BOOK REVIEWS

DOBZHANSKY, THEODOSIUS, *Heredity and the Nature of Man.* New York: Harcourt, Brace & World, Inc., 1964. Pp. 179. $4.75.

In this book one of the world's leading geneticists deals with certain perplexing questions concerning the human species. The presentation of Professor Dobzhansky, in five relatively short chapters, is a model of scholarship, parsimony, and clarity of presentation. Questions of the origin of life, the nature of individual variation, and the interaction of heredity and environment are dealt with in such a manner that the thinking of this eminent scientist is accessible to all.

The book is based on a series of lectures the author delivered in 1963 and 1964 under the auspices of The American Association for the Advancement of Science. These public lectures, and the book, have the purpose of increasing the awareness of the public to vital scientific matters, particularly those concerned with certain humanistic aspects of genetics. Throughout the book Professor Dobzhansky demonstrates his concern that the scientist be more diligent in communicating the achievements of science to the public. This objective has been achieved in this book in an exciting and winsome way.

Chapter One, "The Nature of Heredity", is devoted to an interesting discussion of the biology of heredity. Modern understanding of the components involved in heredity are analyzed and topics such as the following are included: "Chromosomes and Genes", "Locating the Genes in the Chromosomes", "Chromosome Chemistry", and "Genes and Proteins". The chapter ends with a condensed discussion of a scientifically based hypothesis for the origin of life.

Chapter Two provides a particularly interesting presentation on the variation of human natures. The genotypic and phenotypic basis for individual differences are discussed. The dynamic character of the influencing interaction of the genes and the environment on each other is stressed In concluding this chapter, the author discusses the potential efficacy of engineering the environment of humans and/or of controlling the components of genetic transmission for purposes of enhancing our social order.

Chapter Three is concerned with the differing characteristics among races and species and the implication of these differences for the doctrine of human equality. A dispassionate scientific presentation is made of the many nuances of the biology of species and races, gene exchange, and gene frequencies. The latter portion of the chapter considers certain environmental, personal, and social variables of race.

Chapter Four, "Genetic Load and Radiation Hazard", focuses on the effects on human heredity of genetic mistakes or mutations caused by nu-

clear fallout and X-ray. Various types of mutations and their causes are considered.

Chapter Five is predominantly a humanistic presentation of the implications of the science of genetics on a man and his society. Consideration is given to possible techniques for improving the human species through artificial selection or by planned breeding. The topic of natural selection is particularly well presented in this chapter.

The reviewer found this book to be highly stimulating and recommends it to those who are interested in the subtleties of genetic and environmental interaction.

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ABSTRACTS

Marienfeld, C. J., Silberg, S. L., Menges, R. W., Crawford, W. T. and Wright, H. T. Multi-species study of congenital maliformations in Missouri. *Missouri Medicine, 64,* 230–233, 1967.

Congenital malformations rank second as cause of death in children under one year of age. With U.S.P.H. grant support, Missouri has gathered data covering the 12 years, 1953–64. There were 8,407 cases with at least one anomoly, an incidence rate of 7.4 cases per 1,000 live births. Listed by frequency, cleft lip and palate were first with 2,242 cases; club foot was second with 1,482 cases; there were 817 cases of polydactyly; spina bifida was next with 712 cases. In addition to the human study noted, Missouri has begun a survey of congenital defects in domestic animals. Study since 1957 of cottontail rabbits' reproductive rates in selected samples indicates an expected fetal resorption rate of 5%. Departures from this anticipated level will be suspect as to environmental influence. The overall goal is to study prevention and control of congenital malformations. (Shanks)

Tillman, Hide H., Mandibulofacial dysostosis. *Oral Surgery, Oral Medicine* and *Oral Pathology, 23,* 638–647, 1967.

Three cases that have undergone very thorough examinations are presented. The

patients were seen by specialists from many professional disciplines and although the disorders are easily diagnosed the rehabilitation presents a challenge. The three cases in this instance did not present a hereditary pattern. Mandibulofacial dysostosia is considered to be hereditary, but in some instances this expressivity is reduced. (Berkowitz)

Hollender, L., Enlarged parietal foramina. *Oral Surgery, Oral Medicine,* and *Oral Pathology, 23,* 447–453, 1967.

A roentgenographic study of a family of thirty-two persons was undertaken when a 7 year old and his father both with cleft lip and palate were found also to have enlarged parietal foramina. The defects appeared on anterior-posterior projections as two separate areas in the parietal bones connected to the sagittal suture. Twelve members of the family came in for roentgenographic examination while the others were only questioned. In all, thirteen members (ten males and three females) in four generations were affected. As cleft lip and palate were seen in only two family members, it is doubtful whether it could be connected genetically with the enlarged parietal foramina, and must be considered as a coincidence. (Berkowitz)

Partridge, L., Signal-handling characteristics of load-moving skeletal muscle. *Amer. J. Phys., 210,* 1178–1191, 1966.

Modulated pulse rate signals were used to stimulate circulated cat triceps sural muscle-nerve preparations attached to inertial loads of physiological size. Effects of load size and signed frequency on movement amplitude and timing showed that load position, not muscle force, is the value most nearly represented by nerve pulse rate. This emphasizes the importance of the internal feedback mechanisms of the muscle that makes force output dependent on load movement as well as on stimulus rate. It was also found that once a signaled position is attained, small downward fluctuations of nerve impulse rates have relatively little effect on this position. It was also demonstrated that the dynamic response of muscle introduced signal lags of from slightly below 100 to over 1000 msec. Further, at higher physiological frequencies, the muscle response to modulation of pulse rate is greatly attenuated. These complex signal-handling characteristics of muscle are of such a magnitude as to be of major importance in the quantitative analysis of motor activity control. (author's summary)

Hirano, M., Takeuchi, Y., and Hiroto, I., Intranasal sound pressure during utterance of speech sounds. *Folia Phoniatrica, 18,* 369–381, 1966.

Direct sound pressure recordings of 60 Japanese monosyllables (CV type) were obtained from eight normal, native adult subjects. Intranasal sound pressures associated with these productions were transduced by a probe-tube microphone inserted 2 cm into the nasal passage, and recorded on magnetic tape. Simultaneously, dB (SPL) values of the sound pressures were obtained from an attenuator-VU meter. Overall sound pressure of the utterances was recorded by a second microphone-tape recorder system, this microphone being 25 cm in front of the subject. Results included the following: mean intranasal sound pressure for the samples ranged from 21.5–31.8 dB across the subjects; mean intranasal sound pressure for the five Japanese vowels ranged from 21.8–32.4 dB and ranked the vowels in increasing order as /O, A, E, U, I/; mean intranasal sound pressure for the nasals /m, n/ was greater than all other consonants which in turn were ranked in descending order as voiced fricatives, semi-vowels, voiced plosives, voiceless fricatives, and voiceless plosives. Discussion of the results by the authors suggested that intranasal sound pressure varies with degree of velopharyngeal coupling, amount of internal impedence of the vocal tract, phonetic en-

vironment, and individual difference. (Platt)

Garner, L. D., Cephalometric analysis of Berry-Treacher-Collins syndrome. *Oral Surgery, Oral Medicine,* and *Oral Pathology, 23,* 320–327, 1967.

A longitudinal cephalometric analysis was made of a single case over a 7 year period. The results are described with emphasis placed on the abnormal mandibular growth pattern to explain the worsening of the facial profile with time. (Berkowitz)

Eidelman, E., Chosak, A., and Wagner, M. L., Orodigitofacial dysostosis and oculodentodigital dysplasia. *Oral Surgery, Oral Medicine* and *Oral Pathology, 23,* 311–319, 1967.

One case of orodigitofacial dysostosis with a cleft of the hard palate and two cases of a brother and sister with oculodentodigital dysplasia are described and compared. The boy had a repaired cleft of the lip and palate while the sister showed no evidence of being cleft. Although no definite hereditary pattern has previously been established, the authors suggest that since the occurrence of this condition was found in two siblings, a genetic origin does exist such as is found in orodigitofacial dysostosis. (Berkowitz)

Bracchi, F., Decandia, M. and Gualtierotti, T. Frequency Stabilization in the Motor Centers of Spinal-Cord and Caudal Brain Stem. *American J. Physiol., 210,* 1170–1177, 1966.

In man, cat, and dog the frequency of discharge of the single motor unit is almost completely independent of the mechanical tension developed. The stabilized frequency is significantly different according to the position of the motor nuclei along the cerebrospinal axis, increasing from the caudal to the cranial end. This frequency gradient appears to be inborn. The recurrent inhibition and the silent period have different durations in the various muscle groups. A correspondence has been found between the frequency of discharge of the motor unit and the reciprocal of recurrent inhibition. It is concluded that the stabilization in frequency is characteristic for all motor units and may depend on a negative feedback mechanism based on recurrent inhibition (authors' summary)

Hughes, L. V., Furstman, L., and Bernick, S., Prenatal development of the rat palate. *J. dent. Res., 46,* 373–379, 1967.

This study of prenatal rat palates was designed to provide more basic information on normal palate development. This information will be useful in future studies. Fetuses were obtained at 16–21 days. Emphasis was placed on the elevation of the palatal shelves, fate of midpalatal epithelial lamina, and the formation of the bony palate. (Swoope)

Chaudhry, A. P., Schwartz, S., and Schmutz, J. A., Effects of cortisone and thalidomide on morphogenesis of secondary palate in A/Hej mice. *J. dent. Res., 45,* 1767–1771, 1966.

This study investigated the effects of varying concentrations of cortisone and thalidomide administered intraperitoneally. The drugs were administered on the eleventh day of gestation. The results showed that increased doses of cortisone (10 mg.) produced 83.2 percent induced cleft palates. Teratogenicity of thalidomide was not demonstrated by this study. The effects of drugs on palatogenesis are significant; both to obtain numerous specimens for study, and also for extension of information to possible etiologic factors in humans. (Swoope)

Chaudhry, A. P., Schwartz, S., Penn, J., and Schmutz, J. A., Effects of thyroxin on palatogenesis, fetal resorptions and fetal weights in A/Jax mice. *J. dent. Res.,* 1772–1774, 1966.

This study investigated the effect of thyroxin and cortisone, individually and in combination, when administered by intramuscular injection. The drugs were administered on the eleventh day of gestation. Cortisone alone resulted in 89.2 percent cleft palate incidence. The combination of cortisone and thyroxin did not give significantly different results than cortisone alone. The administration of thyroxin alone did not appear to alter normal palatogenesis. The combination of cortisone and thyroxin did result in significantly higher incidence of fetal resorptions, reduction of fetal weights per litter, and reduction in average number of fetuses. (Swoope)

Anderson, J. H., Furstman, L., and Bernick, S., Postnatal development of the rat palate. *J. dent. Res., 46,* 366–372, 1967.

Postnatal development of rat palates was investigated and correlated with development and eruption of the maxillary first molar teeth. Test animals were sacrificed at various lengths of time, from 5–200 days, and palatal sections made. This study provides basic information which will be useful in future studies. (Swoope)

Thompson, Margret, Genetic counseling in clinical pediatrics. *Clinical Pediatrics, 6,* 199–209, 1967.

The author describes in great detail the importance of teaching parents the basic genetics needed for them to understand their problem. The importance of good medical records to gather accurate family history is stressed. The patterns of inheritance is thoroughly described with a careful discussion on chromosomal disorders. Pedigree analysis, the treatment in genetic diseases, and the detection of carriers is reviewed. The author reasons that the family physician is in the best position to answer genetic questions, rather than a consultant who is a stranger. (Berkowitz)

Sugar, H., Thompson, J. P., and Davis, J. D., The oculodento-digital dysplasia syndrome. *Amer. J. Ophthamology, 61,* 1448–51, 1966.

A case report of a 20 year old Caucasian female with the characteristic physical appearances of this syndrome. No cleft of the palate, however poor speech due to "broad insertion of palatoglossus muscles and relative mobility of the soft palate". Micrograthic. No hearing loss. Chromosomal studies showed no abnormalities in number or morphology. (Berkowitz)

Piclou, W. D., Non-surgical management of Pierre Robin syndrome. *Arch. Dis. Child., 42,* 20–23, 1967.

Rather than using any of the established surgical techniques to establish a patent airway, the author treated 10 cases over a two year period with an acrylic obturator. The primary object of the obturator is to prevent the tongue from falling back into the pharynx. This is done by the addition of an extension which curves distally and downward from the distal border of the obturator. The additional benefits are that it aids in bottle feeding and improves the neuromuscular condition of the tongue. The author does mention that retching can occur in some cases, which necessitates some removal of the distal extension. An illustrative case history is given where the obturator was inserted 12 days after birth and discarded 6 months later. (Berkowitz)

Dodge, J. A., and Kernohan, D. C., Oral-facial-digital syndrome. *Arch. Dis. Child., 42,* 214–219, 1967.

The authors describe five patients with OFD Syndrome with comments on the clinical and genetic features of the condition. Four of the cases consisted of a mother and her three daughters. They emphasize the considerable variability in the clinical features of this syndrome. None of the reported cases had evidence

of a cleft palate. They conclude that the inheritance of the OFD Syndrome is not clear and question the acceptance of trisomy as the causeative factor and suggest instead the importance of an x-linked dominant gene. (Berkowitz)

Buran, D. J. and Duval, A. J., The oto-palato-digital (OPD) syndrome. *Arch. Otolaryng., 85,* 394–399, 1967.

Three male siblings with oto-palato-digital syndrome are discussed. This syndrome was first described by Taybi in 1962 as generalized skeletal dysplasia with multiple abnormalities. The most striking features of the patients presented were deafness, cleft palate, and digital anomalies. All three had clefts of the soft palate and broad distal phalanges of the fingers and toes, with partial webbing of some digits. Some degree of frontal bossing and hypertelorism was also present. Audiological studies revealed bilateral hearing loss, of varying degree in the three patients, which was primarily conductive in type. Exploratory tympanotomies were carried out in two of the siblings, revealing thickened, abnormally shaped ossicles, mobilization of which failed to produce any significant improvement in hearing. The children were apparently of low intelligence, although the authors felt that this may have been merely retardation due to the hearing deficiency. Two of them were fitted with hearing aids and their progress was to be followed. (Barnes)

Bartuska, Doris, Genetic counseling. *Clin. Obstet. Gyn., 9,* 699–706, 1966.

A prime question in the thoughts of almost every woman sometime during her pregnancy is whether or not the child she is carrying will be normal. This question is of even more importance to her if she has previously had a deformed child or if some member of her family has a congenital deformity. Until recently, about all the physician could do was to give the parents some sort of statistical figure regarding the possibility of a defect appearing in future offspring. Now, however, new concepts and new laboratory procedures have brought the field of medical genetics to a higher level of knowledge. New chromosomal abnormalities have been defined by the cytogeneticist and practical methods for detecting carriers of inherited metabolic diseases have been discovered by the biochemist. However, as more information becomes available, parents are becoming more exacting with their questions, wanting to know what the defect is, how it came about, the liklihood of transmission, the effect of external influences, and what treatment is available should a deformity occur. The author discusses the various steps which should be taken in the initial evaluation of the deformed child and his family history, and mentions the possibility of a specifically trained professional counselor who would work as a part of the medical team to collect and organize data from the family history and help correlate this with the clinical and laboratory findings. (Barnes)

Chamberlain, J. G., Effects of acute vitamin replacement therapy on 6-aminonicotinamide induced cleft palate late in rat pregnancy. *Proc. Soc. exper. Biol. Med., 124,* 888–890, 1967.

Injection of the pregnant rat with 6-aminonicotinamide (a niacin antimetabolite) produces cleft palate in 100% of the progeny. The author investigated the protective effect of nicotinamide administered before, simultaneously, and after injection of 6-aminonicotinamide. If nicotinamide was injected within two hours before, simultaneously, or within two hours after 6-aminonicotinamide injection, the occurrence of cleft palate was prevented. Nicotinamide administered 12–24 hours before or 2–72 hours after 6-aminonicotinamide was ineffective in preventing cleft palate. It is concluded that

he teratogenic effect of the antimetabolite, which are probably produced by biochemical abnormalities of pyridine nucleotides, is not reversed quickly by nicotinamide. (Weeks)

Ferm, V. H., Congenital malformations induced by dimethyl sulphoxide in the golden hamster. *J. embryol. exp. Morph., 16,* 49–54, 1966.

The author demonstrated the teratogenic effect of a single injection of dimethyl sulphoxide into a pregnant hamster on the eighth day of gestation. Fetal malformations were evident by the eleventh day of gestation when dosages exceeded 2500 mgm/kg. The most frequent abnormality was exencephaly. Clefts of the lip and palate were observed but no incidence recorded. The cause of teratogeny associated with dimethyl sulphoxide administration is unknown. (Weeks)

Tolarova, M., Havlova, Z., and Ruzickova, J., The distribution of characters considered to be microforms of cleft lip and/or palate in a population of normal 18–21 year old subjects. *Acta chir. Plasticae, 9,* 1–14, 1967.

This work is part of a research program to aid in clarifying the complex problems of microforms of clefts. A total of 1189 Prague college students were examined for signs which they considered to be microforms. Major emphasis was placed on variations of the uvula and were classified on the basis of presence or absence of clefts or septae of the uvula and combinations thereof. Their grouping gave a general picture of the distribution of three characters in a normal adult population and the frequency distribution compared favorably with results in the literature. An attempt will be made to compare frequencies in this group with those in a cleft population. (Ashley)

Subtelny, J. D., Orthodontic treatment of cleft lip and palate, birth to adulthood. *Angel Orthod., 36,* 273–292, 1966.

Variation is the rule in Cleft Palate, and each case must be evaluated on an individual basis. Records should be made as soon after birth as possible to evaluate changes occurring with time and growth. The orthodontic repositioning of parts before lip surgery is described. At the time of lip repair, bone grafting in the alveolar region is occasionally performed. The advantages and disadvantages of this procedure are listed, and its effect on speech is analyzed. Displaced alveolar segments should be repositioned after the eruption of the deciduous teeth. This will provide the potential for more normal alveolar growth, and aid facial appearance and speech development. Additional orthodontic treatment during the time of the transitional and permanent dentition is usually necessary. Bone grafting procedures may be indicated after the final positioning of the permanent teeth. (Luban)

Straith, R. E., and Lawson, J. M., Surgical orthodontics: a new horizon for plastic surgery. *Plastic reconstr. Surg., 39,* 366–372, 1967.

Surgical repositioning of tooth bearing portions of the maxilla is detailed in several cases whose time or cirumstances led to unwillingness to await conventional orthodontic measures. Loss of teeth did not occur and sensation appeared to return. While not directly related to the deformities in the cleft patient's dentition, the problems presented here are not too dissimilar. The success reported by the authors in these adult patients may be taken as an encouragement to a more aggressive approach in the cleft field. (Cosman)

Schmidt, E., Entwicklung und gegenwärtiger Stand der Knochenplastik

in der Spaltchirurgie. *Acta chir. Plasticae, 9,* 15–24, 1967.

Children with severe clefts were operated on by the same surgeon using the same surgical procedure, both with and without implantation of bone grafts. In bilateral clefts bone plasty in particular is the condition for a satisfactory development of the medial parts of the face, if the premaxilla is left in its forward displacement, i.e., no retroposition either by surgery or orthopedic treatment, or spontaneously by pressure of the lips, will take place. Only stabilization of the premaxilla makes possible orthopedic regulative measures in the region of the premaxilla. The recently effected closure of the palatine cleft by bone meets favorable conditions for later lengthening of the palate, which is urgently required in many cases. Based on a stabilized premaxilla, perhaps after lengthening the nasal airway, the nose too can be formed and supported by a cartilaginous implant. Further reference is made to experiments with simultaneous transplantation of cartilage and not yet ossified parts of the os coxae. (author's summary)

Rosenzweig, S., Psychological stress in cleft palate etiology. *J. dent. Res. 45,* 1585–1592, 1966.

Experiments with mice suggest that psychological stress is a cause of cleft palate. Almost anything done to the mice seemed to have some teratogenic effect. The cleft palate percentage was low in comparison with mice treated with Cortisone, but compared favorably with those given injections of A.C.T.H. (Luban)

Rosedale, R. S., Pharyngeal flaps. *Eye, Ear, Nose, Throat, 46,* 470–478, 1967.

The author has presented an historical background for the use of pharyngeal flaps to obtain intelligible speech as well as an outline of indications, contraindications, actions thereof and a discussion of the types of flaps. The merits and disadvantages of various techniques are discussed. This article gives a good discussion of the philosophy of pharyngeal flaps, but does not delve more than superfically into the actual techniques of the procedure. (Gregg)

McNeill, P. A., Experiences with island flap palate surgery. *Arch. Otolaryn., 85,* 75–77, 1967.

The author has presented a paper outlining the criteria for successful repair of a cleft palate defect, development of operative procedures and a discussion of operative procedures. The actual techniques of surgery are discussed in considerable detail. There are reported no results of the actual treatment. (Gregg)

Massengill, R., Jr., Quinn, G. W., and Pickrell, K. L., Symmetric and asymmetric movement of pharyngeal flaps and the relationship to speech. *Plastic reconstr. Surg., 39,* 373–375, 1967.

Eight patients with inferiorly based pharyngeal flaps were studied by placing radiographic marker dots on the highest point of the surface of the right and left sides of the flap. Cephalometric procedures were then employed to assess the vertical movement of each side during phonation relative to a skull reference line. The degree of asymmetric motion, i.e., difference between the two sides, was correlated in general with the degree of nasality determined by three speech pathologists who rated tape recordings of the patients involved. (Cosman)

Massengill, R., Early diagnosis of abnormal palatal mobility by the use of cinefluorography. *Folia Phoniat., 18,* 256–260, 1966.

Employing a standard grouping of units to obtain cinefluorographic films, the author illustrates the recognized advan-

tages of this diagnostic technique for those professionals concerned with patients exhibiting velopharyngeal deficits. Four case reports with associated frame tracings of the velopharyngeal area are included: nasal voice after removal of tonsils and adenoids (6 years), nasal voice associated with undetected submucous cleft (8 years), a patient with Treacher-Collins syndrome (12 years), and a patient with Pierre-Robins syndrome (5 years). Emphasis is directed toward an early diagnosis and treatment of problems involving an inadequate velopharyngeal system. (Platt)

Galkowski, T., and Grossman, J., Developpement de la parole chez les enfants avec la division du palais. *Folia Phoniat., 18,* 382–388, 1966.

Speech development and comprehensibility was studied in one hundred two children between two and fifteen years of age. Seventy-two of this number were of preschool age. The child's speech was observed by two therapists during his stay at the rehabilitation center. On the basis of this observation, the therapists assessed the child's speech for comprehensibility, articulation and speech development. Better speech deveopment was observed in children without clefts and in those children where the cleft was confined to the soft palate. They found a marked correlation between the level of speech development and comprehensibility. (Battin)

Chaudhry, A. P., and Siar, S., In vitro study of fusion of palatal shelves in A/Jax mouse embryos. *J. dent. Res., 46,* 257–260, 1967.

An organ culture technic was used to study the effects of Cortisone on mouse embryos. When 2.5 mg. of Cortisone/ML was added to the tissue culture media, the growth and development of the palatal shelves was completely arrested. (Luban)

Butler, R. M., Nahum, A. M., and Hamafee, W., New surgical approach to nasopharyngeal angiofibromas. *Trans. Amer. Acad. Ophthalmol. Otolaryng., 71,* 92–104, 1967.

The authors have discussed the treatment of the highly vascular nasopharyngeal angiofibromas. The vascular structure of the nasopharyngeal area and the tumors themselves is outlined by bilateral selective carotid and vertebral angiography preoperatively and six weeks post surgery to confirm the success of removal of the tumors. The techniques of surgery are discussed, including the use of crytosurgical approaches which did not appear to give any definite beneficial effect. Blood loss in the nasopharyngeal operation was markedly reduced by the use of stilbesrol preoperatively. Some of the methods of visualization of the arterial supply to the pharyngeal area and the surgical techniques might be incorporated into the armamentarium of the surgeon who does palatal surgery. (Gregg)

Bernstein, L., Secondary reconstructive procedure for cleft lip and nose. *Trans. Amer. Acad. Ophthalmol. Otolaryng., 71,* 71–80, 1967.

The author has outlined a number of surgical procedures which can be utilized to revise and correct both major and minor defects frequently seen in the nose-lip area of persons who have had cleft lip repairs. The indications for the surgical procedures and well documented illustrations for the actual operations are presented. This is an article which should be of interest to both the surgeon as well as to other individuals who are concerned in the treatment of these patients. (Gregg)

Bennett, C. G., Largent, M. D., and Edwards, L. E., Study of the oral conditions with an oscillographic analysis of isolated vowel sounds of

repaired cleft palate children. *Folia Phoniat., 18,* 261–268, 1966.

After a brief review of the literature which reports the relationship between speech and surgical repair of the cleft palate, the authors indicate that they seek to relate oral structure conditions and vowel harmonic data in a group of 30 children, average age of 11.2 years, having surgical repair for various oral cleft conditions to similar data in a group of 30 normal children, average age of 10.2 years. The experimental group was heterogeneous and multiple-classified as to oral structure disorder. Tape recordings were taken of each subject producing a sustained vowel: /i/, /e/, /o/, and /iu/. These recordings were submitted to a single-picture oscillographic procedure to obtain "...the initial aspect of each recorded sound...." Measurements of each oscillogram were supplied as input to a computer which yielded a Fourier analysis of the vowel waveforms up to the sixth harmonic. Height and width measures of the maxilla and mandible of all subjects were obtained also. An analysis of variance procedure was applied to the sets of data. Differences in the vowel data were few, being related to sex rather than oral cleft, with the exception of a more prominent first harmonic on /iu/ for the cleft repair group. The only physical measure of the oral structures that was different was the measure of maxilla width which was less in the cleft repair group. The authors pointed out a serious need for improved dental care of the cleft children. (Platt)

Beekhuis, G. J., and Watson, T. H., Mid-facial cysts. *Arch. Otolaryng., 85,* 62–61, 1967.

Cysts located in the middle one-third of the face, maxilla or the palate, primarily of odontogenic and nonodontic origin are discussed. Most of these arise as the result of defects in embryological development which occur as the result of abnormalities in the fusion of facial processes or abnormal development of the dental follicle. The development of these cysts, their pathology, a brief outline of their treatment, and three descriptive cases are presented by the author. (Gregg)

Zarem, H., Gray, G., Jr., Moorehead, D., and Edgerton, M., Heterotopic brain in the nasopharynx and soft palate: Report of two cases. *Surgery, 61,* 483–486, 1967.

This is a report of two infants with upper respiratory passage obstruction by masses of heterotopic brain tissue. The lesions were made up of cells derived from the neuro-ectoderm, consisting of astrocytes, glial tissues, choroid plexus and pigmented retinal anlagen. The differential diagnosis of masses in these areas is discussed. Treatment consisted of direct excision with establishment of an adequate airway. One of the patients had concurrently a cleft palate. (Berner)

Roberts, W. J., The Montana cleft palate program, twelve years of experience. *Rocky Mount. Med. J., 85,* 58–60, 1967.

Prior to 1954 there had been in Montana no coordinated program to care for persons having congenital facial defects. There is an unusually high incidence of cleft problems in the Indians who live in that state. The author describes how the Montana Cleft Palate Team came into being and tells about the intricacies of the program in a large state which has some urban population but is a primarily rural-ranching economy. He stresses that such a program is equally as important in the education of and the communication between the team members individually and collectively as it is a mechanism to help the patients and their parents. This is an excellent, brief, resume of the need for, the philosophy behind, and the mechanics of the team approach to

a very complex problem, in a large, sparsely populated state. (Gregg)

Kurlander, G. J., DeMyer, W., and Campbell, J. A., Roentgenology of the median cleft face syndrome. *Radiology, 88,* 473–478, 1967.

Based upon a series of 25 cases, 8 of which are the authors', a classification of the median cleft face syndrome is described. Embryologically, medial migration of laterally placed structures are necessary for normal facial development. Failure of union in the median facial plane results in the median cleft face syndrome. The authors subdivided this syndrome into four facial types based on the presence or absence of orbital hypertelorism, cranium bifidum occultum frontalis, median cleft nose, and median cleft prolabium and premaxilla. Roentgenograms of the severest types (I and II) were presented and their significance discussed.

Attention was drawn to the practical significance of recognizing the median cleft face syndrome in that mental retardation is predictably less as compared with patients who have median cleft lip and nasal deformities in association with orbital hypertelorism. It was also pointed out that when any of the severe characteristics of the median cleft face syndrome occurred alone, only orbital hypertelorism was associated with a high incidence of mental retardation. (Ashley)

Schroder, F., and Schwenzer, N., Les lambeaux bipediculés associés au lambeau pharyngien pour la reconstruction du voile dans les divisions palatines extrêmement larges (Bipedicled flaps combined with pharyngeal flaps in soft palate reconstruction in unusually wide cleft palate cases). *Annales de Chirurgie Plastique, 11,* 170–173, 1966.

After a brief review of the principal surgical possibilities for the treatment of insufficiency of the soft palate, the authors describe their personal technique, which is based on the use of bipedicle flaps combined with a superiorly based pharyngeal flap. This technique is to be preferred, particularly if there is a discrepancy between the width of the cleft and the size of the tissue available, and also when the soft palate after simple staphylorrhaphy does not completely block off the oro and nasopharynx. The active participation of the pharyngeal muscles included in the soft palate can lead to a satisfactory functional result. (Petit)

Munro, N., Radiographic cephalometric study of mandibular morphology at gonion and its relation to tongue posture in cleft palate and normal individuals. (Research annotation) *J. Canad. dent. Assoc., 32,* 478, 1966.

This study endeavoured to elucidate the relation between the effect of maxillary orthodontic expansion and the posture of the tongue and mandible, and morphology of the gonial area in cleft lip and palate individuals. Specifically, the purpose was to investigate the hypothesis that: 1) Maxillary collapse in cleft lip and palate individuals altered tongue posture and mandibular position. 2) This alteration in mandibular posture then produced changes in morphology of the gonial area. In addition, the influence of sex and sidedness of the cleft lesion was examined. Studies on mandibular symmetry were also conducted. This study was cross-sectional in design and consisted of 124 complete unilateral cleft lip and palate and 70 complete bilateral cleft lip and palate individuals, at six and 12 years of age. Subjects were separated into those whose palates were expanded orthodontically and those whose palates were collapsed. The control sample consisted of 80 six and 12 years old normal Class I (Angle) occlusions. The statistical protocol consisted of the analysis of variance, students' 't' tests and correlation coeffi-

cients. The program used was in Fortram II symbolic language and it was run on the 7090 IBM Computer. The study did not demonstrate that the form of the gonial area was altered as a result of maxillary expansion in unilateral and bilateral cleft cases. The unilateral cleft sample did demonstrate that an alteration in rest position occurred as a result of treatment and it is believed that this indicates a more superior tongue posture. The bilateral sample did not indicate that alteration in rest position had occurred. In general, no significant sex difference was found, and the side of the lesion in unilateral cases had no predominant influence upon its respective gonial area. There were no significant findings with respect to left-right gonial area symmetry. (author)

Huddart, A. G., Treatment procedures in the cleft lip and palate cases, *Brit. Ent. J., 122,* 185–192, 1967.

The author, an orthodontist, describes treatment from the dental viewpoint with special reference to orthodontic procedures. After six years experience he states that he is unconvinced as to the value of the McNeil technique of pre-surgical alignment. He does, however, consider the splint fitted in this procedure to be of value as a feeding aid. The timing of lip and palate repair is described. In the Birmingham Plastic Unit the lip is repaired at three months if there has been no presurgical alignment and at six months if there has. The palate is repaired at eleven to twelve months. The need for educating the parent and the child in preventive dental measures is emphasised together with the importance of routine dental care. Orthodontic measures are not generally considered necessary during the period of the deciduous dentition and minor anomalies should be accepted. Orthodontic treatment is carried out in the mixed and permanent dentition stages and the problems met with are dealt with in general terms. The treatment of collapsed arches by rapid expansion followed by their stabilisation with a bone graft is described and the advantages and disadvantages of this procedure discussed. In conclusion the author considers that the most important contribution that the general dental surgeon can make to the treatment of cleft palate children is the conservation of the permanent teeth supporting the prostheses that so many of these children require either for aesthetic reasons or to maintain the results of orthodontic treatment. (Hopkin)

Pielou, W. D., Non-Surgical Management of Pierre Robin Syndrome, *Arch. Dis. Child, 42,* 20–23, 1967.

The author uses an upper acrylic obturator which is extended posteriorly beyond the soft palate and is curved in harmony with it. The purpose of the backward extension is to prevent the tongue falling back to the posterior pharyngeal wall and blocking the airway. The presence of the obturator in contact with the soft palate does not usually produce retching or gagging. If it does, the extension is reduced as necessary. Ten cases have been treated by this method. (Hopkin)

Bromley, Dora, and Burston, W. R., The Pierre Robin Syndrome (The clinical management of newly born infants suffering from abnormally small mandibles and cleft of the palate), *Nursing Times, 62,* 1717–1720, 1966.

The authors define two main categories of newly born infants with small lower jaws. The first category comprises those infants with the Pierre Robin Syndrome for which they prefer the term mandibular retrognathia. The essential feature of this condition is that the mandible has the potential to grow forward and catch up in the first years of life. The second cate-

gory comprises those infants who have a genetically small mandible that is a true mandibular micrognathia. Such infants do not have a cleft palate. Cerebral impairment is often present and the survival rate for this type has been under 50% in the authors' experience. They emphasize that the tongue swallowing complication of the Pierre Robin Syndrome is only part of the much wider problem of the development of an adequate suck-swallow mechanism. In these children, because of the developmental defect, a co-ordinated suck-swallow mechanism has not been developed before birth. The problem therefore is to encourage the development of a co-ordinated suck-swallow mechanism and, in their view, this is best done by instituting oral feeding with appropriate safeguards. A trial feed with distilled water is carried out to determine the infant's capabilities and to discover the most suitable form of teat, etc. Normal milk feeding is then instituted and they find that in the majority of patients oral feeding has proved all that is necessary. They emphasize that an efficient electric sucker and a supply of oxygen, together with tongue forceps, should be at hand although to date they have not had occasion to use the latter. The infant is nursed in a special cradle which consists of an individually formed plaster shell to support the body, together with individual arm rests and a headboard which supports the forehead. The child is nursed lying face downwards. The various parts of the cradle are adjustable to suit the need of the individual infant. The advantages of this position are that the tongue and jaw hang forward in safety and if the child regurgitates the food falls away from the mouth. The normal routine is two hours on and one off the frame. Some slight ridging of the cranial bones may appear but this rapidly disappears when the child is taken off the frame. Given adequate padding, pressure points are not troublesome. Patients vary considerably but an average of two to three months has been found necessary before the frame can be discarded with safety. Twenty-two cases of retrognathia have been treated over the past eight years. One was moribund on admittance, one died of an infection not associated with the condition and the remainder were successful. No surgery apart from palate repair has so far been proved necessary. (Hopkin)

Kernohan, D. C., and Pielou, W. D., An appliance for pre-maxillary retraction in the infant with a bilateral cleft lip and palate, *Dent. Pract., 17,* 250–252, 1967.

The appliance consists of a head cap made of tubular gauze which serves as anchorage for the active element which consists of ¼″ nylon covered elastic tape which is used to obtain backward traction upon the pre-maxilla. A pad of silicone material is placed over the premaxillary area to stabilize the elastic tape and to cushion the lip from excessive pressure. The external appliance is used in conjunction with an internal expansion splint as described by McNeil. (Hopkin)

Kowalczyk, J., Widening of the palatal suture with a modified removable appliance, *Czas Stomat, 18*(5), 491–495, 1965.

A 12½-yr-old girl with a cross-bite was treated with an appliance that consisted of bands with palatal hooks cemented to the teeth to which an acrylic plate was attached. The appliance could not be removed by the patient. She was a mouth breather, and there was narrowing of both the maxillary and the mandibular arches. A widening of 8.5 mm measured between the upper 1st premolars, and 7.5 mm between the 1st molars was obtained with 13 days. The cross-bite disappeared at that time. A retention appliance was inserted that allowed the upper canines to erupt 6 months later. A change from oral to

nasal respiration was also noticed. Similar treatment lasting 1–13 wk was carried out on 23 patients. Neither hypertrophy nor inflammation of the mucosa under the appliance were observed. None of the patients had pain and only a few complained of a feeling of tension. In all patients treated respiration changed from oral to nasal. (Maschler)

Schule, H., Histologic and electrophysiologic studies of the prolabium in bilateral cleft lip. *Deutsch Zahnaertzl Z, 21*(6), 725–761, 1966.

An investigation of the presence of muscular elements in the prolabium in bilateral cleft lip (I) and of the motor innervation of these elements is presented. In 18 instances of I, biopsy specimens were taken from the edges of the prolabium during plastic surgery. In 70% of cases of complete I, no muscle fibers were seen. These were usually not arranged in bundles. In 12% of the cases with I and in 15% of those with unilateral cleft lip, tissue bridges were present between the prolabium and the lateral part of the lip. In all but 2 of these cases, muscle was seen in the prolabium in varying amounts. In the cases with broad tissue bridges, the amount of muscle was largest. Motor innervation of the muscle fibers in the prolabium was studied by observation at rest, crying, pronouncing of the sound O, and sucking. Action potentials of the muscle were studied by means of electrodes fastened to the prolabium and left and right part of the lip. In all cases of complete I, the electrodes in the left and the right part of the lip gave the greatest action potential during activity (crying, etc), but no potential was registered from the prolabium even when later histological examination showed the presence of some muscular elements. In most cases of incomplete I with broad tissue bridges, action potentials were found in the prolabium. These were absent in most cases with thin tissue bridges. An action potential was also not registered from the prolabium after plastic surgery. Electric stimulation of the prolabium did not result in any muscular contractions in complete I, but in some cases of incomplete I with broad bridges, some contractions were noted in the prolabium. The prolabium in complete I has no motor innervation. In incomplete I some motor innervation is present, dependent on the size of the tissue bridges. The muscle fibers present in neonati with complete I probably atrophy and become replaced by connective tissue later in life as a result of this lack of motor innervation. 37 references. (Levy)

Vichnar, M., Congenital combined abnormality of the first branchial arch and adjacent ectoderm in 2 children. *Cesk Pediat., 21,* 261–263, 1966.

Case reports are presented of 2 children with severe deformity of the auricles, absence of the external auditory meatus and middle ear, severe affection of the inner ear associated with hypoplasia of the lower jaw on the same side, and an anomaly of the parotid gland which affects the skin of the cheek. At the same time impaired equilibrium and psychomotor retardation were present. One child was treated unsuccessfully by surgery. In the 2nd child no surgical procedure was carried out. In both instances the fathers of the children were severe alcoholics. (Plackova/*Oral Research Abstracts*)

Stevenson, A. C., Johnston, H. A., Stewart, M. I. P., and Golding, D. R., Congenital malformations: a report of a study of series of consecutive births in 24 centers. *Bull WHO (Supp to Vol 34)*, 1966.

A study was made of 416,695 single births, 5,022 sets of twins, 63 sets of triplets, and 1 set quadruplets from 24 centers in 16 countries. The frequency of specific types of malformations, or of groups of malformations, were evaluated

according to geographical variations and in association with consanguinity of the parents. Evidence relating to clinical and etiological heterogeneity was explored, and the genetic contributions to congenital malformations were evaluated in relationship to prenatal mortality. Neural tube defects were frequent malformations, particularly with consanguinity of parents, and contributed significantly to fetal death. There was a marked association of consanguinity of parents with increased stillbirth rates and frequency of early death of the infants in parents who were closely related. Posterior cleft palate (G_3) is different etiologically from cleft lip (G_1) and cleft lip associated with cleft palate (G_2). (Cohen/*Oral Research Abtracts*)

Cervenda, 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,* 109–115, 1966.

Genetic investigation was done in the families of 22 probands with fistulas of the lower lip, and 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%) only, neither clefts nor fistulas in the relatives of the proband could be found. There was a predominance of women over men with regard to both fistulas and clefts of all types. Segregation ratio (0.62) points to 2 genes operating, probably 1 for clefts and the other for fistulas of the lower lip. The penetrance of the gene for fistulas lies in the investigated families near 90% and that for clefts near 80%. A genetic bond was a factor that caused clefts and fistulas. The ABO system was positive. The dermatoglyphic findings in the examined 19 patients lie on the border line between normal and Down disease (the average index was −1.16). The genes for both fistulas of the lower lip and clefts of the lip or palate or both are localized on chromosome 21. (Plackova/*Oral Research Abstracts*)

van Limborgh, J., The natural growth of skulls with cleft palate. *Nederl T. Geneesk, 110,* 281–285, 1966.

The anatomy of 21 skulls (12 adult, 4 fetal, and 5 newborns) with cleft palate was studied. The arch deviations are described. The pterygoid processes are symmetrically oriented to the skull base; however, processes of the nonaffected sides incline slightly forward as in the normal. On the affected side they are positioned vertically. (van der Linden/*Oral Research Abstracts*)

Tadayoshi, T., Study on development of the maxilla and its dental arch in the patients with lip and palatal clefts. *J. Jap. Stomat. Soc., 15,* 467–488, 1966.

To clarify the influences of unilateral lap and palatal clefts on the development of the maxilla and its dental arch, cephalometric studies were performed on 176 subjects, 16–42 years old. Twenty-five subjects had unilateral lip cleft, 22 palatal cleft, 89 unilateral cheilognathopalatoschisis (64 operated and 25 nonoperated ones), and 40 were intact subjects. The operated patients with cheilognathopalatoschisis were allotted to 4 groups according to the age when the operation was performed, 0–3, 4–6, 7–10, and 11–15 years. Fourteen reference points were selected for measurement of the facial skeleton. The developmental disturbance of the maxilla and its dental arch scarcely was observed in unilateral cheilognathopalatoschisis, but found in the alveolar bone and dental arch anterior to the 1st molars in the palatal cleft involving both the soft and hard palates. In unilateral cheilognathopalatoschisis considerable developmental disturbance was noticed in the alveolar bone and dental arch of the anterior

teeth. The effect of the plastic operation on the development of the maxilla and its dental arch was insignificant. It seems essential for the treatment of the lip and palatal clefts to operate early in life on the child with a maxillary cleft. (Akiyoshi/*Oral Research Abstracts*)

Gramiak, R. and Kelley, M. L., Jr., Nasal pressure changes during swallowing. A combined cineradiographic and manometric study. *Invest. Radiol., 1,* 225–236, 1966.

Ten men and a woman, 22–26 years old, were studied while in the sitting position. Chest respiratory movements were determined with a pneumograph recorded by a Sanborn 550 M recorder. Nasal pressure changes were measured during 40 swallows using a water-filled system composed of an occluding nasal catheter (adapted from a disposable enema tip) connected to a Sanborn 267 B transducer by a semi-rigid plastic tube. Sanborn tracings were made at a speed of 100 mm/sec. Subjects were instructed to insert the tip into one nostril and to continue breathing through the other; on command, they manually closed the open nostril and swallowed a thin mixture of Ba and water. Motion picture recording radiographs were made from an image intensifier at 30 frames/sec with a 35 mm Arriflex camera. Four basic patterns of deglutition responses were recognized: initial increases in pressure required velopharyngeal closure which resulted from delivery of the bolus against the soft palate (maximum initial pressure peak of circa 30 mm Hg above resting nasal pressure corresponded to entry of the bolus into the pharynx), subsequent decline of pressure resulted from opening of the cricopharyngeus and emptying of the pharynx under influence of the tongue and pharyngeal constrictors, a later variable pressure reversal corresponding to time of emptying the hypopharynx was caused by sustained contraction of the opposed tongue and posterior pharyngeal structures (relaxation of this sustained contraction was reflected as a reinstitution of the pressure decline terminating at the lowest negative pressure point of circa 22 mm Hg below resting nasal pressure), breaking of the velopharyngeal seal and separation of the faucial pillars resulted in an abrupt terminal positive pressure signaling the end of the swallowing act. Functional integrity of the soft palate, tongue, and pharyngeal constrictors appears to be necessary for the production of normal nasal pressure curves with swallowing. (Suddick/*Oral Research Abstracts*)

Kawai, T., Hattori, T., Tomita, Y., and Ohtani, T., A case report of congenital fistula of the lower lip. *Aiche Gaku J. Dent. Sci., 3,* 67–70, 1966.

A 4-year-old girl had congenital lower lip fistula, bilateral complete cleft lip and cleft palate. She was treated by excision of the fistula. The excised tissue of the lower lip was transplanted to the upper lip during the plastic surgery operation of the upper lip. The upper and lower lip operations were performed at the same time, and the operation was successful. (Chan/*Oral Research Abstracts*)

Polycratis, G., Suggestions in cleft lip reconstruction. *Int. Surg., 45,* 612, 1966.

A cleft lip may be unilateral or bilateral, complete or incomplete, combined with a palatal cleft or without palatal involvement, and be associated with varying degrees of nasal deformity. Since no 2 cleft lips are exactly the same, no single or unmodified surgical procedure can be applied to all of them. Lip repair is usually delayed until the infant's health is good. This delay reduces the risks of surgery and gives the structures to be repaired an opportunity to increase in size, thereby facilitating the repair. Maintenance of all the tissues available also

enhances the final result of cleft lip surgery. (Aduss/*Oral Research Abstracts*)

Duhamel, B., Résultats phonétiques des opérations pour Division palatine (Speech results in cleft palate repair). *Annales de Chirurgie Infantile, 6,* 51–55, 1965.

Owing to progressive improvement in surgical management and growing experience of specialized surgeons, 72% of the cases will now have a perfect result right away. With reiterated operations expected amelioration will be achieved in only half of the cases requiring surgery. (Petit)

Ingelrans, P., Poupard, B., Fievez, E., Bec de lièvre total. Greffe intermaxillaire simultanée à la labiopathie (Cleft lip, complete. Repair with bone graft). *Annales de Chirurgie Infantile, 7,* 77–84, 1966.

The authors advocate the use of intermaxillary bone graft conjointly to repair of the lip, a method which has already been widely used by surgeons in other countries. It seems necessary to suggest the use of a remodeling palatal splint in the preoperative period, as well as after the operation. The results in 18 cases look encouraging, but definite stability of the alveolar arch in long term results needs better survey. (Petit)

Senechal, G., Chirurgie nasale chez l'enfant (Plastic surgery of the nose in children). *Annales de Chirurgie Plastique, 10,* 18–21, 1965.

Classical literature gives very few instructions on the treatment of nasal deformations in children, and authors who have been interested in the subject have very varied ideas as to the age at which surgery can be authorized. The indications, moreover, are very restricted. Indeed, the psychologic incidence of nasal deformations in children is much less important than that of ear anomalies and its obstructing role in growth and general condition seems to have been greatly exaggerated. Embryologic study shows also that the nasal pyramid has a development produced from badly localized ossification and chondrification points. Any untimely intervention damaging these latter can therefore be the cause of secondary deformations and growth disorders. Therefore, the recommendation of late interventions seems justified (17 or 18 years of age for rhinoplasty, 15 years of age for the reduction of the septum, seem to be the average ages. These ages should not be lowered, except for exceptional cases). (Petit)

Gutierrez, Hernandez L., Fissures labiales médianes (Median lip tissues). *Annales de Chirurgie Plastique, 10,* 97–99, 1965.

In this work the author presents a series of rare and very interesting cases of malformations and clefts of the median lines of the lips, and a brief embryologic summary of the formation and development of the face. He considers theories of the possible explanation of these malformations and a few surgical techniques for their rectification. (Petit)

Petit, P., and Psaume, J., Fente médiane de la lièvre inférieure (Median cleft of lower lip). *Annales de Chirurgie Plastique, 10,* 91–96, 1965.

Three observations of median clefts of the lower lip are presented. The first concerns the entirety of the soft parts of the lip and chin; it divides the mandible. The second is total with a bridge of soft parts at the level of the chin; there is also an osseous cleft which divides the mandible. The third is simple without osseous cleft. They were treated according to principles comparable to those we have adopted for hare-lip in order to avoid adding growth disorders which are linked with malformation, those which could be caused by

the operation itself. The lip was rebuilt at the age of six month, the operation concerned only the soft parts, the osseous cleft was respected. The band which unites the summit of the cutaneous fissure at the point of the tongue was not removed, in order to limit as much as possible the formation of scar tissue between the two bony ridges. The closing of the mandibular cleft will be considered at the end of the growth period. Verifications made on these children at seven years of age seem to confirm the value of these principles; there is no notable functional disorder, the morphologic aspect is satisfactory, the growth of the incisor region is normal. (Petit)

Fevre, M., Réflexions sur le traitment chirurgical des becs de lièvre. Résultats de la technique de Veau complétée par plastie de la région narinaire dans le bec de lièvre unilatéral (Reflections upon surgical treatment of cleft lip. Results of repair by Veau technique supplemented by correction of nostril in unilateral cleft lip cases). *Annales de Chirurgie Plastique, 10,* 85–89, 1965.

Veau's technique has the advantage of giving a perfect Cupid's bow, of making a vertical scar under the nostril suggesting the philtral crest and of being always easy to correct. Two things are often reproached: the height of white lip is frequently insufficient. The winding of the nostril, allowing the making of an external flap in a horizontal slit under the nostril of the internal lip, allows the rectification of these two defects. We have projected, without any exceptions, the operative photographs of the first sixteen patients upon whom this technical modification was performed. The article reproduces some of the results obtained among those operated for unilateral hare-lip total (15 cases and those for bilateral hare-lip (1 case). (Petit)

Poupard, B., La greffe inter-maxillaire dans le traitment du bec de lièvre total (Bone grafts to maxilla on bilateral cleft lip cases). *Annales de Chirurgie Plastique, 10,* 159–164, 1965.

The author presents early results of a trial of intermaxillary bone grafting in 23 alveolar gaps (20 primary cases, 3 secondary cases). Substantial improvement was noted as to the aspect of the floor of the nare and of the alar base. Premaxilla in bilateral clefts was fixed to lateral parts in proper alignment after preoperative orthopedic treatment. Therefore, any form of surgical retropositioning (considered as dangerous but sometimes necessary) is rendered superfluous. It appeared that postoperative orthopedic treatment is often necessary. (Petit)

Matthews, D., Orthodontie et chirurgie dans le traitement de la division palatine (Orthodontic and surgical treatment of cleft palate cases). *Annales de Chirurgie Plastique, 10,* 153–157, 1965.

The author first discusses the value of pre-operative orthodontic treatment and advocates its use in unilateral complete clefts with collapse of the lesser segment, in clefts of the alveolus with an intact palate when the medial alveolar fragment is obliquely placed, and in complete bilateral clefts with moderate degrees of protrusion of the premaxilla. He describes the technique of primary bone grafting, using rib bone, of the alveolar gap when the lip is closed. The advantages gained are the completion of the alveolar arch, the reduction of the tendency to medial displacement of the lesser segment during childhood, and the provision of bone into which the tooth buds bordering the cleft can migrate. The author then explains that, despite primary bone grafting, growth of the maxilla does not keep pace with that of the mandible during childhood. He advocates rapid expansion of

the maxilla using fixed appliances (segmental cap splints and expansion screws) and maintenance of the expansion with a bone graft taken from the back of the maxillary bony defect. Besides correcting the malocclusion, this procedure increases the nasal airway and improves the cosmetic appearance of the nose and cheek. (Petit)

Dumas, P., and Deplagne, H., Intervention correctrice pour séquelles labio-narinaires du bec-de-lièvre bilatéral total (Correction of secondary lip-nostril deformities in bilateral cleft lip cases). *Annales de Chirurgie Plastique, 11,* 166–168, 1966.

By reference to seven cases the authors list the principal late malformations in patients subjected in their childhood to operations for total bilateral cleft lips. These deformities are: atresia of the upper lip in its median portion, absence of the columella, and spreading of the alae of the nose. For the correction of all these shortcomings a single stage operation is proposed. The columella is reconstructed from the atrophic median portion of the upper lip, the alae of the nose are restored to a normal position by Z-plastics and the upper lip is reconstructed by an Abbe flap. (Petit)

Gosserez, M., and Stricker, M., La langue, matériau de choix dans la réparation des pertes de substance labiale (Tongue flaps in reconstruction of lip defects). *Annales de Chirurgie Plastique, 11,* 159–165, 1966.

The underside of the tongue constitutes a precious store of mucosa and muscle for small endobuccal repair operations and especially for the treatment of losses of substance of the red margins of the lips. This mucosa is smooth and well-vascularized, and owing to the mobility of the tongue it can easily be brought where it is wanted. Temporary fixation of the tongue is well tolerated as a rule, and subsequent function of the organ is not affected. (Petit)

Franchebois, P., Souyris, F., and Mme Dugrand, Y., Le problème du pédicule dans les vélo-pharyngoplasties à lambeau pharyngien postérieur (Superiorly versus inferiorly based pharynegeal flap). *Annales de Chirurgie Plastique, 11,* 175–179, 1966.

On the basis of the publications of the last few years and of a personal series of 40 cases, the authors discuss the pros and cons of the superior pedicle and of the inferior pedicle in velopharyngoplasty. It is recommended that favourable cases are treated using an inferior pedicle and that the superior pedicle technique, which provides a better chance for the reconstruction, is reserved for the more severe cases. (Petit)

Gate, A., A propos des sequelles alaires de bec-de-lièvre (Secondary alar deformities in cleft lip cases). *Annales de chirurgie Plastique, 10,* 171–173, 1965.

The nostril resulting from the presence of harelip is above all a "gaping" nostril. After a classic total rhinoplasty for reduction and modeling, a subsidiary procedure can correct the nostril, restoring it to its normal height and to normal convexity without resorting to a roof level excision. This can be achieved with the aid of a rotation flap formed from the base of the nostril, which is rotated and transplanted upwards to the level of the roof. This flap is secured in position by means of a labial incision having the form of a distorted "Z". This supplementary operation has so far been used in sequelae of unilateral harelip without forfeiting the substance of the alar base. (Petit)

Fatio, D. Morel, and Lalardrie, J. P., Un lambeau transnasal dans la cor-

rection des séquelles morphologiques du bec-de-lièvre bilatéral (Transnasal flap in the correction of secondary morphologic deformities in bilateral cleft palate cases). *Annales de Chirurgie Plastique, 10,* 166–170, 1965.

Report on a transnasal repair procedure for bilateral harelip which lengthens the septum and tip of the nose, improves the lower portion of the bridge and the point, and abolishes the fold of the alae. The indications for this special procedure are limited to major deformities. The operation calls for a large V-Y incision on the dorsum of the nose, the technical details of which are described. (Petit)

Gosserez, M., Stricker, M., and Dautrey, J., Chirurgie Actuelle Du Bec-De-Lievre (Present surgery of the cleft lip). *Revue de Laryngologie Otologie-Rhonologie, 5–6,* 348–359, 1966.

Nowadays, the treatment of a cleft lip will have to restitute the normal anatomia the truest as possible. The treatment is successful in incomplete cleft lip: it consists of an outer flap from the lip into the inner margin, which most often will be an adaptation in Z of the plasty, at the low part, according to Tennison; at the top part, according to Millard. In complete cleft lip with the bony problem of the alveolar defect, the technic of nowadays consists of an autogenous bone grafting while reconstituting the lip. Every time possible an orthopedic treatment will first be administrated; that can occur when the young patients are examined sufficiently in advance to present plastic structures. In the particular case of double cleft with deformities, the surgery is carried out in two stages and the bony grafting of the second side is brought out with a vomerian osteotomy. The authors point out how important it is to recognize the cleft lip as early as possible, which means the first week. (Psaume)

Ostrowski, Janusz, Pozna rehabilitacja narzadu zucia w przypadku rozszczepu podniebienia (Late rehabilitation of the mastication organ in case of cleft palate). *Czasopismo Stomatologiczne, 19,* 451–454, 1966.

Difficulties and failure of late orthodontic treatment in case of cleft palate, as well as good results of the prosthetic treatment in the last period, inclined the author to apply orthopedic method resulting in possibly optimal rehabilitation of the mastication organ. In order to obtain such results an active dilating apparatus in connection with tegmental prosthesis on the upper frontal dental arch with elastic obturator of the soft palate was applied. Thus, having the opportunity of orthodontic treatment simultaneously, such things were corrected as esthetic appearance of the face, function of bite, speech, and audition. (Penkava)

Penkava, J., Korekce některých deformací horního rtu po sutuře celkového rozštěpu rtu a patra (Correction of certain deformities of the upper lip after the suture of complete cleft of the lip and palate). *Čs. Stomat., 66,* 280–285, 1966.

The article points out the shortcomings of the primary operation on the lip in complete clefts of the lip and palate. Reasons are given why the primary intervention cannot solve these shortcomings. The demonstration of several methods show the correction of certain deformations of the upper lip after the primary operation, as performed in the clinic of plastic surgery in Brno. (Penkava)

Rubezhova, I. S., Primenenie plabajuščego obturatora neba b rannem detskom vozraste i ocenka sposoba formirovanija jego nosoglotočnoj časti (The employment of a floating obturator of the palate in early childhood and assessment of its

nasopharyngeal part). *Stomatologija Moskva, 45*, 75–77, 1966.

The employment of a floating obturator is a valuable method of orthopedic treatment. The author sets forth data relevant to 211 children, aged one day to six years, in whom floating obturators of the palate were made. The article gives an assessment of the method of proper formation of nasopharyngeal obturator. The preparation of a floating obturator in nurslings helps to restore the vital function in children. The proper formation of an obturatory of the soft palate is conducive to the development of correct speech in children. (Penkava)

Levkovich, A. N., Ortopedičeskoe ispravlenie suženija verchnej čeljusti pri vroždennom nezaraščenii verchej guby i neba (Orthopedic correction of constriction of the upper jaw in congenital lip and palate clefts). *Stomatologija Moskva, 45* 60–64, 1966.

The article discusses the types of malformation of the maxilla in congenital clefts of the lip and palate. For determining the degree of constriction the author proposes to use indices. The paper presents the results of measurement of transverse sizes of dental arches in normal masticatory apparatus and in congenital clefts of the lip and palate. For the correction of this deformation the author proposes a special orthodontic apparatus and presents the age indication to the treatment. (Penkava)

Labiszewska-Jaruzelska, F., and Pisulska, A., Przedoperacyjne leczenie orthopedyczno-szczekowe u niemowlat z calkowitymi jednostronnymi rozszepami i jego wyniki (Pre-operative orthopedical jaw treatment in infant with complete unilateral cleft of the lip). *Czasopismo Stomatologiczne, 19,* 1157–1159, 1966.

In case of complete bilateral primary and secondary palatal fissures, preoperative jaw orthopedic treatment gives advantageous influence upon both cosmetic and bite results. The result of application of preoperative jaw orthopedic treatment obtains an approach of incisive bone to frontal pales of lateral segments of the jaws and prolabium to the lateral parts of the lip. Moreover, acquirement before operation of the nasal-labial threshold influences better cosmetic result in the patient after surgical operation of the lip. Tables concerning this work were sent to the Documentatory Centre of the Central Medical Library. (Penkava)

Perczyńska-Partyka, W., Zagadnienie wyboru metody operacyjnej w przypadkach jednostronnych rozszczepów wargi gornej (Problem of selection of the operation method in cases of unilateral clefts of the upper lip). *Czasopismo stomatologiczne, 19,* 403–408, 1966.

Short analysis of the modern surgical methods is presented. The author divides them into three main groups, according to the localization of the lobes and their donor site. She discusses drawbacks and advantages of the lip repair when triangular and rectangular lobes are used. The choice of methods depends on the anatomical structure disturbances. In incomplete cleft of the lip, a single exchange of the triangular lobes is suggested; in complete cleft, exchange of the triangular lobes in lower and upper lip. Satisfactory esthetical and functional results can be obtained by means of those procedures. (Penkava)

ANNOUNCEMENTS

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

A course in otorhinolaryngology and cervico-facial cancerology will be offered December 4 to 8, 1967, at the College of Medicine of the Hospitals of Paris, M. Aubrey, Professeur. For further information write Dr. H. Laccoureye, General Secretary, Department of Oto-rhinolaryngology, Hôpital Laënnec, 42, rue de Sèvres, 75—Paris 7e.

Three Years With *CPJ*: A Report from the Editor

I. History

The *Cleft Palate Bulletin* was the official publication of ACPA from 1951 to 1963. (A complete set of *CPB*, volumes one through thirteen, is available for purchase for $27.50.) Plans were made early in 1962 to initiate the *Cleft Palate Journal*, designed to be a larger and more scholarly publication than the *Cleft Palate Bulletin*. Costs were of major concern in the planning of *CPJ* and the prediction was made that such a journal would not be self-supporting for at least the first five years of publication. At that time, however, ACPA had a reserve fund of sufficient magnitude to support such a type of deficit spending and so the Executive Council and the membership decided to proceed with *CPJ*.

II. Summary of publications in *CPJ*, Volumes 1, 2, and 3 (1964, 1965, and 1966)

A. Published papers

—110 papers have been published.

—Of the 110, first-named authors had DDS in 32, MD in 32, PhD in 25, and other degrees in 21.

—The average length of paper was 9.2 pages. The papers ranged in length from 2 to 34 pages.

B. Rejected papers

—32 papers have been rejected for publication.

—Of the 32, first-named authors had DDS in 8, MD in 11, PhD in 11, and other degrees in 2.

C. Use of pages

1321 pages have been published.

—Of the 1321, 1012 (76.8 %) have been used for publishing papers.

—Of the 1321, 309 (23.2 %) have been used for other purposes (abstracts, announcements, book reviews, et cetera).

III. Procedure for editorial review

—All papers are read by the Editor, the Assistant to the Editor, one Co-Editor (if the paper is in the areas of medicine-surgery or dentistry) and at least one editorial consultant. Final responsibility regarding acceptance or rejection of a manuscript lies with the Editor.

—The period of review requires about 90 days, or longer, if the paper appears controversial in nature.

—From initial receipt to publication date requires from 10 to 14 months.

IV. Cost of *CPJ*

Remarks. Effective January 1, 1967, the manufacturing costs for *CPJ* charged by Waverly Press increased by 6%. In order to evaluate that increase, we asked for estimates from two other firms. Only one of them replied. The following information provides a basis for comparison.

A. Summary of *CPJ* costs (manufacturing and mailing), 2500 copies, from Waverly Press.

1. Volume 2 (1965), 436 pages	$10,123.35
2. Volume 3 (1966), 442 pages	11,172.29
—Average page costs (21,295.64/879)	24.22
3. Volume 4 (1967), 102 pages (January only)	2,712.62
—Average page costs (2712.62/102)	26.59
—Projected volume costs, 440 pages	11,699.60
4. 1966–1967 *Directory*, 1110 copies	1,909.04
—Projected *Directory* costs (6% increase)	2,023.58
—Projected 1967–1968 publications costs (11,699.60 and 2023.58)	13,723.18

B. Estimate of *CPJ* costs (manufacturing and mailing costs), 2500 copies, from a second publishing firm.

1. Sample volume, 108 pages	
manufacturing only	2,972.50
mailing costs	100.00
total	3,072.50
—Average per page costs (3072.50/108)	28.44
—Projected volume costs, 480 pages	12,513.60
2. Sample *Directory*, 1200 copies	
manufacturing only	2,394.80
mailing (approximation)	50.00
total	2,444.80
—Projected 1967–1968 publication costs (12,513.60 and 2444.80)	14,958.40

Summary: Based on the available information, it appears that the 6% increase in publication costs newly instigated by Waverly is not extravagant; indeed, Waverly rates are still considerably less than the rates of at least one other firm.

V. Tentative Budget for the Office of the Editor (1967–1968)

A. Publication of *CPJ* and *Directory*	13,723.18
B. Assistant to the Editor	
salary	2,100.00
fringe benefits	164.96

C. Office maintenance supplies, telephone, etc.	152.87
D. Equipment	none
E. Postage	252.33
total	16,393.34

VI. Comments

In general, *CPJ* is very well supplied with manuscripts at this writing (July 1, 1967). We have the following on hand:

A. 7 manuscripts are slated for publication in the October 1967 *CPJ*.

B. 10 manuscripts are prepared for publication in issues subsequent to the October 1967 *CPJ*.

C. 6 manuscripts have been accepted for publication but are not yet in press-copy.

D. 7 manuscripts have been accepted for publication in principle but have been returned to author for revision.

E. 18 manuscripts are in review, either by editorial consultants, Co-Editors, the Assistant to the Editor, or the Editor.

In summary, 16 manuscripts have been accepted for publication, enough to fill the next two issues of *CPJ*. An additional 7 manuscripts are likely to be available for publication; that 7 could conceivably constitute a third issue of *CPJ*. In essence, then, the January 1968, April 1968, and July 1968 *CPJ*s are complete.

With this supply of manuscripts, clearly there will be greater competition for publication space in the *Cleft Palate Journal* than there has been previously.

LETTERS TO THE EDITOR

Dear Editor:

I found the report by Dr. Altemus on "The incidence of cleft lip and palate among North American Negroes" (*Cleft Palate J.*, October, 1966) interesting.

Reliable data of incidence and prevalence are necessary for many reasons, including the planning of treatment resources, and can often stimulate further lines of research. There are a couple of points upon which I should like to comment.

a) Although the author does not make any comment on finding a higher incidence of all types of cleft (Table 2) at the Freedmans Hospital as compared to the D.C. General Hospital, nevertheless, the implication is that clefts occur more frequently in the lower socio-economic groups. There is a feeling among many people that there is a higher frequency of cleft in the low socio-economic group, but I am not aware that there is a different incidence, e.g., factors to be with admitting policies, medical care, or a host of others.

b) Dr. Altemus says "The largest number of infants with clefts were born to younger mothers between the ages of 13 and 30 years". Is not this the group which would be expected to have the largest number of births, irrespective of cleft status?

c) The same criticism extends to Table 5, where the birth order of cleft lip and palate incidence is given. There are more firstborn normal children than second born and more second than third in the general population. Hence the percentage figures in Table 5 is similar to that of the birth order of normal children.

If true etiological clues regarding cleft lip and palate are going to emerge it is essential that investigators obtain basic population control data against which they can compare their own studies.

R. B. Lowry, M.B., B.Ch., F.R.C.P.(C)
Instructor in Paediatrics
Division of Medical Genetics
The University of British Columbia
Vancouver 8, British Columbia

Dear Editor:

We refer to "Dermatoglyphics and cleft lip and palate", *Cleft Palate J.*, October, 1966, by William E. Silver. Although the association between congenital anomalies and abnormal dermatoglyphics is an interesting area for investigation, we do not believe that, on the basis of the evidence which he has presented, Dr. Silvers is warranted in making the statement "Cleft

lip and palate is a congenital anomaly whose development seems to be independent of the production of aberrant dermatoglyphic patterns".

Dr. Silvers states that complete sets of dermatoglyphic prints were taken, and yet he reports only on three features: fingertips, the third interdigital area of the palm, and hallucal area of the sole.

While these are important areas, two of them, namely the third interdigital area and hallucal area are certainly not the most satisfactory areas for study. In the normal Caucasian populations the frequency of patterns in the third interdigital area is for males: left hand 27.2% and right hand 61.3%; and for females: left hand 24.4% and right hand 49.4%.

This means that a large sample of "affected individuals" would have to be gathered before any significant differences could be demonstrated. The same argument obtains for the hallucal area. In a sample of normal individuals a wide variety of pattern types are observed, and to demonstrate significant differences in pattern frequencies would require large samples. In addition, it should be pointed out that, to our knowledge, in only three syndromes have striking differences in patterns been demonstrated in this area. These conditions are mongolism, the D_1 syndrome, and the Smith-Lemii-Opitz syndrome.

On the other hand, most of the dermatoglyphic abnormalities which have been observed in association with clinical syndromes involve the position of the axial triradius and pattern frequencies in the hypothenar and thenar/first interdigital areas of the palm. If Dr. Silvers did not study these features, then his conclusions are unjustified; and if he did, then he was negligent in not recording his observations.

Dr. Silvers quite correctly points out that the analysis of dermal patterns may yield important information about the timing of developmental events which result in malformation. However, studies carried out in such a cursory manner as his will not yield the critical information needed.

JAMES R. MILLER, PH.D.
Associate Professor
JOAN BAILLIE, B.SC.
Research Assistant
Division of Medical Genetics
The University of British Columbia
Vancouver 8, British Columbia

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

In the July *CPJ* we described some of the major projects being initiated by the Secretariat. We asked for your participation in helping to follow through on them. If you haven't done so yet, please look up the July issue right now and resolve to take time enough to send some suggestions to at least one of the Assistant Secretaries. If you don't, all of us, including you, will be the losers.

Dr. Betty Jane McWilliams, Assistant Secretary General for Public Relations and Liaison, has been extremely busy developing long lists of individuals and societies from foreign countries who might be interested in hearing more about the Congress. Banners announcing the Congress have been prepared for exhibits at meetings all over the world. Simple brochures have been developed to be placed next to the banners as handouts. The brochures announce the Congress and provide for a tear-off portion which can be mailed to Dr. McWilliams requesting additional information about the Congress. The brochure is printed in four languages: English, French, Spanish and German. "Ich bin interessiert den Kongress zu besuchen"; "Ma langue d'expression est Francais"; "Sugiero a usted enviar informacion a". And how proficient are you in foreign languages? I was a bit surprised to learn that my role is that of a Geschäftsführer!

Plans are being completed for the simultaneous translations during the Congress and for the special features of the non-scientific aspects of the program. By the time of our next issue we should be able to report to you in some detail on these matters. However, there is every indication that Dr. Jack Bangs and his Committee are going to come up with some local arrangement features which will be in keeping with the best of Texas traditions.

During the past several months we have been working hard to obtain funds from foundations to enable us to provide partial support of the travel costs of non-Americans who wish to attend the Congress but who will be unable to do so unless they have some help. We must do all that we can to help those who are deserving if we are to take full advantage of the experiences of persons from other cultures who deal with the problems of cleft lip and palate. So far we have received gifts totaling $5,500, but we must have at least $15,000 if we are to assist even as many as 30 individuals. If you have any suggestions of foundations, corporations, or grateful patients who might be interested in making a contribution to this fund, please contact me.

In Pittsburgh, Philadelphia, Chapel Hill, Houston and Iowa City the files on the Congress have been growing at a surprising rate. They will continue to grow, of course, but we are hopeful that part of that growth will be the result of suggestions from you. We look forward to hearing from you.

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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TITLE INDEX

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

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.

Changes of address and subscriptions to the Cleft Palate Journal *should be addressed to the Treasurer: Dr. Howard Aduss, 808 S. Wood Street, Chicago, Illinois 60079.*

Manuscripts and related correspondence should be addressed to the Editor: Dr. Hughlett L. Morris, Department of Otolaryngology, University Hospitals, Iowa City, Iowa 52240.

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1967–1968

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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