encountered in the neonatal period in some of these patients with micrognathia, glossoptosis and cleft palate should be well appreciated. Careful nursing and/or one or another modification of the Douglas procedure in which the tongue is fixed to the alveolus and lip are the usual measures employed. The authors report 4 cases successfully treated by anterior fixation of the tongue with a Kirschner wire passed through one angle of the mandible, transfixing the tongue, and into the other angle of the mandible. Tongue fixation achieved in this way was maintained for approximately 4 months in 3 patients and 16 months in one. The method is credited to Hadley and Johnson. (Cosman)

Rogers, B. O., Palate surgery prior to VonGrafe's pioneering staphylorraphy (1816): An historical review of the early causes of surgical indifference in repairing the cleft palate. *Plastic reconstr. Surg., 39,* 1–19, 1967.

Although cleft lips were surgically repaired in antiquity, clefts of the palate were long ignored. This appeared to be due to the fact that many physicians thought that cleft palates were a manifestation of syphilis, severe dental or alveolar disease, scurvy or tuberculosis. It was well known to early surgeons that soft tissues damaged by these conditions healed very poorly when subjected to surgery. However, quite a bit of attention was paid for several centuries to draining palatal abscesses and amputation of uvulas. LeMonnier is described by Robert in 1766 as having previously repaired a cleft palate by suture and hot cautery. There is repeated reference in the older literature to obturators being used to treat palatal defects. It was not until 1816 that VonGrafe and Roux in 1819 undid several thousand years of ignorance and overcame fear of the "venereal taint" by introducing simple closure of the congenitally cleft soft palate. (Huffman)

Morris, H. L., and Spriestersbach, D. C., The pharyngeal flap as a speech mechanism. *Plastic reconstr. Surgery, 39,* 66–70, 1967.

Among the techniques available for assessing the adequacy of a pharyngeal flap as a speech mechanism are speech observation, pressure ratios, measures of air pressure and airflow rate, and x-ray films. No single one of them can be absolutely depended upon. After studying 35 patients who had had pharyngeal flap surgery, it appeared that the successful pharyngeal flaps show either mesial movement of the lateral pharyngeal walls or a superior-posterior movement of the palatal flap structure. The former appears to be a better predictor of success than the latter. (Huffman)

Monroe, C. W., Midline cleft of the lower lip, mandible and tongue with flexion contracture of the neck: case report and review of the literature. *Plastic reconstr. Surg., 38,* 312–319, 1966.

A case of this rare entity is presented and 25 other reports in the literature are reviewed. The common findings include a cleft of the lower lip, a cleft of the mandible in the midline, a cleft of the tongue

centrally, and a flexion contracture of the anterior neck. Other anomalies, including cleft palate, have also been associated with this constellation. The therapy of this case is reported. The relation of this condition to other neck anomalies is briefly considered. (Cosman)

Mladick, R., Pickrell, K., and Gingrass, R., Blood volume determinations in cleft lip-palate infant surgery. *Plastic Reconstr. Surg. 39,* 71–73, 1967.

Clinical estimation of blood volume is not adequate in determining the circulatory status of the "high risk" cleft lip and cleft palate infant. Although blood volume measurement is not recommended routinely, it is of value when the results are used in conjunction with hematocrit and hemoglobin determinations in assessing the physiologic status of the "high risk" infant. (Huffman)

Millard, D. R., Bilateral cleft lip and a primary forked flap: A preliminary report. *Plastic reconstr. Surg. 39,* 59–65, 1967.

The usual approach to bilateral cleft lips consists of repairing the lip in one or two stages in infancy followed by any indicated columnella lengthening at about five years of age. The author describes a procedure which allows both sides of the lip to be repaired at one operation and simultaneously lengthens the columnella. Objections previously raised to any procedure of this sort were based on the fact that it was believed that all of the blood supply to the prolabium was delivered through the columnella and anterior part of the septum. However, at the time of many previous bilateral cleft lip repairs during which the prolabium was detached from the premaxilla it was found that the prolabium received adequate blood supply by way of the premaxilla itself. Factors to be considered before attempting a specific case are a) premaxillary position, b) prolabial size, and c) columnella length. In instances of extreme protrusion of the premaxilla that element must be retropositioned by the use of appliances, by surgical retroposition, or by repairing the lip and allowing its gradual pressure to displace the premaxilla posteriorly. The second factor relates to the size of the prolabium. A large prolabium will cause little difficulty in providing tissue necessary to form the forked flaps to be used in lengthening the columnella. However, sometimes a prolabium that appears to be overly small can be successfully employed. The third factor is the desired length of the columnella, taking into consideration the obvious fact that the negroid nose is normally flat and flaring while the acquiline nose must have a much longer columnella. The procedure consists of preparing two forked flaps from the lateral part of the prolabium so that they are based on the columnella. The membranous septum is then transfixed to the tip of the nose to allow it to advance, after which the forked flaps are sutured together to allow for columnella lengthening. The lateral lip segments are approximated to the prolabium and to each other to create a vermilion substance below the prolabium. (Huffman)

Lubit, E. C., Before an adenoidectomy—stop! look! and listen! *N.Y. J. Med., 67,* 681–685, 1967.

Congenital pharyngopalatal incompetence in the absence of cleft palate is a well known entity in the field of cleft palate rehabilitation. The number of such patients who present a history of having had their tonsils and adenoids removed makes it essential for the general practitioner to also be aware of this condition. 75% of such children seen in the Suffolk Cleft Palate Rehabilitation Center in Long Island had had a speech problem prior to their adenoidectomy yet such an opera-

tion had been performed. The author reviews the mechanisms of normal speech and of cleft palate type speech. The role of the adenoid pad is emphasized, especially in the patient who has a less than competent soft palate mechanism. The author emphasizes the significance of observing such physical stigma of the congenital pharyngopalatal incompetence syndrome as bifid uvula, short soft palate, or submucous cleft, as well as the testing of functional palate action prior to performing an adenoidectomy. The performance of the operation in the face of incompetence may lead to permanent cleft palate speech requiring an obturator or a pharyngeal flap for improvement. (Cosman)

Chamberlain, J. G., Development of cleft palate induced by 6-aminonicatinamide late in rat gestation. *Anatomical Record, 156,* 31–40, 1966.

A single intraperitoneal injection of 6-aminonicatinamide (6-AN) was given to pregnant rats on the morning of the fifteenth day of pregnancy. This represents a period of about 12–24 hours prior to normal closure of the rat's palate. Control rats were given either single injections of distilled water, or an equal dosage of nicotinamide (NAM) at the time of administering the 6-AN. Because the 6-AN caused a temporary weight loss, some control rats were fasted for 7–8 days to simulate this weight loss. The results were 100% palate abnormalities in the rat fetuses within 24 hours after administration of the 6-AN. There was no evidence of palatal abnormalities in any of the control rats. The 6-AN is apparently capable of interfering either directly or indirectly upon both the positional and fusian mechanisms of palate closure when it is given several hours prior to the initial palatal shelf movement from a vertical to a horizontal plane, and that the simultaneous injection of the NAM prevents the maternal and embryonic affects of the 6-AN. (Troutman)

Charlton, P. J., Seasonal variation in incidence of some congenital malformations in two Australian samples. *Med. J. Aust., 2,* 833–835, 1966.

The monthly incidence of cleft lip, cleft palate, cleft lip and palate and congenital dislocation of the hip was reviewed in two Australian hospitals [Adelaide Children's Hospital (1947–1961) and Brisbane Children's Hospital (1950–1962)]. These studies revealed: a) no consistent significant variation in the incidence of cleft lip and palate; b) a significant increase in the incidence of congenital dislocation of the hip during the winter months; and c) a significant seasonal variation (August and April) in the total number of births. (Weeks)

Georgiade, N. G., Anterior palatal-alveolar closure by means of interpolated flaps. *Plast. reconstr. Surg., 39,* 162–167, 1967.

The author depicts and diagrams a technique of closing the alveolar portion of the cleft palate by a lateral cleft side flap and a medial side septal-vomer flap. The procedure was apparently accomplished at the same time as the lip repair. Bone grafting can be carried out simultaneously, placing bone between the two flaps, one of which furnishes the nasal floor and the other of which forms the palatal surface. Some form of prosthetic retention is said to be needed for 4 months following the graft. Employed in 14 patients, the results of the method and its complications are not presented. (Cosman)

Hayward, H. L., The role of dentistry in the treatment of the cleft palate patient. *N.Y. J. Dent. 37,* 3–8, 1967.

A brief description of the problems and treatment of the cleft palate patient.

Emphasis is placed on the team approach. The author feels that orthodontic manipulation of the bony segments before dental eruption is contraindicated. (Luban)

Redman, R. S., Shapiro, B. L., and Gorlin, R. J., Measurement of normal and reportedly malformed palatal vaults: II. normal juvenile measurements. *J. dent. Research, 45,* 266–269, 1966.

A high or narrow palate has been reportedly associated with a number of syndromes, e.g., Turner syndrome, Franceschetti-Treacher-Collins syndrome, Trisomy 21 syndrome, etc. The purpose of this paper is to present palatal measurements of normal children at various age levels to establish standards of palatal dimension and shape with which to compare the reportedly malformed palates and for studying the growth and development of the palate. In a previous article, the authors obtained palatal dimensions on a series of normal adults using a measuring device. The same instrument and procedure were employed in the present study. Measurements were made to the nearest millimeter of the following: width (between maxillary first permanent molars at cervical line), length (labial point of incisive papilla to midline of junction of hard and soft palates), height (shortest distance between midline of junction of hard and soft palates and plane established by the other reference points), and index (determined by the formula—height/width × 100). The palates of 1,098 Caucasian Minnesota children, ages six to 18, were measured. The means and standard deviations are tabled by two-year age groups and sex. The average relative height of the palate increases somewhat more rapidly after age 11 years than between the ages of 6 and 11 years, and during the same period, the average relative height of the male palate becomes increasingly greater than that of the female. (Noll)

Post, R. H., Deformed nasal septa and relaxed selection. *Eugenics Quarterly, 13,* 101–112, 1966.

Genetic control of deformed nasal septa is evidenced in two studies of identical and fraternal twins, which are briefly reviewed. The frequencies of nasal septa that are deformed sufficiently to impede nasal respiration are reported in samples of skulls from 22 populations, totaling 2,353 individuals. Samples of Chinese, Egyptian, and European skulls have about twice the frequencies of abnormalities as have American Indian samples and about three times those of Aleuts and Eskimos. The proportion of markedly deformed to slightly deformed septa is considerably higher among the "civilized." A sample of Pueblo Indian skulls from the Southwest ranks between the "civilized" and the other Indians. Ancient Egyptians rank lower than modern Egyptians. Most cases of abnormality appear to stem from arrested development, on one side alone, of a pair of ossification centers. The markedly higher frequencies of deformed septa among the samples of "civilized" populations as contrasted with the "primitives" is attributed hypothetically to a reduction in the efficacy of natural selection among the former in eliminating the genetic factors that produce septal deformities, during the many generations since their ancestors abandoned "primitive" cultures. (author's summary)

Robertson, J. M., Samankoua, L., and Ingalls, T. H., Hydracephalus and cleft palate in an inbred rabbit colony. *J. Hered., 57,* 142–148, 1966.

For two years, beginning in November, 1962, a 13% incidence of hydrocephalus and cleft palate was observed in a rabbit colony maintained by brother-sister or parent-offspring mating. Whether the abrupt appearance and documentation of these anomalies, after 34 years of the colony's existence, represent a new disease or

a new observation, is not known. Incidence rate was significantly higher in the summer; high parental native resistance reduced the number of abnormal live-borns but increased resorption and stillbirth. Parity or advancing age had no effect on malformation incidence, but did cause smaller litters and increased numbers of stillborns. Reproductive rest of to three months between resulted in significantly more live young than a rest of only one month or of four–five months. These and additional findings are discussed in relation to previously cited epidemiologic and etiologic data. Environmental factors superimposed on genetically susceptible individuals may be responsible for the high incidence of these anomalies. (This abstract is from *Birth Defects: Abstracts of Selected Articles,* The National Foundation—March of Dimes, 3 (10), abstract number NF-MOD 66-816, 1966.) (Noll)

Weinstein, E. D. and Cohen, M. M., Sex-linked cleft palate: report of a family and review of 77 kindreds. *J. med. Genetics, 3,* 17–22, 1966.

The paper describes a family with cleft palate that manifests an apparent sex-linked pattern of inheritance. The study also includes analysis of 77 other families studied in the Heredity Clinic of the University of Michigan from December 1941 through December 1964; they were ascertained through a facial cleft in the propositus. The specific family described seemed to exhibit a sex-linked recessive form of cleft. Chromosome studies were normal of the cleft individuals and five normal family members. The propositus, a sibling, and the mother all showed similar hypertelorism and median frontal prominence. From more than 9000 kindreds recorded in the Heredity Clinic, 83 were found to have one or more individuals with facial clefts. In five of these, the facial clefts were associated with lip pits and the syndrome apparently was inherited in an autosomal dominant fashion. These five kindreds and the above family were omitted from the present review. Of the propositi with cleft lip with or without cleft palate, 49% had a positive family history of facial clefts. Of the propositi with cleft palate alone, 28% had a positive family history. In this study 95% of the affected relatives of the cleft lip, with or without cleft palate, propositi had either cleft lip alone or cleft lip and palate. Pedigrees are included of the 32 kindreds with familial cases of facial clefts. The authors identify those kindreds which could be due to a sex-linked recessive mutant gene. They also indicate those in which the clefts would appear to be best represented as sex-linked dominant inheritance with variable penetrance, although they admit that autosomal dominance could not be ruled out in these instances. (Noll)

Aschan, G., Hearing and nasal function correlated to postoperative speech in cleft palate patients with velopharyngoplasty. *Acta Oto-laryngologica, 61,* 371–379, 1966.

82 patients with cleft palate and who had undergone velopharyngoplasty were examined one year after operation. The findings of aural pathology, hearing, and nasal function were correlated to the postoperative speech evaluation. The incidence of aural pathology was 78%. Despite the very high figure for aural pathology, only 13% of the patients had hearing losses of such a degree (30 dB or more) that it might influence the postoperative speech rehabilitation. Only 47.7% of the patients had a good nasal function postoperatively. A correlation was found between the postoperative speech result regarding both hearing loss and nasal function, more marked for nasal function. Asymmetries in the nasal cavities were found to be responsible for postoperative asymmetries in the passages lateral to the velopharyngeal flap. It is evident that nasal function

is just as important a factor as hearing for a good postoperative speech rehabilitation. (author's summary)

Burian, F., The nomenclature for cleft lip and/or palate. *Acta Chirurgiae Plasticae, 8,* 85–90, 1966.

The author suggests a terminology for clefts of the lip and palate and specific subcategories according to the degree of malformation. (Noll)

Burdi, A. R. and Lillie, J. H., A catenary analysis of the maxillary dental arch during human embryogenesis. *The Anatomical Record, 154,* 13–20, 1966.

Previous research has indicated that the curvature of the postnatal coslusal arch was typically described by a catenary curve, i.e., a geometric curve produced by a chain of many links suspended by its free ends but otherwise allowed to hang freely. The purposes of the present study were to determine if the shape of the human prenatal maxillary dental arch is catenary, to describe the temporal sequence in the morphogenesis of catenary arch shape if it is present, and to correlate arch shape with possible mechanisms in the dynamics of facial growth during early human prenatal development. Each of fifteen human embryos ranging in age from 6½ through 12 weeks was histologically prepared and frontally sectioned. The maxillofacial region was studied by light microscopy to observe developmental tissue changes, wax-plate reconstructions for measurements of changing size and shape. Photographs of the latter were used to measure proportional changes as well as conformity or non-conformity to the geometric catenary curve. During the age span of these embryos, the maxillary dental arch had an early period of non-conformity followed by a late period of conformity to the catenary curve. From 6½ through 8 weeks of development, the arch is flattened anteroposteriorly. In the intermediate phase of 7½ to 9 weeks, the embryos had arches with lesser radii of curvature which appeared more elongate. From 9½ to 12 weeks the arches were in relatively complete conformity with the superimposed catenary chain. Changes in dental arch shape are therefore both time-linked and directional. The authors discuss the possible growth mechanisms related to the early changes in arch form. (Noll)

Burke, G. W., Feagans, W. M., Elzay, R. P., and Schwartz, L. D., Some aspects of the origin and fate of midpalatal cysts in human fetuses. *J. dent. Res., 45,* 159–164, 1966.

This study was concerned with developmental cystic formation in the hard palates of 36 human fetuses, 32 of which were from 3- to 6-month fetuses and four from full-term fetuses. Cystic formation was observed as a constant occurance in the midline of the hard palates of 31 of the 32 fetuses. The only fetus lacking cysts was approximately 3 months of age. In most instances, the cysts were detected in the anterior segment of the palatal raphe. Typically, the cystic structure had a lining of stratified squamous epithelium. After the fourth fetal month, most human fetuses have multiple developmental cysts, but they tend to diminish in late fetal life. However, the cysts may persist postnatally. The budding of precystic structures from epithelial invaginations seems to mimic glandular development. The authors do not feel, contrary to some other investigators, that the developmental cyst is a significant etiologic agent in the production of cleft palate. (Noll)

Latham, R. A., The pathogenesis of cleft palate associated with Pierre Robin syndrome, an analysis of a seventeen-week human foetus. *British J. Plast. Surg., 19,* 205–214, 1966.

A histopathologic analysis of pertinent

tissues from a fetal specimen indicates that a cleft in the secondary palate resulted from failure of the palatal processes to elevate, due to excessive obstruction by the tongue secondary to mandibular micrognathia. These data confirm the findings of others that the cleft palate commonly associated with the Pierre Robin syndrome is a developmental defect secondary to mandibular retrognathia. (This abstract is from Birth Defects: Abstracts of Selected Articles, The National Foundation —March of Dimes, 3 (9), Abstract number NF-MOD 66-757, 1966.) (Noll)

Lenz, W., Malformations caused by drugs in pregnancy. *Amer. J. Dis. of Childr., 112,* 99–106, 1966.

This article is primarily a review of published suggestive evidence of malformations attributed to drug intake during pregnancy. Much of the paper is devoted to the thalidomide embryopathy. Occasional references to cleft lip and palate are given, especially the possible effect of meclizine and cortisone. (Noll)

Tucker, C. C., Finley, S. C., Tucker, E. S., and Finley, W. H., Oral-facial-digital syndrome, with polycystic kidneys and liver: pathological and cytogenetic studies. *J. med. Genetics, 3,* 145–147, 1966.

A case report is given of a patient with OFD. Clinical findings, necropsy, and cytogenetic observations are included. The infant was severely malformed at birth and expired about two hours after delivery. There was no demonstrable chromosomal aberration in cells derived by culture of pectoral muscle. The significant pathological findings of polycystic kidneys and liver would substantiate previous suggestions of a relation between OFD and polycystic disease. The authors state that if polycystic disease proves to be a consistent finding, the term "oral-facial-digital" does not adequately describe the clinical and pathological features of the syndrome. (Noll)

Nagai, I., Fujiki, Y., Fuchihata, H., and Yoshimoto, T., Supernumerary tooth associated with cleft lip and palate. *J.A.D.A., 70,* 642–647, 1965.

A total of 1,368 cleft lip and palate patients were examined for frequency of incidence of supernumerary teeth. A supernumerary tooth was observed much more often in those patients who had an incomplete cleft lip with or without an alveolar or palatal cleft than in those patients with a complete cleft lip with or without a palatal cleft. The site of the supernumerary tooth was between the central incisor and cuspid in all patients. The authors assume that the higher incidence of supernumerary teeth in those patients with a milder form of cleft (incomplete cleft lip) is related in some way to the complexity with which the dental lamina and germ are formed. (Noll)

Murphy, J. W. and Reisman, L. E., Chromosomes in cleft palate tissues. *The Lancet, 7456,* 228–229, 1966.

Specimens of palatal mucosa from the margins of cleft palates were obtained from ten children at the time of surgery. Five had isolated cleft palates and five also had cleft lip. Chromosome analyses were performed on the primary cell sheets, or at the latest stage following initial cell transfer. The tissue-cultures revealed a high incidence of chromosomal heteroploidy, reflected both in a general increase in tetraploid or near-tetraploid metaphases, and in three patients by the presence of mixed populations of diploid and aneuploid cells. The observed degree of aneuploidy was excessive, as compared to standard blood-cultures which showed normal karyotypes and modal numbers in all ten subjects. The palatal tissues of two children showed a high proportion of

45-chromosome cells, with loss of a chromosome in the 6–12-plus-X group. (Noll)

Lynch, J. B. and Peil, R., Retarded maxillary growth in experimental cleft palates. Mechanical binding of scar tissue in puppies. *Amer. Surg., 32,* 507–511, 1966.

Seventeen puppies were divided into three groups: normal controls, anesthesized but not subjected to surgery; those in which a median palatal suture, vomer, and inferior nasal septum, with the cleft lip left open; those in which a median palatal cleft was created and surgically closed at the same time by mobilization of mucoperiosteal flaps to produce a transverse layer of scar tissue across the palate. A study made of average transverse palatal growth in survivors (four puppies in the control group, three each in the other two) showed a statistically significant difference between controls and surgically treated animals, this growth being significantly decreased in those in which scar tissue, which acted as a mechanical binder, was induced. (This abstract is from *Birth Defects: Abstracts of Selected Articles,* The National Foundation—March of Dimes, 3 (9), abstract number NF-MOD 66–699, 1966.) (Noll)

Smith, D. W., Empiric risk data for certain common anomalies and comments regarding etiological factors. *Alabama J. Med. Science, 3,* 130–132, 1966.

Data from the literature are given regarding the empiric risk for recurrence of the following common single major anomalies in a further child when there is already an affected individual who is a sibling, parent, parent and sibling, or if there are two affected siblings in the same family: cleft lip and palate; cleft palate; clubfoot; dislocation of the hip; spina bifida cystica; anencephaly and pylonic stenosis. It is suggested that use of this information in specific cases is of limited value, since it should only be utilized in relation to a thorough history, examination of the patient and a consideration of the family pedigree and environmental influences. (This abstract is from *Birth Defects: Abstracts of Selected Articles,* The National Foundation—March of Dimes, 3 (9), abstract number ND-MOD 66-760, 1966.) (Noll)

Batstone, J. H. F., Cleft palate in the horse, *British J. Plastic Surg., 19,* 327–331, 1966.

A short review of the incidence of clefts of the palate in horses and a report of two foals, both of which had clefts of the palate, is given. These clefts were closed operatively but both broke down, one foal dying shortly post-operatively. (MacLennan)

Duda, M. and Provenza, V., Elastic fibers in the human soft palate. *J. Balt. Coll. Dent. Surg., 21,* 5–11, 1966.

Human palates were fixed in formalin and embedded in paraffin. Longitudinal and transverse serial sections were cut and stained with aldehyde fuchsin, orcein, orcein-Geimsa, resorcinol fuchsin, orcein-van Geison, orcinol-new fuchsin, Rinehart, Verhoeff, and peracetic aldehyde fuchsin-halmi technics. Some frozen sections were also made. Histologic examination of the soft palate showed reticular, collagenous, and elastic fibers. Reticular fibers were restricted to lamina propria mucosa and perithelium of capillaries. Collagen fibers were everywhere. Collagen fibers in the lamina propria of the oral surface were organized in bundles. Immediately subjacent to the epithelium, a narrow sheet was parallel to the free surface conforming to the rete pegs. Just deep to this was a wider layer of interlacing bundles. Deep to this the bundles branched and passed between the fat aggregations and glands. In longitudinal section, collagen was distributed evenly except near the uvula

where it was more diffuse. Adipose and glandular tissue increased near the uvula. Elastic fibers differed in caliber, organization, distribution, and orientation in different areas. In the anterior region of the oral surface the elastic fibers extended from the papillary connective tissue to the muscle. Fine, branching, and anastomosing elastic fibers were seen in the papillary layer and immediately adjacent part of the reticular layer. Deep to this elastic fibers formed bundles coursing most of the length of the soft palate and parallel to the surface. These bundles formed numerous fenestrated laminae. Deeper laminae invaded palatal muscles. Posteriorly elastic fibers diminished as did rete pegs in oral epithelium. Also glands and muscles became more superficial, the thickness of the reticular layer of the laminae propria became variable, and the elastic laminae were more irregular. Near the uvula the elastic laminae were arranged in a compact layer simulating a limiting elastic membrane. In the uvula this organization was lost and fibrous bundles coursed irregularly through the tissue encapsulating the glands. A membrana propria containing mainly reticular fibers was present under the epithelium on the nasal aspect of the soft palate. On the anterior half of the nasal surface, collagen fibers, less dense than on the oral aspect, were arranged into upper, middle, and lower layers. The upper and lower zones were rectilinearly disposed, whereas the intermediate zone coursed obliquely. Groups of collagen fibers passed from the lower layer deeply between fat and muscle bundles. There were fewer elastic fibers in the nasal mucosa of the soft palate than in the oral mucosa. In the anterior part of the nasal mucosa of the soft palate the superficial part of the lamina propria contained scattered individual elastic fibers. Deeper they were collected into bundles. Midway back toward the uvula elastic fibers formed a definite layer immediately subjacent to the connective tissue underlying the basement membrane. This layer became deeper posteriorly and merged with the elastic fibers of the oral aspect. In the uvula, elastic fibers were arranged as in oral papillary connective tissue. A limiting membrane of elastic laminae, usually described in the literature to delineate lamina propria and submucosa in the soft palate, was not seen. The terms lamina propria and submucosa should be restricted to areas in which a muscularis mucosa is present. 22 references. (Pollock/*Oral Research Abstracts*)

Robertson, C. L. K., Anesthesia for hare lip and cleft palate surgery at Middlemore Hospital 1961–1965. *New Zeal. Med. J., 65,* 611–13, 1966.

From 1961–1965 there were 26 anesthesias for lip repair alone, 71 for lip and anterior cleft repair, and 116 for posterior palate repair. Atropine sulfate was given subcutaneously ½ hr preoperatively in a dosage of 0.3 mg at 0–6 months, 0.4 mg at 6–18 months, and 0.6 mg at 7–18 months. Eighty percent of the babies were free of secretions on this regime. For anesthesia an ethyl chloride ether sequence was found to be most satisfactory. Oxford tubes and the Sheila Anderson laryngoscope were used for babies under 1 yr of age. A light, even plane of anesthesia was maintained with N_2O and O_2, 4 or 3 liters/minute, ether being delivered from a Boyle's machine. Duration of anesthesia was 30-180 minutes. Recovery was supervised by trained staff, the baby lying semiprone and the tongue held forward. There was no mortality and no serious morbidity in the series. (Pearce/*Oral Research Abstracts*)

Aschan, G., Hearing and nasal function correlated to postoperative speech in cleft palate patients with velopharyngoplasty. *Acta Otolaryng. Stockh., 61,* 371–379, 1966.

Of 82 patients with cleft palates, 58 had

had previous surgery. All underwent otorhinological examination, microscopic examination of the drums, and pure-tone audiometry. After a year or more, postoperative follow-up examinations were performed, including a test of nasal airway function. Preoperative aural pathology was 78%, but only 13% had losses (30 db or more) considered likely to influence postoperative speech rehabilitation. Postoperative nasal function was considered good in 47.7% of the patients. A postopertive correlation was noted between speech result and both hearing loss and nasal function. Nasal cavity asymmetries were found responsible for postoperative asymmetries in passages lateral to the velopharyngeal flap. Nasal function appears as important as hearing for a good postoperative rehabilitation. (Kinersly/*Oral Research Abstracts*)

Linder-Aronson, S. and Larsson, K. S., Postnatal growth of the median palatine structure. A preliminary report. *Rep Europ Orthodont Soc, 41,* 79–85, 1965.

Two theories of sutural growth are that sutures grow by middle cellular layer connective tissue expansion and sutural growth is by apposition. Newborn mice up to 5½ months old were treated with tetracycline labelling on the 10th, 15th, and 20th day of life, and on the 21st day they were sacrificed. Tetracycline incorporation in newly formed bone did not show distinct growth patterns in the median palatine suture. Previous studies using Ca^{45} isotopes were more effective in showing sutural growth of the median palatine suture. (Garner/*Oral Research Abstracts*)

Jackson, J. F., Chromosomes in cleft-palate tissues. *Lancet, 1,* 1156, 1966.

Chromosome analysis of cleft-palate tissue was undertaken seeking localized mosaicism of 13–15 trisomy as a possible cause for isolated cleft palate. For 8 patients studied, the modal of chromosome number 46 and karyotype analysis of modal cells with a phenotypic sex was found in each instance. It is unlikely that chromosomal abnormalities may occur in cultures from cleft-palate tissue. (Savara/*Oral Research Abstracts*)

Murphy, J. W. and Reisman, L. E., Chromosomes in cleft-palate tissues. *Lancet, II,* 228–9, 1966.

Specimens of palatal mucosa from the cleft defects of 10 children were cultured for chromosomal analysis. A high incidence of chromosomal heteroploidy was found with excessive degree of aneuploidy. (Savara/*Oral Research Abstracts*)

Cervenka, J., Cerny, M., and Cisarova, E., Heredity of fistulae of the lower lip and their relation to clefts of the lip and palate. *Cesk Pediat, 21,* 109–15, 1966.

Genetic investigation was done in the families of 22 probands with fistulae of the lower lip. A positive family history was found in 59% of the probands. Large accumulation of clefts of the lip or palate or both of all types was assessed. In 8 families (36, 3%) neither clefts nor fistulae in the relatives of the proband could be found. There was a predominance of women over men with regard to occurrence of fistulae and clefts of all types. The segregation ratio (0.62) indicates 2 genes operating, probably 1 for clefts and the other for fistulae of the lower lip. The penetrance of the gene for fistulae in the investigated families is nearly 90% and that for clefts nearly 80%. A genetic bond was found between the factors for clefts and fistulae. The test for the bond between genes for fistulae and clefts (as 1 component) and the ABO system was positive. (Plackova/*Oral Research Abstracts*)

Pratt, A. E., The Pierre Robin syndrome. *Brit. J. Radiol., 39,* 390–2, 1966.

The association of mandibular hypoplasia, glossoptosis, and cleft palate constitutes the Pierre Robin syndrome. The necessity of careful nursing care and surgical treatment is emphasized because of the possibility of the tongue restricting the airway when the patient is supine. The etiology is unknown. The glossoptosis results from the apparent posterior displacement of the attachment of the genio-glossi muscles to the hypoplastic mandible. The tongue falls backward blocking the oral pharynx. These children should be nursed in a prone position. Surgical attempts to correct the glossoptosis early in life have generally failed. (Via/*Oral Research Abstracts*)

Fara, M., Chlupackova, V., and Hrivnakova, J., The orofaciodigital syndrome. *Acta Chir Orthop Traum Cech, 32,* 476–82, 1965.

In recent years a new congenital condition has been described in females that often accompanies the cleft palate and that is called the orofaciodigital syndrome. A 19-month-old girl had anomalous folds in the oral vestibulum, cleft of the lip and of the tongue with attached and shortened sublingual frenum, gothic palate, skull anomalies, anomalies of fingers and toes, and oligophrenia. The mother suffered from a milder form of the same disease. Chromosomal findings were normal in both mother and daughter. Each symptom should receive early surgical and conservative treatment. The relatively stable combination of individual symptoms forming the syndrome enables its easy diagnosis in early postnatal period. This is important both from the prognostic (the probability of mental defect in the affected child) and eugenic aspect (probability of further familial incidence). (Kraus/*Oral Research Abstracts*)

Koch, J. and Kovacs, Z., Uniform diagnosis in lip, jaw and palatal clefts. *Fogorv Szemle, 59,* 249–53, 1966.

Clefts occur in lips (cheiloschisis), jaws (gnathoschisis), hard palate (uranoschisis), soft palate, and uvula (staphyloschisis). Initials may be used to indicate uni- or bilateral conditions, and to indicate the affected site. The symbol "m" can be used to indicate "median". Differences in degree may be represented with numerals, 1 indicating the slightest and 3 the most pronounced. Arabic numerals are used for visible clefts, Roman ones for submucous ones. Additionally, in bilateral cheilognathouranoschisis deviation of the premaxilla must be described also. The premaxilla may be shifted anteriorly or posteriorly to normal position and to the right or left side. Finally it may display a more cranial or a more caudal position than normally. (Adler/*Oral Research Abstracts*)

Stellmach, R., Osteoplastic surgery in total cleft as prophylactic preprosthetic therapy. *Fortschr Kiefer Gesichtschir, 10,* 45–8, 1965.

A new concept in the plastic repair of complete clefts has resulted in an improved technic for dental replacement in the area of the cleft. Early treatment has certain advantages. Osteoplastic repair becomes a prophylactic: the preprosthetic form of treatment is discussed. (Author/*Oral Research Abstracts*)

Neuner, O., Secondary correction in patients with lip-jaw-palate clefts. *Osterreichische Zeitschrift fur Stomatologie, 62,* 268–282, 1965.

The author describes in a very clear and thorough article the secondary plastic measures to be performed upon the nose, the upper lip, the maxilla, the palate, the lower lip and the mandible in patients with uni- and bilateral complete clefts. He in-

troduces the different surgical procedures in the nose, namely how to elevate the flattened nasal tip and the floor of the nostril to accomplish the symmetry of the nostrils and the ala and how to lengthen the columella. Re-operation of the lip is in most of the cases simultaneously performed. The reconstruction of the philtrum and the cupid bow presents special difficulties. He describes among other methods a subcutaneous and muscular pedicled flap to form the edges and the fossa of the philtrum and at the same time the vermilion border. All the secondary corrections concerning the lip from the simple V- to Y-plasty to the visor flap from the lower lip are also described. Then he mentions the osteotomies of the maxilla and bone implantation in order to obtain a solid and well-formed alveolar ridge. At least there is a short description of the operations on the soft palate which improve speech including his own method published in 1965. (Schmid)

Perko, M., Simultaneous osteotomie of premaxilla, closure of remaining cleft and fixation of premaxilla by bone implant in older patients with bilateral lip-jaw-palate clefts. *Deutsche Zahn Munde-Kieferheilkunde, 47,* 1966.

The author describes a one-stage operation to improve the position of the premaxilla and consolidate it in adult patients with complete clefts, who have been already operated and where a remaining opening persists in the hard palate. An osteotomy is performed between the vomer and the premaxilla so that the premaxilla remains pedicled through vestibular mucosa only. The nasal mucosa layer is closed after having been properly undermined and spongious bone from the pelvis is then introduced in the cleft after having fixed the premaxilla with a cap. Then follows the closing of the oral layer. No blood supply problems arose in the six cases he operated. (Schmid)

Levkovich, A. N., Orthopedic correction of constriction of the upper jaw in congenital lip and palate clefts. *Stomatology* (Russian), *45,* 60–63, 1966.

The author analyzes the problem of deformation of the maxilla during various types of clefts. The most frequent manifestation of such deformation, the narrowing of the maxilla and the appertaining row of teeth is carried out with the help of created indexes, which enable the dividing of gravity of the deformation in two degrees. The paper presents the results of measurement of the maxilla in healthy subjects as well as in cleft individuals and informs on the mutual differences. To the correction of the discussed deformations the author constructed a special orthodontal apparatus. Better results were achieved with the extension of the maxilla in younger and particularly until now nonoperated children. (Karfik)

Chekhovsky, R. N., The blood supply of soft tissues of the osseous palate after uranostaphyloplasty with intentional resection of the neurovascular bundles. *Stomatology* (Russian), *45,* 39–42, 1966.

To test the condition of nourishment in the soft tissues of osseous palate after the uranostaphyloplasty performance with interruption of neuro-vascular bundles the author studied experimentally the above problem in 21 dogs. Further studied was the state of nourishment of the soft tissues in grafts of the osseous palate turned over the border of penetrating defect of 180 degrees with the aim of its closure. The investigation was carried out with the help of dissection and vascular X-rays. At the beginning the nourishment is ensured on account of collateral circulation from the system of ascendental palatal arteries and afterwards from the incisive artery. With the prolonged period of time since the operation was performed the number and the calibre of the collateral vessels in-

crease. The described graft turned over 180° upon a pedicle on the border of penetrating defect remains depending on the nourishment arising from the blood vessels of the basal layer of the nose. Later vessels from the area of the new vascular bed are growing into it. (Karfik)

Kramchaninov, N. F., Demin, I. N., Ginzburgh, S. L., and Popov, F. V., On the first surgical performance of the upper hare-lip cleft. *Stomatology* (Russian), *45,* 83–84, 1966.

Even if surgery for treatment of clefts was very likely performed already before the time described, the first written proof of the operation upon the lip originates in 1802 and is connected with the name of Nikita Timofeev. He completed the suture of the lip in a soldier after preliminary deprivation of the superficial layers of the cleft. The wound was healed after 13 days of time. The first modern operation on the palate was realized in 1862 by E. B. Kade from Petersburgh in a patient 17 years of age. In 1865 Fröbelius, physician of a hospital at Petersburgh, published a paper on the occurence of congenital malformations (1:1500). (Karfik)

Zausaev, V. I., and Taptap, S. L., Surgical and logopedic treatment of adults with a shortened soft palate following uranostaphyloplasty. *Stomatology* (Russian), *45,* 37–41, 1966.

There is a description of a surgical technique used by the author in eight primary and 46 secondary operated on patients. During the radical retroposition of the palate, performed with the help of interlaminarial ostheotomy, the nasal side of the mucoperiostal wall is covered with a free cutaneous graft. The latter is 4 x 6 cm of size and is sutured to a roller of gauze soaked with iodoform; the mentioned is pressed from the nasal cavity on to the palatal wall deprived of its superficial layer and then tied with knots over tufts of gauze in lateral incisions from the oral side. The authors emphasized the significance of preoperative logopedic treatment, which will substantially shorten the period of postoperative logopedic treatment. (Karfik)

Koval, A. V., The development of the palate in rats under normal conditions and with an experimental congenital cleft palate. *Stometology* (Russian), *45,* 34–36, 1966.

The author investigated the foetal development of the palate in embryos of rats under normal and experimental conditions. The results have shown that the "physiological cleft palate" in embryos of white rats exists until the 15th day of the foetal development and beginning from the 16th day the union of the palatal protuberances accomplishes. The attempt to induce the cleft palate while applying Vitamin A in a dose of 100.000 units by the help of gastric probe to the mother rats showed no union yet of the palatal protuberances even on the 17th day of the foetal life. Cortison was also applied in a dose of 2, 5 mg for the induction of cleft palate. Six to eight rat puppies thrown with cleft have been alive eight to 12 hours, thus proving the capability of life in those artificially malformated creatures. (Karfik)

Tsuji, T., Development of the maxillary bone and dental arch in cleft lip and/or palate subjects. *J. Japanese Stomatological Society, 15,* 467–488, 1966.

In order to get an index in treating the deformities of the maxillary bone and dental arch of cleft lip and/or palate cases, the status of the deformity and the effect of the palatal operation were studied. The subjects were consisted of 89 cases with unilateral cleft of lip-alveolus-palate, 25 with unilateral cleft of lip-alveolus, 22

with cleft of hard and soft palate, all postoperative, and 40 normals. The result of each experimental group was compared with that of the normal group. Cases with unilateral cleft of lip-alveolus-palate were subclassified according to the time of palatal operation, and the results were compared among the groups. The gnathostatic model of each subject was measured at fourteen points to analyze the maxilla three-dimensionally. The author concluded that the deformity was found mainly at the maxillary alveoral bone and the base of the alveolar bone. He also stated that the deformity was caused by the fact that cleft of the palate itself restrained maxillary development, and that postnatal factors, such as palatal operation, influenced little. He suggested that active plastic procedures applied at the early age of life is necessary to treat the deformities. (Machida)

Moriya, K., The palatal growth of dogs with surgically-produced palatal cleft. *J. Oto-rhino-laryng. Society of Japan, 69,* 1738–1749, 1966.

This study was performed to investigate the effects of plastic surgery on the growth of surgically-produced cleft palates of dogs. In the first part of the experiment, clefts of hard palate were surgically produced in eight young dogs. In half of them the clefts were covered by full-width mucoperiosteal flaps. In the other four medial edge of the flaps had been removed and they were displaced medially to cover the cleft. Ten months later, no remarkable maldevelopment of the maxilla was found in the former group, but maldevelopment of the maxilla was found in the former group, but maldevelopment on the operated side was observed in the other when compared to the control group of five dogs. Further, autograft of the cartilage to the palatal cleft was found very effective in the prevention of the maldevelopment in four dogs. Application of silicon rubber, however, was not effective. (Machida)

Winters, H. J., Some historical remarks on congenital short palate. *British J. Plastic Surgery, 19,* 308–312, 1966.

The author points out that the stigmata associated with clefts of the palate were described and analyzed in early literature rather than the etiology of the clefts themselves. The earliest report of a submucous cleft of the hard palate was presented by Roux in 1822. There follows a survey and associated speech defects. (MacLennan)

Hage, J., Millard's island flap in secondary lengthening of cleft soft palates. *British J. Plastic Surgery, 19,* 317–321, 1966.

In 1962 and 1963 Millard first published his neuro-vascular pedicle island flap procedure for the lengthening of the short soft palate. Hage is now reporting on his results arising from this method. The indications for secondary lengthening of the already repaired soft palate are listed as follows. a) Direct inspection of the velum and visual judgement of its length and motility, in cases of rhinolalia, b) speech evaluation by the speech therapist, c) x-ray examination of the moving velum, and d) intelligence test by the psychologist. Hage discusses three cases and states that the operation undoubtedly has merit. (MacLennan)

Wallace, A. F., Esser's skin flap for closing large palatal fistulae. *British J. Plastic Surgery, 19,* 322–326, 1966.

This describes the case of an inferiorly based naso-labial skin flap which is tucked into the mouth, turned through 180° and inserted through a small buccal incision to close a palatal fistula. The indications for its use are: a) the fistula is too large to close with mucoperiosteal flaps, or these

have been tried and have failed, b) the patient is edentulous, or has a gap between the teeth through which the skin flap can be introduced, c) the upper alveolus has atrophied and the upper denture, in the absence of adequate suction, either will not stay up or slips inside the mouth, d) the beard area does not extend higher in the cheek than the level of the palate, and e) the patient is prepared to accept a scar in the naso-labial line. Three cases are described. (MacLennan)

ANNOUNCEMENTS

The Lancaster Cleft Palate Clinic is presenting a seminar entitled "Habilitation/Rehabilitation of Oral-Facial-Communicative Disorders" October 23–27, 1967. Graduate trainingship awards from the National Institute of Dental Research are available to qualified individuals in the fields of medicine, dentistry, speech, and audiology. The award pays registration and tuition fees, transportation, and perdiem costs for the five days at the Lancaster Clinic. Address all inquiries to R. T. Millard, Program Director, Lancaster Cleft Palate Clinic, 24 N. Lime Street, Lancaster, Pennsylvania 17602.

USPHS traineeships sponsored by the National Institute of Dental Research are available for qualified candidates seeking a Ph.D. degree in Genetics. Predoctoral stipends begin at $2,400 and postdoctoral stipends at $5,000 per year plus $500 dependency allowance. Areas of specialization offered are Molecular and Microbiological Genetics, Cytogenetics, Physiological and Developmental Genetics, Population and Quantitative Genetics, and Human Genetics. Special training in the genetic aspects of the orofacial area is available. For further information, write Carl J. Witkop, Jr., Chairman, Human and Oral Genetics Division, 516 Owre Hall, School of Dentistry, University of Minnesota, Minneapolis, Minnesota 55455.

The Epidemiology Branch at the Dental Health Center of the U.S. Public Health Service, located in San Francisco, announces two vacancies on its staff. One of these vacancies is for an Epidemiologist (Physician) to plan and direct the epidemiologic investigations of birth defects conducted by the Epidemiology Branch. A Doctor of Medicine degree and advanced training and experience in epidemiology are required for this position; a background of specialized training and experience in pediatrics and/or genetics is preferred but not mandatory. The other vacancy is for a Geneticist to design and conduct research dealing with the genetics of cleft lip and palate and related birth defects, and provide consultation to other investigators of the Epidemiology Branch. Salaries are open (to be based upon the qualifications of the individual as detemined by the U.S. Civil Service Commission), with periodic increases. Both of these vacancies will be filled through Federal Civil Service appointments: relevant benefits and standards will apply, with non-discrimination in employment. An application form SF-57 (obtainable from any Post Office or federal agency)

should be submitted to: Sylvia Hay, Dental Health Center, 14th Avenue and Lake Street, San Francisco, California 94118.

Time and Place, ACPA

1968—April 25, 26, and 27 ..... Miami Beach at the Deauville
1969—International Congress, April 14, 15, 16, and 17 ..... Houston at the Shamrock
1970—April 16, 17, and 18 ..... Portland at the Hilton
1971—date unspecified ..... Pittsburgh
1972—date unspecified ..... Salt Lake City

The Editors of *CPJ* announce the appointment of Dr. Betty Jane McWilliams as Editor for Book Reviews. Please correspond with Dr. McWilliams, Salk Hall, University of Pittsburgh, regarding either new books which should come to her attention or a willingness to assist her in this very important activity of *CPJ* and the Association.

The Fourth International Congress of Plastic Surgery, organized by the Italian Society of Plastic and Reconstructive Surgery, will be held at the Cavalieri Hilton Hotel, Rome, October 8 to 13, 1967. President: Prof. Gustavo Sanvernero-Rosselli; General-Secretary: Prof. Vittorio Bergonzelli. Full and Corresponding Members of the various Societies related to the International Confederation for Plastic Surgery and all Surgeons having a scientific or professional interest in the problems and progress of plastic and reconstructive surgery are cordially invited. All communications and inquiries of those who expect to attend the Congress should be addressed until February 1st, 1967 to the Secretary-General, Prof. Vittorio Bergonzelli, Via Lamarmora 10—Milano (Italy). Hotel registrations should be made directly with the Wagon-Lits/Cook, Via Gradisca 29—Rome (Italy), the official travel Agent for the Congress.

The Editors of *CPJ* have accepted with regret the resignation of Dr. Kenneth R. Lutz as Abstracts Editor (domestic) and announce the appointment of Dr. J. Douglas Noll to that position. Additional participation in preparing abstracts is needed; please notify Dr. Noll, Purdue University, Lafayette, Indiana, about your willingness to assist in this very important activity of *CPJ* and the Association.

Recently announced grant funds amounting to $375,000 over a five year period from the Vocational Rehabilitation Administration enables the establishment of the center at Roswell Park in association with the School of Dentistry of the State University of New York at Buffalo. Director of the center will be Norman G. Schaaf, D.D.S., senior cancer research dental surgeon at Roswell Park and assistant professor of prosthodontics at the State University School of Dentistry.

The Cleft Palate Center at Montefiore Hospital, New York City, presented its Annual Speech Seminar on Friday, May 5th, 1967. The theme of this full day meeting was "Speech, Hearing and Language Development in Cleft Palate Children".

Honorary Membership in the American Cleft Palate Association was presented to Dr. Francis A. Arnold, Jr., Bethesda, Maryland, during the recent ACPA annual meeting in Chicago. The citation, prepared and presented by Dr. Sam Pruzansky, is as follows.

The last time we met in Chicago was in 1950. The organization was relatively unknown in those days, the membership too small and the treasury too poor to command a meeting room such as this. We were dependent on the hospitality of the local universities for our meeting place. We have come a long way since 1950 and many individuals have contributed to the growth and prestige of this organization.

The two men we honor today, each, in his own way, has left an indelible mark of quality on this association. It was my privilege to serve under both of them and I am grateful for their guidance during the formative years of my professional career. Therefore, I am most appreciative of the opportunity to participate in a public tribute that honors their achievements.

In seeking an appropriate introduction for Dr. Arnold, I was reminded of a lesson Dr. Koepp-Baker taught me. In the early days of our working together, I had grown impatient with administrative matters which were frustrating my research. His counsel at the time was to compare me, the investigator, to the sailor who ventured into uncharted waters to explore the unknown. But, as he put it, where would I, the sailor, be if someone had not built and provisioned a seaworthy boat for my explorations.

Francis Arnold is that kind of a boat builder. In fact, he launched a veritable armada. Everyone in this association who has had the advantage of a training fellowship, a research grant, or program project supported by the National Institute of Dental Research, has reason to be grateful to this man. As Director of the National Institute of Dental Research, he marshalled the forces of public and scientific opinion to petition the Congress to increase its support for research in cleft palate. During his tenure as Director, extramural support for cleft palate research grew from $50,000 in 1953 to $2,300,000 in 1966, an increase of 46 fold. I might add that this figure does not include several programs initiated by N.I.D.R. and later absorbed by other institutes.

If I described Dr. Arnold as a successful boat-builder, I have told you only a part of his many accomplishments. He has also earned his stripes as a sailor. His personal research interests have ranged from oral pathology, bacteriology, epidemiology of dental caries to dental fluorides. He has implemented his success in the laboratory as a professional advocate pleading the cause of fluoridation before government bodies in this country and abroad.

His honors and awards have been numerous. These include an honorary Doctor of Science Degree from Western Reserve University, the Callahan Award, the William Gies Award and the Trendly Dean Award—all of which acknowledge his major contributions to the advancement of public health throughout the world.

His present position is that of Assistant Dental Surgeon and Chief Dental Officer of the Public Health Service.

Dr. Francis A. Arnold, Jr., it is my pleasure to present you with this certificate conferring upon you honorary membership in the American Cleft Palate Association in recognition of your outstanding role in advancing the goals of this association for the improvement of care for patients with facial clefts and in the continued search for preventive measures.

About The 1969 International Congress on Cleft Palate . . . . . .

The Secretariat is hard at work. We held our second face-to-face, full-day meeting on April 11 in Chicago. At that time we continued to develop the broad outlines of the plans for the Congress. We plan to make use of this page to report on our progress and to solicit your suggestions and help. We are hopeful that we will be able to involve a great many of you at some point along the way.

At the moment the Assistant Secretaries General need some help as indicated below:

1) Assistant Secretary General for Public Relations and Liaison

Dr. Betty Jane McWilliams is in the process of developing a list of individuals and societies in foreign countries who might be interested in receiving material on the Congress. She also needs to know of meetings of societies interested in the cleft palate problem which will be held in foreign countries. In addition, she would like to know if you are planning to attend any of the meetings in foreign countries. Please send your suggestions to her—now—at the following address:

Betty Jane McWilliams, Ph.D.
Cleft Palate Research Center
355 Salk Hall
University of Pittsburgh
Pittsburgh, Pennsylvania 15213

2) Assistant Secretary General for Convention Affairs

Dr. Donald Warren has already begun to plan for the commercial and scientific exhibits. In order to make necessary plans it is our hope that we can have a firm commitment from exhibitors concerning their participation by the time of our next annual convention in Miami in April, 1968. We are particularly interested in having an outstanding group of scientific exhibits dealing not only with cleft lip and palate and related problems but also with the general fields represented by the Association's membership. If you are planning to exhibit, or if you know of persons or societies that might be interested in preparing an exhibit for the Congress, please contact Dr. Warren at the following address right away:

Donald W. Warren, D.D.S., Ph.D.
School of Dentistry
University of North Carolina
Chapel Hill, North Carolina 27514

3) Assistant Secretary General for Convention Program

Dr. Peter Randall and his committee are developing plans for a scientific program which will cover a wide range of topics of interest to the specialist in cleft palate. The program format will continue the Association's tradition of emphasis on interdisciplinary informational exchange. However, in view of the unique opportunities for international communication presented by the Congress, it will also feature some intradisciplinary sessions built around the main plenary sessions.

Dr. Randall has already solicited suggestions from specialists in foreign countries. The responses have been enthusiastic and have included many suggestions of specific topics to be included on the program. He now asks you for your program suggestions including the names of persons from foreign countries that you recommend be invited to make major presentations. Send your suggestions to Dr. Randall at the following address:

Peter Randall, M.D.
3400 Spruce Street
Philadelphia, Pennsylvania 19104

It is our dream to make this Congress a landmark in the development of this Association as it moves to a secure place of leadership in the world-wide community of specialists concerned with the problem of cleft lip and palate. The Secretariat pledges to do its best. With your active support we can be confident of success.

D. C. Spriestersbach
Secretary-General
1969 International Congress on Cleft Palate
The Graduate College
The University of Iowa
Iowa City, Iowa 52240

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Michael L. Lewin, M.D. (1968) New York, New York

William H. Olin, D.D.S. (1968) Iowa City, Iowa

Sheldon W. Rosenstein, D.D.S. (1969) Chicago, Illinois

Joanne D. Subtelny, Ph.D. (1969) Rochester, New York

Changes of address, subscriptions, and all correspondence pertaining to the Association should be addressed to the Secretary: Dr. Kenneth R. Bzoch, Department of Communicative Disorders, College of Health Related Professions, University of Florida, Gainesville, Florida 32601.

Manuscripts and related correspondence should be addressed to the Editor: Dr. Hughlett L. Morris, Department of Otolaryngology, University Hospitals, Iowa City, Iowa 52241.

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1967–1968

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Donald T. Counihan, Ph.D.
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Richard M. Adams, D.D.S.
Ralph O. Coleman, Ph.D.
Peter Randall, M.D.

Association Finances (ad hoc)

Gene R. Powers, Ph.D. (Chairman)
Lester M. Cramer, M.D.
Charles R. Elliott, Ph.D.
Stuart I. Gilmore, Ph.D.
Haskell Gruber, D.D.S.
Robert F. Sloan, Ph.D.

AMERICAN CLEFT PALATE ASSOCIATION

Information for Applying for Membership

The Association was organized in 1940 with the following objectives:

1. To encourage scientific research in the causes of cleft lip and palate.
2. To promote the science and art of rehabilitation of persons with cleft palate and associated deformities.
3. To encourage cooperation among, and stimulation of, those specialists interested in the rehabilitation of cleft palate persons.
4. To stimulate public interest in, and support of, the rehabilitation of cleft palate persons.

The Association publishes the *Cleft Palate Journal* quarterly. The Association's Annual Meeting includes sessions devoted to the presentation of papers in medicine, dentistry, speech, and related areas concerning the problems in individuals with cleft lips and palates.

To be qualified as a member of the Association, the applicant must be in good standing in the professional organization representing his major or clinical orientation. He must be accredited in his professional field, and he must have displayed an interest in the rehabilitation of cleft palate persons. The above statement has been interpreted to mean that those applicants trained in Speech Pathology and Audiology must hold at least basic certification from the American Speech and Hearing Association at the time of the application.

The person shown as sponsor on the application must be a member of the Association and must write a letter attesting to the fact that the applicant is eligible for membership.

Send applications or requests for further information to:

DR. VERNER V. LINDGREN
Chairman for Membership
American Cleft Palate Association
808 Medical Arts Building
Portland, Oregon 97205