BOOK REVIEWS

BROWN, JAMES BARRETT, AND MCDOWELL, FRANK, *Plastic Surgery of the Nose* (Rev.). Springfield, Ill.: Charles C Thomas, 1965. Pp. 432. $21.00.

This is a well-written and well-illustrated text on plastic surgery of the nose. The first section, entitled 'General Considerations', covers preoperative examination and evaluation of the patient and preliminary preparations, anesthesia, and instruments. The second section, which is adequately illustrated, is related to surgical reduction in the size of the nose. There are various techniques for the surgical reduction of a nose, but the basic principles are the same.

The authors next describe in four chapters the building up and straightening of the nose. This is followed by a section on correction of cleft lip nasal deformities. Section five deals with repairs which include the grafting of skin, and the last section is entitled 'Various Other Nasal Repairs'.

This text is essentially the same as the first printing, which was evidently sold out. There has been a great demand for plastic surgery on the nose, and hence the need for descriptive texts on this subject. The authors have added one final chapter on synthetic implants, which was not included in the first printing.

The reviewer recommends this book to students and surgeons interested in plastic and reconstructive surgery of the nose.

ROBERT L. HARDING, M.D.

Harrisburg, Pennsylvania

ELY, JORGE FONSECA, *Cirurgia Plastica*. Sao Paulo: Fundo Editorial Procienx, 1965. Pp. 457.

This book is written in Spanish with a 20-page English abstract. There are ample illustrations.

The text is divided into five main sections with the subject matter of each relating to the personal experience of the author derived from his clinical cases. In many instances, the author describes only one or two procedures, although he recognizes that there are acceptable alternatives used by other surgeons.

Part One is entitled 'Basic Procedures of Plastic Surgery', comprising basic principles and the transplantation of tissues with special chapters dedicated to skin grafts and pedicle flaps.

Part Two deals with trauma to the face, hands, scalp and genital regions. There is also a chapter on ulcers of decubitus and burns.

The next part, entitled 'Malformations', includes ample illustrations of

the author's method of management of malformations of the oral cavity, face, neck, limbs, trunk and genitalia, hemangiomas, and nevi. The following section deals with surgery for malignancy of the head and neck, including the area of the lips, nose, forehead, orbits and pharynx. The final section is entitled 'Esthetic Surgery' and covers most of the areas of interest to the plastic surgeon.

The reviewer feels this text will be a worthwhile addition to the library of the surgeon with a command of Spanish.

ROBERT L. HARDING, M.D.

Harrisburg, Pennsylvania

McGREGOR, IAN A., *Fundamental Techniques of Plastic Surgery and Their Surgical Applications* (3rd ed.). Baltimore: Williams & Wilkins Co., 1965. Pp. 300. $9.00.

As a guide for the general surgeon who has received no formal training in plastic surgery, Mr. McGregor's book presents the elementary reconstructive methods which the surgeon must necessarily utilize if he is to do an adequate job. While the plastic surgery section in most text books of general surgery describes the scope of plastic surgery and gives the results, neatly photographed and frequently dramatic, it does so without giving enough detail of technique to be of any practical use. This handbook or guidebook would appear to fill that gap. Furthermore, the author is to be congratulated upon stressing the difficulties of the methods he presents, and, in particular, describing the possible complications and generally how to cope with them.

Each reader approaches any given text with his own individual background of knowledge and training. It therefore becomes a difficult task for an author to present sufficient direction and guidance to the totally inexperienced surgeon without seeming to 'talk down' to other readers who have a little more background. Mr. McGregor handles the fundamental techniques and the basic details quite well without a redundancy of words and with adequate illustrations.

The section on Z-plasties, as expected from this author, is excellent, as are the sections on flap and pedicle reconstruction. However, one minor criticism might be that sufficient stress is not laid on frequent checking of the position of the recently attached tube or flap. Kinking, or knuckling of the pedicle, can in all too brief a period be disastrous to its already taxed veinous drainage; the position of the pedicle may be entirely different when the patient is stirring about in his own bed than when he was quietly anesthetized on the operating room table.

The decision of the author to eliminate eponyms in which plastic surgery particularly abounds is a questionable one. According to a note in his preface, he felt such usage would have lengthened the book and perhaps added to confusion for such terms (frequently and inaccurately used) may have different meanings in different locales. However, in cer-

tain areas of general surgery (for instance gastrectomies and hernia repairs), the use of eponyms has been commonly adopted. An example in plastic surgery wherein such a practice exists is the cross-lip flap procedure and there, while perhaps incorrectly used, such terms as Abbe and Estlander are widely accepted. This is but a minor point wherein the reviewer would disagree with the author.

The decision of what to include and what to eliminate in writing such a book is a most difficult one. The author has seen fit to exclude any references to cleft lips and palates, perhaps feeling that such delicate work is beyond the scope of a guidebook of fundamental techniques. However, he included such procedures as the digital neurovascular island flap and a fairly extensive section is given to major reconstruction of both the upper and lower lip. All of these procedures would seem to require a minimal skill and a level of training comparable to that required for good cleft surgery.

The illustrations and drawings are well presented and admirably reflect Mr. McGregor's broad experience and his surgical craftsmanship.

Ross H. Musgrave, M.D.

3600 Forbes Avenue
Pittsburgh, Pennsylvania 15213

Barsky, Arthur J., Kahn, Sidney, and Simon, Bernard E., *Principles and Practice of Plastic Surgery* (2nd ed.). New York: McGraw-Hill Book Co., Inc., 1964. Pp. 783. $35.00.

The second edition of this text takes its rightful place as one of the best, if not the best, of the all-encompassing books on plastic surgery designed for both the student and the practitioner. In general, the tried and true approaches are stressed although, in a few areas, multiple alternate procedures are outlined. The illustrations, black and white drawings for the most part, are both excellent and numerous. To cover completely, in one volume, the vast panorama of plastic surgery is a most difficult if not impossible task. The authors have succeeded in meeting this challenge with a very practical and clinical approach to the major problems in the field. I can recommend this book highly, both for the student as an introduction to sound principles and for the experienced practitioner as a source of the most up to date information in plastic surgery.

Robert F. Hagerty, M.D.

Medical College of South Carolina
Charleston, South Carolina

Converse, John M. (Ed.), *Reconstructive Plastic Surgery*, 5 Volumes. Philadelphia: W. B. Saunders Company, 1964. Pp. 2253. $125.00.

Dr. John Converse and his co-authors (75 in number) are to be congratulated on this treatise. The book is over 2,000 pages in length and is

divided into seven parts: the general principles of plastic surgery, the head and neck, the hand and upper extremity, the lower extremity, the trunk, the genitourinary system and anorectal malformations, and tissue transplantation and burn shock. For the reader's convenience, the text has been printed in five volumes.

Volumes Two and Three are concerned with surgery of the head and neck; they are of especial interest to those entrusted with the care of the patient with a cleft of the lip and palate. However, each of the other three volumes contains material of definite importance to the better understanding and management of individuals with facial clefts, and so are of general interest.

In Volume One, the specialty of plastic surgery is defined, and its general principles are presented. After this introduction, and after a discussion on transplantation of the skin, the role of the anesthesiologist in reconstructive procedures is described. Some popular anesthetic agents and equipment are reported to be of limited usefulness in plastic surgery. Endotracheal tubes and attachments which are designed for use in general surgery are often bulky and must be modified to meet the needs of the plastic surgeon. Anesthesiologists should make every effort to avoid factors which contribute to increased bleeding from the skin and subcutaneous tissues. Several paragraphs deal with the problems of anesthesia encountered in operations on the palate and lip. It is emphasized that the blood loss may be large in cleft palate and pharyngeal flap procedures performed on adolescents and adults. Understandably, limitations of space do not permit the detailed discussion that might be desired by those solely interested in the lip and palate.

The transplantation of cartilage is considered in its experimental and clinical aspects. Cartilage may be utilized on occasion in corrective rhinoplastic surgical procedures performed on the patient with a cleft. A recessive chin is improved by superimposing up on the mandible septal cartilage supplemented by septal bone; this may be very helpful in the Pierre-Robin syndrome. Cartilage implants can be employed in the correction of the retracted or shortened columella of bilateral lip deformities. Chapters on the transplantation of dermis, fat, and fascia are contained in Volume Two. In addition, there are chapters in that volume which consider surgical and chemical planing of the skin, burns, radiation burns, and tumors of the skin. Cutaneous scars, the physical basis of scar contracture, suture marks, keloids, hypertrophic scars, and scar revisions are discussed. The paragraphs on the possible factors in the formation of suture marks and in the control of such elements are of particular interest. A fineline scar is always among the ultimate aims when one is carrying out the repair of a cleft of the lip.

Chapter 8 of Volume One concerns bone. The characteristics of bone, osteogenesis, and the experimental transplantation of bone are included. The practical application of bone grafts is presented in a historical set-

ting. The clinical aspects are considered with preference shown for the autogenous canellous graft. Methods are described for obtaining tibial, iliac, and split rib grafts. There is information in this chapter which certainly is pertinent to the repair of palatal defects with bone, but this application of grafting of bone is not specifically mentioned. The iliac crest should not be utilized in children because of the possible disturbance of development due to destruction of growth centers. It has been shown that fresh autogenous grafts will survive in spite of complicating infection.

Congenital malformations receive general consideration in Chapter 14. Certain historical considerations are presented. Man's interest in congenital defects is divided into periods of curiosity, compilation and description, descriptive morphologic embryology, experimental embryology, and genetics. There is speculation that the incidence of congenital anomalies has been rising in recent years. In Denmark, a slight increase of clefts of the lip has been found in the past twenty years. Most congenital anomalies represent the interaction of genetic constitution with environment. Special attention is focused upon the etiology of congenital anomalies. The methods used by geneticists in an effort to sort out the genetic and environmental contributions are named and described: the contingency method, the twin method, the consanguinity method, and racial comparisons. The relationship of chromosomal abnormalities and congenital malformations, the nature of the hereditary material, and the essential factors in Mendelian ratios are discussed. The criteria for recognizing several types of Mendelian ratios is outlined. In a discussion of the principles of hereditary counseling, it is strongly recommended that a consulting geneticist be included among the personnel involved in cleft palate management, for the purpose of talking with parents about genetic problems as well as consultation with other members of the professional group. Among the first questions asked by parents of a child born with a congenital anomaly is "What are the chances of having another child like this?" and "Would you advise us having another child?" It is pointed out in this section of the text that from 0.10 to 0.15% of the unaffected parents in the general population have a chance of having a child with a cleft of the lip. If unaffected parents have a child with a cleft lip, there is a 5.0% chance of each subsequent child being affected. If the second child is born with a cleft of the lip, the chances of a subsequent child being so affected rise to about 10%. The use of empiric risks is considered. The physician or geneticist should never attempt to actually tell the family what an acceptable risk for the family should be. Neither should he advise patients regarding marriage or the decision to have children.

The psychiatric aspects of plastic surgery are excellently presented in the chapter bearing that title. After an introduction to the subject, the concept of deformity is investigated. The several categories for more com-

prehensive understanding of deformities are numerated: social and cultural attitudes, intrafamilial attitudes and reactions, and individual and intrapsychic attitudes. Each of these phases of the problem is reviewed in ample detail. The surgeon-patient relationship is given particular attention. Emphasis is placed on the disgruntled patient, management of the patient during the post-operative period, and plastic surgery on the neurotic or psychotic individual. The problem patients in plastic surgery are delineated. The types of operations requested by these individuals, their comprehensive systemic history, the interview situation, and the surgeon's assessment of the patient's psychological and emotional state are considered. It is vital to recognize the 'masked' psychotic patient, the patient with major emotional disturbances associated with residual congenital deformity, the 'somatizing' patient, and those with severe deformity and severe personality disturbance. Finally the psychosocial sequelae of plastic surgery are discussed. This chapter provides much information for those on the cleft palate team as well as for any one engaged in any phase of this work.

The final chapter in Volume One is entitled 'Psycho-social Implications in Plastic Surgery.' Again within these paragraphs are found many subjects of particular interest to those concerned with the management of the patient who has a facial cleft. The psycho-emotional and social problems are pointed out. There is special concern for those individuals with congenital defects. The chapter is concluded by review of the contributions of psychology and social work to the field of reconstructive surgery.

Volume Two is concerned with the head and neck. The management of facial injuries and fractures of the facial bones are first described. Deformities of the forehead, scalp, cranium, eyelids, and orbital regions are then considered. Chapter 21 is entitled 'Deformities of the Nose'; it contains basic information on rhinoplastic surgery. A specific portion of this chapter deals with the corrective surgery of nasal deformities in the patient with a cleft of the lip. The management of deformities encountered in those patients with a unilateral cleft of the lip is illustrated with numerous diagrams. The various nasal deformities which may accompany bilateral labial clefts are also pictured and several methods for their correction are diagrammed. A later chapter considers a variety of deformities of the lips and cheeks. Basic techniques for the repair of lips are illustrated, excluding the cleft deformity. Nevertheless, much of this material is of real importance to the surgeon concerned with the problem of clefts of the lip.

'Deformities of the Jaws' comprise a lengthy, interesting, well-illustrated chapter. The section dealing with micrognathia and its associated functional deformities provides information for those concerned with the Pierre-Robin syndrome. The application of surgical advancement of the dento-alveolar segment of the maxilla is well illustrated in a case of bi-

lateral cleft of the lip and palate. Some basic material which helps in the understanding of cephalometric analysis of facial deformities is included. This volume concludes with a chapter on disturbances of the temporomandibular joint.

Volume Three is composed, in part, of a series of chapters pertaining directly to the treatment of patients with clefts of the lip and palate. The introductory chapter of this section delineates the principal areas of disagreement existing today among those engaged in the care of children with such clefts. The anatomy of the hard and soft palate is given in detail. Clefts of the lip and palate are classified. A brief chapter is devoted to the embryology of these malformations.

The unilateral cleft of the lip receives attention first. The surgical repair is approached historically. The etiology, principles of repair, preferable age for operation, premedication, anesthesia, and basic operative techniques are discussed. The Millard, modified Mirault (Brown-McDowell), Tennison, and Le Mesurier operations are considered.

The bilateral cleft lip accompanied by a bilateral cleft of the primary palate is featured in Chapter 37. A description of the double lip deformity, incidence, and the components of diagnosis are provided. Treatment is then given. The principal objectives in the care of a child with a double lip are listed. The use of the prolabium and age for repair are commented upon. The methods of dealing with the prominent premaxilla are enumerated: nonsurgical maxillary orthopedic procedures, surgical setback of the premaxilla, and closure of the clefts, one side at a time, without preliminary orthopedics. Orthopedics and the technique for surgical setback of the premaxilla is elaborated upon. Methods for closure of a double lip are then presented. Five techniques are summarized and evaluated. Included are straight line closure (Veau operation), an adaptation of the Tennison single cleft lip repair, Millard method, Wynn's procedure, and the Barsky technique. Additional paragraphs are devoted to lengthening the columella and post-operative care. Bone-grafting in complete bilateral clefts is very briefly considered.

Clefts of the palate are defined. The historical aspects of surgical closure are presented. The Veau-Wardill-Kilner operation, Wardill's four-flap method, and the Hynes pharyngoplasty are depicted. The etiology of cleft palate is briefly outlined. The recognition of such a cleft and the difficulties that may arise in making a diagnosis are emphasized. The treatment of a cleft of the palate is then considered in greater detail. The time of the operation is discussed. The operative procedure is given. The types of flaps are defined; preparation of the cleft margins, the relief of tension of the flaps, closure about the incisor foramen, and permanent retroposition are considered. The suturing of the wound, the removal of the sutures, and the care of the secondary wounds of relaxation are outlined. The complications are given; included among them are impairment of the airway, hemorrhage, wound disruption, fistula formation, and nasal

speech. Finally, the use of a primary pharyngeal flap in combination with closure of a cleft of the palate is illustrated.

The subject of maxillary orthopedics and bone-grafting in the patient with a cleft of the palate comprise a separate chapter. Maxillary orthopedic procedures are described. The technique in taking impressions, preparation of appliances, the loose-fitting plate, and insertion of the appliance are elaborated upon. The treatment of specific maxillary cleft deformities are then enumerated and illustrated. Particular attention is directed to the collapsed arch, protruding premaxilla in a single cleft, excessively wide maxillary arch, and the bilateral cleft with protruding premaxilla. A paragraph is devoted to orthodontics in the young child. Bone-grafting in the cleft palate is outlined, depicted, and diagrammed. Chapter 40 is entitled 'Micrognathia and Glossoptosis with Airway Obstruction: The Pierre Robin Syndrome.' The historical aspects of this subject are reviewed. The etiology and diagnosis are discussed. Respiratory obstruction, feeding problems, types of tongue displacement, and other causes of respiratory difficulty in these infants are considered. Associated congenital defects are mentioned. The treatment of this malformation and later developmental problems are summarized.

The chapter entitled 'Speech Problems of Patients with Cleft Lip and Palate' is comprehensive and well-written. There is universal agreement among surgeons and dentists that one of the main purposes of physical management of a cleft palate is to provide the anatomic and physiologic requisites for speech. It then becomes apparent that speech must be used as one of the criteria for decisions concerning the surgical and dental care of such patients. The surgeon's responsibility in the area of speech is emphasized. The necessity of distinguishing between normal and acceptable speech is established. The variations in inter- and intra-judgment of speech is sighted. The recognition of these differences must play a part in management decisions. The speech process, the development of articulation, skills, classifications of speech sounds and the speech mechanism are considered. Very special attention is directed to the speech problem in the patient with a cleft lip and palate. Diagnostic procedures, which aid the speech pathologist in his diagnosis, are enumerated: testing articulation, breath pressure ratio, and radiographic studies. Speech therapy is then elaborated upon. The need for counseling parents during the first six months of the infant's life is emphasized. This chapter establishes that adequate speech is one of the prime goals of the physical management of the palate. It is strongly emphasized that evaluations of speech must be used in making physical management decisions and in evaluating the effectiveness of techniques. It is thought as logical to view the speech pathologist as the expert in these areas as the surgeon and dentist in the role they play in the care of these infants.

Dental rehabilitation of the cleft lip and palate patient is vital. Special problems should not interfere with general dental care. Orthodontic

treatment is presented in three phases: expansion of the maxillary segments at three or four years of age, treatment during mixed dentition period, and final correction of the permanent dentition. Prosthetic treatment of the cleft palate patient is considered for those with deciduous or mixed dentition and for those with permanent dentition or the edentulous. This presentation is well-illustrated.

Those conditions requiring secondary corrections of the repaired cleft lip are defined in a well-written chapter. The surgical alleviation of these undesirable features are nicely diagramed and depicted. Palatopharyngeal incompetence is fully presented. Procedures for lengthening the palate, pharyngeal flaps, pharyngoplasty, and retropharyngeal implants are comprehensively considered. Medial clefts of the lip are described and the possible etiological factors are considered. Lateral and oblique clefts of the face are depicted. The treatment of these abnormalities is considered.

Within Volume Three, there are chapters devoted to reconstructive surgery in the treatment of oral, pharyngeal, and mandibular tumors; malignant tumors of the maxilla; tumors of the parotid gland; and deformities of the auricle. Also included are those on facial palsy, deformities of the cervical region, congenital cysts, and tumors of the neck and management of the aging face.

Part three of this work is entitled 'The Hand and Upper Extremity.' It is found in Volume Four and is edited by J. William Littler. This is an excellent volume, but there is little within its pages of interest to those specifically concerned with the problems of the clefts of the lip and palate. Nevertheless, anomalies of the hand should prove of general interest to those dealing with other congenital malformations.

Volume Five consists of three parts. Part five considers plastic surgery of the trunk, thorax, breast, abdominal wall, and back. Part six deals with the urinary, rectal, and anal malformations. Hypospadias is treated in detail. Congenital absence of the vagina and other abnormalities of the external female genitalia are included. Of particular interest is a chapter entitled 'Intersex Problems and Hermaphroditism.'

The last part of Volume Five is the seventh and final part of the book. It includes skin transplantation immunity in man, genetics as applied to tissue hemotransplantation, transplantation of the kidney, autotransplantation of limbs, current changes in the concepts of burn shock, and surgical repair of nerves.

Converse's *Reconstructive Plastic Surgery* in five volumes deserves a place in the plastic surgeon's library. In the opinion of this reviewer, however, it cannot be considered to be a replacement for the many fine monographs and classical works pertaining to the specialty. The text would prove a valuable addition to the library of the cleft palate team. The entire work would be of distinctly less value to many individuals of such a team. Furthermore, the set of five volumes costs $125.00; for-

tunately they may be purchased separately. Singly, Volume I, II, III and V cost $30.00 each. The purchase price of Volume IV is $25.00. Volume three provides a comprehensive survey of surgical considerations and procedures of importance in the management of clefts of the lip and palate. It provides a very convenient, concise, and accurate reference for the speech pathologist, dentist, geneticist, psychiatrist, psychologist, and social worker involved in the management of these deformities and seeking knowledge of surgical techniques.

GORDON S. LETTERMAN

George Washington University
Washington, D. C.

ABSTRACTS

Jaworska, M., Cleft palate produced experimentally in C57/bl strain of mice in two age groups. *Acta chir. Plasticae, 7,* 70–82, 1965.

The author studied the teratogenic activity of cortisone induced cleft palate on a 7- to 9-month-old group of mice (Group I) and a 3- to 5-month-old group (Group II). A daily dosage of 2.5 mg of cortisone was injected on the 11th through 14th days of pregnancy plus a single dosage of 2,5000 u. of vitamin A on the 11th day. Analyses were taken on 140 fetuses from 21 pregnant females. A total of 63 of the 140 showed cleft palate. A total of 57.4% of the fetuses of Group II. Statistically significant seasonal variation in incidence of induced clefts was observed. The author hypothesizes that cortisone reduces the metachromasia and fibrillogenesis in the palatine shelves, in a mechanism similar to its interference in wound healing, since fusion of the shelves represents knitting of mesodermal fibers. If the cortisone arrests this process, the fusion will be unlikely to occur even though the shelves approximate each other in the midline. Probably the greater incidence of clefts in the older females is due to an insufficiency of the metabolic system. (Noll)

Edgerton, M. T., Jr., The island push-back and the suspensory pharyngeal flap in surgical treatment of the cleft palate patient. *Plastic reconstr. Surg., 36,* 591–603, 1965.

The author has previously reported a method of sharp dissection of the palatine neurovascular bundles from the undersurface of the palatal mucoperiosteal flaps which eliminates the need for ostectomy of the palatine canal in achieving a push-back palate repair. The need for nasal side coverage was apparent in this procedure. Cronin's method of mobilizing nasal floor mucosa proved too difficult technically and, in the last five years, in 116 patients, the author has cut an anterior island of mucoperiosteum with one major palatine artery, vein, and two anterior palatine nerves as its supply. Usually 2 by 3.5 cm in size, the island is flipped over 180° and placed horizontally to supply nasal lining. No flap failures occurred. Length of push-back is said not to be adversely affected by this method. It is too early to evaluate speech results. Feeling that problems in diphthong production are specifically helped by mobility and elevation of the dome of the soft palate, the author has employed a superiorly-based pharyngeal flap which is not attached to the free palatal edge but is inserted through a central horizontally-cut slit in the dome of the soft palate and attached by turning its tip back 90°. It is then sutured to a denuded area of oral surface of the soft palate. This 'suspensory' flap has been performed in 27 patients. While improvement in speech is felt to have occurred, it cannot be stated whether the change is greater than that which would have followed an ordinary pharyngeal flap. (Cosman)

Owsley, J. Q., Jr., and Blackfield, H. M., The technique and complications of pharyngeal flap surgery. *Plastic reconstr. Surg., 35,* 531–539, 1965.

Shrinkage of unlined pharyngeal flaps led the authors to attach their pharyngeal flaps in the mid one-third of the soft palate and, using a midline palate split, to employ the remaining palate tissue posteriorly as lining for the pharyngeal flap. In 94% of 47 patients treated in this manner, nasality was reduced to an acceptable level. Details of the complications encountered are also presented. (Cosman)

Dennison, W. M., Pierre-Robin syndrome. *Pediatrics, 36,* 336–340, 1965.

Underdevelopment of the mandible or micrognathia is not uncommon in infants and is often associated with a cleft of the palate. It is usually associated with glossoptosis and the displaced tongue causes respiratory obstruction and interferes with swallowing. The history suggests respiratory distress dating from birth. The infant fails to thrive and may die of inanition. Death may also result from asphyxia and inhalation broncho-pneumonia. Although many operations have been devised to relieve the obstruction associated with the Pierre-Robin syndrome, the author considers that it is almost entirely a problem of skilled nursing. Since there is some controversy, in Britain at least, as to the place of surgery, the author recounts his experience of 44 patients and reviews methods of treatment. (Harding)

Hoffman, S., Kahn, S., and Seitchik, M., Late problems in the management of the Pierre Robin syndrome. *Plastic reconstr. Surg., 35,* 504–511, 1965.

Four of nine cases of Pierre Robin syndrome who had palate surgery had post-operative respiratory complications. These were the only complications in this series of palate repairs. Accordingly, they advocate caution in the approach to palate closure in these patients. Delay of repair to age two and one-half and the routine use of a tongue suture for post-operative

control of the tongue is suggested. (Cosman)

Burdi, A. R., Sagittal growth of the nasomaxillary complex during the second trimester of human prenatal development. *J. dent. Res., 44,* 112–125, 1965.

A total of 24 human fetuses, representing the 12th through the 24th weeks of prenatal development, were analyzed for linear and angular midline anatomical relationships of the cranial base, nasal septum, and palate. Each head was removed from the body, and sectioned parasagittally immediately lateral to the nasal septum. Photographs were taken of the specimens, with tracings and measurements thus taken from the photographs. All data were related to crown-rump length. The angular relationships between contiguous areas of the nasomaxillary region showed no significant changes with increasing crown-rump length, whereas linear measurements of cranial base, septum, and palate were correlated with crown-rump length. The directional growth of the upper face is in a forward and downward vector relative to the anterior cranial base and sella. Considerable discussion is given to the findings of relative constancy of facial geometric form and shape during the second trimester. (Noll)

Monroe, C. W., Recession of the premaxilla in bilateral cleft lip and palate: a follow-up study. *Plastic reconstr. Surg., 35,* 512–530, 1965.

This is a follow-up report on six patients who had premaxillary recession by resection of septum and vomer after the method of Cronin. In the five or more years since the first report, made in 1959, these children, with one exception, showed no significant maxillary hypoplasia. The general criticism of the results achieved was actually that the premaxilla was not sufficiently recessed and/or trimmed down. The author has carried out this type of recession 14 times in 13 patients in the last eight years. None of these cases have shown any greater degree of maxillary growth disturbance than that depicted in this report. While cephalometric studies were not done, this clinical study presents evidence to reassure those who view with alarm this type of surgical premaxillary recession. (Cosman)

Taybi, H., and Rubinstein, J. H., Broad thumbs and toes and unusual facial features. *Amer. J. Roentgen., 93,* 362–366, 1965.

The authors described what they believe probably represents a new syndrome. They collected 13 children with anomalies consisting of highly arched palates, broad terminal phalanges of the thumbs and great toes, eye abnormalities, and mental retardation. Additional features in some of these patients were microcrania, growth retardation, large foramen magnum, and incompletely descended testes in the male. (Harding)

O'Conner, G., McGregor, M., and Tolleth, H., The management of nasal deformities associated with cleft lips. *Pacific Med. Surg., 73,* 279–285, 1965.

The authors believe the nasal problem is an integral part of any cleft lip operation and that everything possible should be done at the time of the cleft lip surgery by placing all elements in a normal position so far as possible without jeopardizing the future nasal development by a relatively radical approach. The authors use the following steps at the time of the original cleft lip surgery. a) The base of the ala on the cleft side is completely freed from the underlying maxilla and rotated up to its normal position. b) The distal end of the septum is completely freed and moved into a central position. c) All deformed upper and lower lateral cartilages are freed from both the skin and the mucosa, rotated into a normal position, and held in place with sutures.

The authors feel that definitive surgery on the nasal tip can be started when the patient is six to seven years of age. Rhinoplasty and submucous resection can be initiated in patients as young as 12 years of age without interfering with nasal growth. In older cases, a rhinoplasty, submucous resection, nasal tip surgery, and deformities of the lip are corrected at the same time. (Harding)

Longenecker, C. C., Ryan, R. F., and Vincent, R. W., Cleft lip and cleft palate: Incidence at a large charity hospital. *Plastic reconstr. Surg., 35,* 548–551, 1965.

The incidence of cleft lip/palate at Charity Hospital of New Orleans from 1944 to 1963 was 1:1553 in Negro births, and 1:492 in whites. The combined anomaly was the most common; its male predilection previously noted in the literature was borne out in the white group. However, isolated cleft palate in this series had a male, not a female, predilection as has more usually been reported. Another difference from that usually accepted was that isolated cleft lip was more frequent in females than males. (Cosman)

Townes, P. L., Ziegler, N. A., and Lenhard, L. W., A patient with 48 chromosomes (XYYY). *Lancet, 1,* 1041–1043, 1965.

This is a report on a five-year-old boy with a chromosomal complement considered to be XYYY. The patient was born at term after an uncomplicated pregnancy. The family history was essentially negative, except for a first cousin who is clinically Mongoloid with a mosaic trisomy 21. The patient in this report has a chromosomal number 48 in 27 of 28 cells. He had a few abnormalities, including inguinal hernia, undescended testes, pulmonary valvular stenosis, and dental dysplasia. This is supposedly the first patient reported with a chromosomal complement of XYYY. (Harding)

Björk, L., and Nylén, B., Studies on velopharyngeal closure. *Acta Chir. Scand., 131,* 226–229, 1966.

The authors have studied velopharyngeal closure on roentgen cinefilm in lateral projection, synchronized with color cinefilm of the velopharynx from above and also horizontal tomograms in patients with velopharyngeal flap. The authors conclude that lateral cineradiography corresponds well to the actual sequence of event during the velopharyngeal closure and are highly reliable in judging closure or nonclosure of the velopharynx. In cases with pharyngeal flap there was often asymmetry of the two openings as shown with horizontal tomography. The area of the coupling gate was found to be a linear function of the sagittal diameter with an inclination of the regression-line slightly different from the one found in normal subjects. Lateral cineradiographic assessment of velopharyngeal closure or nonclosure is accurate and the area of coupling gate between the naso- and oropharynx is a simple linear function of the sagittal diameter of the openings. (Nylén)

Fogh-Andersen, P., Thalidomide and congenital cleft deformities. *Acta Chir. Scand., 131,* 197–200, 1966.

The author points out that in conjunction with the classical components of thalidomide deformities, it might also cause typical or atypical cleft lip and palate deformities. He reports on two Danish cases on cleft lip and palate with the history of thalidomide intake during early pregnancy. They both indicate more than a mere coincidence. One case was a typical complete cleft and the other an atypical pseudomedian cleft with aplasia of the premaxilla and malformed ears. He reports on similar cases being known in India, Japan, and other countries and would be interested in finding more cases with history of thalidomide among cleft lip and palate patients born during this epoch, in this way making it possible to

confirm the supposition of a causal relationship. (Nylén)

Gylling, U., Rintala, A., Taipale, S., and Tammisto, T., The effect of a proteolytic enzyme combinate (bromelain) on the postoperative oedema by oral application. A clinical and experimental study. *Acta Chir. Scand., 131,* 193–196, 1966.

The authors have used bromelain, an enzyme combinate isolated from the stem of the pineapple plant, to study the effect of postoperative oedema on different types of plastic surgery of the face as well as in experiments on animals. Bromelain was tried in 154 patients. Every single patient received 400 mg. of bromelain perorally daily in four doses, one day before and four days after the operation with exclusion of the day of operation. Every second person served as a control. Three of the authors made an evaluation of the oedema from the 1st to 4th day postoperatively irrespective of each other, rating the swelling in a 4-point scale. No difference was found between the two series. In an experimental part of the investigation eight rabbits were traumatized by a cylinder falling on a standardized area of the lobe of both ears. The haematoma was measured daily and the approximate area of bleeding was calculated. Four rabbits received bromelain and four served as control. The haematoma in the control group was much larger on the 1st day as compared with the bromelain group, but became rapidly smaller than the treated group. After one week there was no difference between the two groups. The authors conclude that bromelain in clinical use is not capable to reduce postoperative swelling. (Nylén)

Breine, U., and Johanson, B., Tibia as donor area of bone grafts in infants. Influence on the longitudinal growth. *Acta Chir. Scand., 131,* 230–235, 1966.

The authors used tibia as donor site in 81 infants. They consider this donor site superior to rib grafts. There have been no complications from the donor site and total restitution of bone and marrow has taken place. No differences in length in all cases were noted. The technic of taking the bone graft is described and beautifully illustrated. Ten consecutive cases underwent careful clinical as well as radiological control measurements. The authors conclude that operative trauma stimulates the longitudinal growth. Disturbances were present up to four years postoperatively. They do not consider them of such degree as to be of clinical significance. (Nylén)

Brooks, Alta, Shelton, R., and Youngstrom, K., Tongue-palate contact in persons with palate defects. *J. speech hearing Dis., 31,* 14–25, 1966.

This study investigated the tongue-soft palate contact and tongue restriction in various phonetic contexts using cinefluorographic technique. A sample of 59 children with surgical repair/palatal incompetence were the subjects and a normal group of ten children acted as control. Articulation test scores and palatopharyngeal gap measures were obtained as well as breath pressure ratios on each subject. The results of this study indicate that, unlike normal speakers, the subjects often articulate the phonemes tested with the tongue making contact with the soft palate or pharyngeal wall. These contacts occur more frequently when the phonetic context involves /a/ than /i/. Poorer articulation scores were found for those subjects who made tongue-soft palate contact than for subjects who do not make this type of contact. The breath pressure quotients between subject groups indicated that no difference was found for those who make tongue-soft palate contact and for those who do not. The authors caution that those who test for blowing should be aware that subjects may use the tongue-soft palate seal and buccal pressure to obtain high pressure scores. (Klim)

REGISTRY OF CURRENT RESEARCH PROGRAMS

The Registry will be maintained in subsequent issues of the *Journal.* Currently, the major source of information is the Bio-Sciences Information Exchange; however, other sources are invited to contribute. Descriptions of research programs to be listed with the Registry should be sent to the Editor.

Items are: Name of project; supporting agency; name of principal investigator with degrees; academic rank, institution, and address; and summary of project.

Obturator and prosthesis stability through dental force analysis (NIH). *Robert S. Ledley,* D.D.S., National Biomedical Research Foundation, 8600 16th Street, Silver Spring, Maryland.

Summary: The specific aims of this study are: a) To continue the force analysis investigations on complete dentures and obturators with respect to distribution of pressures on the tissues and the control of this distribution by the design of these prosthetic appliances. b) To apply the force analysis results and methods to the distribution of the forces on partial denture and fixed bridge abutments and to investigate methods for controlling this distribution in the design of such prostheses. c) To initiate work on applying these methods of force analysis to natural dentition with a goal toward the eventual relation of such force analysis to methods and techniques in the field of orthodontics. d) To investigate by these methods the forces that appear at the temperomandibular joint with a goal to investigate the relation of such investigations to temperomandibular joint syndromes.

Teratogeny due to maternal vitamin E deficiency (NIH). *Dorothy Wei King,* Ph.D., University of Iowa, Iowa City, Iowa.

Summary: During the past years research has been done in this laboratory to study the factors that affect the production of congenital abnormalities due to marginal maternal vitamin E deficiency in the rat. The proposed work is designed to explore this problem further by means of biochemical, hematological, histochemical and nutritional experiments in order to elucidate some of the mechanisms involved in this kind of teratogenesis.

Biochemical and morphological studies on the teratogenic action of antiphlogistic drugs (Crippled Children, Sweden). *Harry Boström,* M.D., The Wenner-Gren Institute, Narrtullsgatan 16, Stockholm, Sweden.

Summary: The project is based on the assumption that any inhibition of the synthesis of important constituents of connective tissues would disturb normal fetal development. Since all antiphlogistic drugs are known to depress the synthesis of mucopolysaccharides of mesenchymal tissue it is assumed that antiphlogistic drugs are potential teratogenics. The scope of the investigation planned is to study morphologically the teratogenic effect of antiphlogistic drugs of various types, e.g. steroids, salicylates, phenyibutazone, chloroquine and cincophene and biochemically

the effect of the same drugs on the metabolism of fetal mesenchymal tissues.

Teratogenic interaction of two or more agents in rats (NIH). *James G. Wilson,* Ph.D., Department of Anatomy, University of Florida, College of Medicine, Gainesville, Florida.

Summary: It is proposed to investigate the possibility that small (subthreshold or minimally effective) doses of two or more teratogenic agents and/or maternal physiologic stresses are able to interact in such manner as to appreciably increase the expected rate of malformations. Various combinations of the following types of agents will be tested: Group I- known teratogenic agents for which the mechanism of action has been established, Group II- known teratogenic agents for which the pathway of action is not known, and Group III- maternal physiologic stresses which are non-teratogenic but capable of causing intra-uterine death with sufficient dosage. The agents to be tested will be administered by appropriate means on the 8th to 12th day of gestation in the rat.

Inflammation and repair in the fetus (NIH). *William A. Blanc,* M.D., College of Physicians and Surgeons, Columbia University, 630 West 168th Street, New York, New York, 10032.

Summary: Techniques of intrauterine surgery will be used in the rabbit fetus to study the patterns of response of fetal tissues, including placenta, to trauma, irritants, ischemia and infection. The notion of time specificity of the response in the fetus will be investigated. Induced malformations will be studied and attempts made to derive pathogenetic concepts applicable to human anomalies.

Anomalies of infants following intrauterine injections with viruses (NHW, Canada). *D. M. McLean,* M.D., The Hospital for Sick Children, Toronto, Canada.

No summary provided.

Investigation of dermal configuration as an aid toward the etiological diagnosis of certain congenital disorders (NHW, Canada). *W. A. Zaleski,* M.D., Saskatchewan Training School, Moose Jaw, Saskatchewan.

No summary provided.

The teratogenic effect of thalidomide on mammaliam embryos (Med. Res. Council Canada). *K. L. Moore,* University of Manitoba, Winnipeg, Canada.

No summary provided.

Erratum

The following addition should appear in the identification footnote on page 186 in the April 1966 *CPJ:* This research was supported in part by PHS Grant 5 T1 DE-103, National Institute of Dental Research.

On pages 400, 401, and 402 of the October *CPJ,* the abstractor for the Gylling, Fogh-Anderson, Breine, and Rintala papers should be Nylén, *not* Nordin.

ANNOUNCEMENTS

Planning continues for the 1969 International Congress on Cleft Palate, to be held in Houston and sponsored by the American Cleft Palate Association. Dr. D. C. Spriestersbach has been named Secretary-General for the Congress and has been directed by the Executive Council of the Association to begin preparations for the meeting. Dr. Spriestersbach, a speech pathologist, is Vice-President for Research and Dean of the Graduate College at the University of Iowa and was formerly director of the cleft palate research program at that University. He has previously served the Association in the capacities of President and Secretary-Treasurer. Inquiries and suggestions regarding the Congress should be made to him, addressed to:

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

The appointment of Dr. Seymour J. Kreshover as Director of the National Institute of Dental Research, one of the nine national institutes of health, has been announced by Dr. William H. Stewart, Surgeon General of the Public Health Service. In this position, Dr. Kreshover succeeds Dr. Francis A. Arnold, Jr., who has been named the Service's Chief Dental Officer. Dr. Kreshover received his commission in the Public Health Service in 1956. For the previous seven years he had been associated with the Medical College of Virginia as Professor of Oral Pathology and Diagnosis, Director of Dental Research, and Director of Graduate and Postgraduate Studies. Earlier he had successively held the posts of Assistant in Oral Surgery at the Yale University School of Medicine, Chief of the Periodontia Clinic at the Roosevelt Hospital in New York, and Teaching Fellow in Histo-anatomy at New York University, following which he briefly engaged in private dental practice.

The Lancaster Cleft Palate Clinic is presenting a seminar entitled 'Habilitation/Rehabilitation of Oral-Facial-Communicative Disorders,' October 24–28, 1966. Graduate trainingship awards from the National Institute of Dental Research, U. S. Department of Health, Education, and Welfare, are available to qualified individuals in the fields of medicine,

dentistry, speech, and audiology. The award pays registration and tuition fees, transportation, and per diem costs for the five days at the Lancaster Clinic. Lectures and case studies are presented by clinic staff and noted guests in the diagnosis, treatment, and research of communicative disorders. Address all inquiries to R. T. Millard, Program Director, Lancaster Cleft Palate Clinic, 24 N. Lime Street, Lancaster, Pennsylvania 17602.

Bowling Green State University is pleased to announce its new doctoral program in Speech Pathology and Audiology. Graduate Assistantships and Fellowships are available for September, 1966. Applicants should write to Dr. Melvin Hyman, Director, Speech and Hearing, Bowling Green State University, Bowling Green, Ohio 43402.

The Mayo Graduate School of Medicine and the Section of Dentistry and Oral Surgery of the Mayo Clinic announce a graduate training program in prosthodontics leading to a Master of Science Degree in Dentistry, or a Certificate of Achievement. Appointments for the 36-month course of study in conventional and maxillofacial prosthodontics are made once each year, beginning with the summer quarter. Didactic courses, practice teaching, and clinical and research experience satisfy requirements for certification by the American Board of Prosthodontics. A stipend is provided, with annual increments. Address inquiries to: Director, Mayo Graduate School of Medicine, 200 First Street Southwest, Rochester, Minnesota 55902.

The following professional meetings are announced:

American Medical Association (clinical convention), November 27 to 30, 1966, Las Vegas.

Decennial Conference on 'Cell, Tissue, and Organ Culture', September 11 to 15, 1966, Bedford, Pa.

American Academy of Ophthalmology and Otolaryngology, October 16 to 21, 1966, Chicago.

American Academy of Pediatrics, October 22 to 27, 1966, Chicago.

The Academia de Estomatologia and the Circulo Odontologico de la Libertad celebrate their VI Congreso Nacional de Odontologia Y II Internacional de Estomatologia del Peru on November 20, 1966. The Congresses, from November 20 to November 24, will cover the different

aspects of Odonto-Stomatology. In addition, there will be the First International Meeting of Endodontia, and Special Chapters on Sanitary Dentistry, Dental Education, and Dentistry in the Armed and Auxiliary Forces. There will also be a Dental Exposition. Inquiries should be made to:

Dr. Julio Begazo S.
Jr. Chota 760—Casilla 2467
Lima, Peru S.A.

The Ninth Congress of the Japanese Society of Plastic and Reconstructive Surgery will be held under the auspices of the Keio University School of Medicine in Tokyo on November 1 and 2, 1966. Foreign guests who desire to participate in the program, in the form of presentation of scientific papers and/or motion picture films, are cordially invited. Please address further inquiries to:

Professor Torai Iwahara
President, Ninth Congress of the
Japanese Society of Plastic and
Reconstructive Surgery
Department of Orthopedics
Keio University School of Medicine
35 Shinanomachi, Shinjukuku, Tokyo, Japan

Time and Place, ACPA

1967—April 13, 14, and 15 ..... Chicago at the Palmer House
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—date unspecified ..... Portland

INDEX TO VOLUME 3, 1966

AUTHOR INDEX

TITLE INDEX

OFFICERS OF THE ASSOCIATION, 1966–1967

President.....Mohammad Mazaheri, D.D.S., Lancaster, Pennsylvania
President-Elect.....Herold S. Lillywhite, Ph.D., Portland, Oregon
Past President.....Peter Randall, M.D., Philadelphia, Pennsylvania
Vice-President.....John W. Curtin, M.D., Chicago, Illinois
Vice-President-Elect..Donald W. Warren, D.D.S., Chapel Hill, North Carolina
Secretary-Treasurer.....Kenneth R. Bzoch, Ph.D. (1968) Gainesville, Florida
Editor.....Hughlett L. Morris, Ph.D. (1967) Iowa City, Iowa

COUNCIL MEMBERS OF THE ASSOCIATION 1966–1967

The above officers and

Lester M. Cramer, M.D. (1967) Rochester, New York
Michael L. Lewin, M.D. (1968) New York, New York
Ross H. Musgrave, M.D. (1967) Pittsburgh, Pennsylvania
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

COMMITTEES OF THE ASSOCIATION
1966–1967

Budget

Kenneth R. Bzoch, Ph.D. (Chairman)
Herold S. Lillywhite, Ph.D.
Hughlett L. Morris, Ph.D.
Charlotte G. Wells, Ph.D.

By-Laws

Asa J. Berlin, Ph.D. (Chairman)
Irving G. Gault, D.D.S.
J. Douglas Noll, Ph.D.
Peter Randall, M.D.

Honor and Awards

Stephen P. Forrest, D.D.S. (Chairman)
Norman R. A. Alley, D.D.S.
George F. Crikelair, M.D.
Eugene T. McDonald, Ed.D.
Jack Matthews, Ph.D.
Peter Randall, M.D.

Ethics and Professional Affairs

Herbert Koepp-Baker, Ph.D. (Chairman)
Donald M. Glover, M.D.
Samuel Pruzansky, D.D.S.
Richard C. Webster, M.D.

International Relations

Michael L. Lewin, M.D. (Chairman)
John M. Converse, M.D.
David B. Coursin, M.D.
Stuart I. Gilmore, Ph.D.
Juan Bautista Gonzalez, D.D.S.
Raymond Massingill, M.S.
William H. Olin, D.D.S.
Kuros Tabari, M.D.

Local Arrangements

Morton S. Rosen, D.D.S. (Chairman)
Norman R. A. Alley, D.D.S.
Thomas D. Cronin, M.D.
John W. Curtin, M.D.
David R. Dickson, Ph.D.
Sanford Glanz, M.D.
D. Ralph Millard, Jr. M.D.
Robert F. Sloan, Ph.D.
Robert L. Wheeler, D.D.S.

Long Range Planning

Mohammad Mazaheri, D.D.S. (Chairman)
Kenneth R. Bzoch, Ph.D.
John W. Curtin, M.D.
Herold S. Lillywhite, Ph.D.
Hughlett L. Morris, Ph.D.
Ross H. Musgrave, M.D.
Peter Randall, M.D.
Donald W. Warren, D.D.S., Ph.D.

Membership

Gene Powers, Ph.D. (Chairman)
Howard Aduss, D.D.S.
Herbert A. Ecker, M.D.
Verner V. Lindgren, M.D.
H. Cameron Metz, Jr., D.D.S.
Ralph L. Shelton, Jr., Ph.D.

Nomenclature

Nicholas G. Georgiade, M.D. (Chairman)
Kenneth Bzoch, Ph.D.
Charles R. Elliott, Ph.D.
Donald W. Warren, D.D.S., Ph.D.

Nominating

J. Daniel Subtelny, D.D.S. (Chairman)
Lester M. Cramer, M.D.
Robert Harding, M.D.
Herold S. Lillywhite, Ph.D.
Betty Jane McWilliams, Ph.D.

Program

John W. Curtin, M.D. (Chairman)
Samuel Berkowitz, D.D.S.
Raymond O. Brauer, M.D.
Elise S. Hahn, Ph.D.
Robert Mason, Ph.D.
Robert T. Millard, M.A.
Morton S. Rosen, D.D.S.
Donald W. Warren, D.D.S., Ph.D.

Public Relations

Charles R. Elliott, Ph.D. (Chairman)
Hratch A. Abrahamian, D.D.S.
Robert W. Blakeley, Ph.D.
Richard Shultz, M.D.

Time and Place

I. Kenneth Adisman, D.D.S. (Chairman)
Eugene Gottlieb, M.D.
Gordon S. Letterman, M.D.
William H. Olin, D.D.S.
Harry Z. Roch, D.D.S.

Simplified Speech Classification (ad hoc)

Robert W. Blakeley, Ph.D. (Chairman)
Ralph O. Coleman, Ph.D.
Harry Z. Roch, D.D.S.
James W. Schweiger, D.D.S.
Richard B. Stark, M.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:

KENNETH R. BZOCH, PH.D.
American Cleft Palate Association
Department of Communicative Disorders
University of Florida
Gainesville, Florida 32603