

News and Notes

Dr. Henry H. Perlman, who has contributed a number of articles to the *JOURNAL*, was appointed Assistant Clinical Professor of Dermatology and Assistant Attending Dermatologist at a recent meeting of the Board of Trustees of the New York Medical College, Flower and Fifth Avenue Hospital.

The **Third Panamerican Congress of Pediatrics** will be held at Montevideo, Uruguay, Dec. 5 to 8, 1951, following immediately after the Third South American Congress, Dec. 2 to 4. This is the beginning of the summer season in Uruguay. Dr. Conrado Pelfort is President, and Dr. Prof. Maria Luisa Saldun de Rodriguez, Secretary, with offices at Av. 18 de Julio 1246, Montevideo, Uruguay.

Six main subjects will be discussed: (1) Rheumatic Fever, (2) Blood Diseases of Hemorrhagic Tendency, (3) Surgical Treatment of the Congenital Malformations, (4) Parasitary Diseases of Social Importance in the Child, (5) Teaching of Pediatrics, (6) Mental Hygiene and Neurosis in Childhood. Pediatric leaders from Brazil, Argentina, and Uruguay have been designated for the

sections. Invitations have been issued to pediatricians in the United States and Canada to participate in the discussions.

Twenty grants have been made beginning July 1, 1951, by the **Markle Foundation** for training medical scientists. This stipend has been increased from \$5,000 to \$6,000 a year for a period of five years. Included among them are Dr. Robert E. Cooke, resident and instructor in pediatrics, Yale University School of Medicine, and Dr. Howard A. Joos, instructor in pediatrics, University of Rochester School of Medicine. This will make a total of sixty-six grants that have been made since the program was inaugurated.

A six months' fellowship is available at the **Seizure Division of the Children's Medical Center in Boston**. This provides experience in electroencephalography and in the diagnosis and treatment of epilepsy of both office and clinic patients. For additional information, address Dr. William G. Lennox, 300 Longwood Ave., Boston 15, Mass.

Book Reviews

Handbook of Biolinguistics. C. L. Meader and J. H. Muyskens, Toledo, Ohio, 1950, Herbert C. Weller, 330 pages. Price \$10.00.

Biolinguistics, according to the authors, is a biological approach to all phenomena of speech in which an explanation of all language is sought in the functional integration of tissue and environment. This book, the first of several volumes, is concerned with the structure and processes of expression used in normal speech. Many fine tables and drawings of the anatomical aspects of speech are included.

The main contents of the book are as follows:

Introduction to Phonetics: Dynamic phonetics is composed of the study of the gen-

eral characteristics of tissue activity. For a complete understanding of the biological foundations of language, the integrated relationships of the nutritional, muscular, and nervous processes, as well as endocrine functioning and the action of the lymphatics, are essential.

Protoplasm, Cells and Tissues: The living cell as a structural unit of tissue activity is defined and described in detail. Protoplasm possesses properties of excitability or irritability, movement, secretion, growth, and reproduction. The five stages in the development of the human body are: (1) the primitive fertilized ovum, (2) undifferentiated mesenchyme, (3) specialized cells, (4) tissues, and (5) organs. Language begins in the prenatal period and continues to develop

rapidly as the sensory apparatus becomes more refined in its specificity. The normal linguistic function can be understood on the basis of the developmental history of normal structure and functions of tissue. Consequently, abnormal speech can be understood and remedied by interpreting the tissue involved.

Development of Specificity: As the human organism evolves, the tissues and organs develop a specificity of function. The three basic principles of biolinguistics are: (1) energy, the basis of all activity, (2) integration, the interaction of systems of energy and subsequent modification of the organism, and (3) emergence, the arising of a new system which differs quantitatively and in pattern from the original integrations. The evolutions of the "speech organs" and their functions furnish an example of emergence.

Development of Tissues Involved in Speech: The types of cells and tissues of the muscles and nerves involved in speech, their development and specificity, and the functions of the glandular tissue, endocrine glands, blood, lymph, supporting tissues, and nutrition in relationship to speech are presented.

Embryological Development of the Speech Organs: The various organs used in the speech process are described in their embryological development. In addition, the embryology of the pharynx, larynx, diaphragm, etc., is given in vivid detail with drawings.

Integration—Processes of Speech: This section deals with speech as a function influenced and determined by all body activities. The integration of the vegetative processes of the body is described, with particular attention paid to the alimentary process of digestion, respiration, and circulation, as well as the action of the vegetative nervous system related to muscle tonus, glandular secretion, and mental activities. The muscles and nerves involved in these processes are represented in drawings and tables.

Integration—Neuromuscular System: This section explains how the neuromuscular system acts as an integrated mechanism in the production of speech. Specifically, the following processes are described and clarified by excellent drawings: (1) the synergy and classification of "antagonistic" mus-

cles, (2) the specific function of these muscles, (3) inspiration and expiration, (4) the overlapping of many nerve trunks as a mechanism of selectivity, and (5) the control processes of speech through nutrition and hormones, the sympathetic system, and the central and peripheral systems.

Integration—General Principles: The total integration of the organs and tissues of the body during the process of speech is discussed in this section. Many series of simultaneous and successive integrations of systems of process constitute life. The integrations within which language arises are: circulatory, respiratory, and postural activities; valving of the vocal tubes; the concomitant nervous, glandular, and muscular activities of the vital organs of the trunk; and the neuromuscular processes of the somatic, peripheral exteroceptive and motor organs. Furthermore, the environment is involved in these systems. A classification and description of reflexes and the principles of conditioning in relationship to language are presented.

Determinants of Language: The specific influences and integrations of the gross structures and functions necessary for the language processes are listed and discussed, along with the vegetative functions and environmental influences. A chart graphically presents the determinants of the language process.

Emergence of the Speech Process: This section of the book is concerned mainly with how speech developed from lower biological functions. As more specific structures evolved, the primitive organs became more adaptable to the communicative process. The structure of the larynx and the actions of the muscles of expiration during speech are given. The development of speech in five stages (melody, rhythm, accent, vowel, and consonant) is given detailed attention from the viewpoint of the physicochemical processes in the tissues and the active and passive movements of these tissues.

The book is well organized and graphic in its description of the speech process. The medical and educational professions will find it of value for an understanding of the biological backgrounds of speech.

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