

YEAR BOOK[®]

YEAR BOOK OF SPEECH, LANGUAGE, AND HEARING 1990

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The Year Book of SPEECH, LANGUAGE, AND HEARING

Editors

John E. Bernthal, Ph.D.

Professor and Chair, Department of Special Education and Communication Disorders; Director of the Barkley Center, University of Nebraska, Lincoln

James W. Hall, III, Ph.D.

Associate Professor and Director of Audiology, Division of Hearing and Speech Sciences, Department of Otolaryngology, Vanderbilt University School of Medicine, Nashville, Tennessee

J. Bruce Tomblin, Ph.D.

Professor, Department of Speech Pathology and Audiology, University of Iowa, Iowa City



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Contributing Editors

Nicholas W. Bankson, Ph.D.

Chairman, Department of Communication Disorders, Boston University

David R. Beukelman, Ph.D.

Professor of Special Education and Communication Disorders, University of Nebraska, Lincoln; Meyer Children's Rehabilitation Institute

Eugene B. Cooper, Ed.D.

Professor and Chairman, Department of Communicative Disorders, University of Alabama, Tuscaloosa

Stephen C. McFarlane, Ph.D.

Professor and Chairman, Department of Speech Pathology and Audiology; Associate Dean of Academic Affairs, School of Medicine, University of Nevada, Reno

Marleen T. Ochs, Ph.D.

Assistant Professor, Division of Hearing and Speech Sciences, Vanderbilt University School of Medicine and Bill Wilkerson Hearing and Speech Center, Nashville, Tennessee

Adrienne L. Perlman, Ph.D.

Speech Pathologist and Research Scientist, VA Medical Center, Iowa City

JoAnne Robbins, Ph.D.

Associate Scientist, University of Wisconsin; Research Speech Pathologist, William S. Middleton Veteran's Hospital, Madison, Wisconsin

Carol A. Sammeth, Ph.D.

Assistant Professor, Division of Hearing and Speech Sciences, Vanderbilt University School of Medicine and Bill Wilkerson Hearing and Speech Center, Nashville, Tennessee

Martha Taylor Sarno, M.A., M.D. (Honorary)

Associate Professor, Clinical Rehabilitation Medicine, New York University School of Medicine; and Director, Speech-Language Pathology Department, Howard A. Rusk Institute of Rehabilitation Medicine, New York University Medical Center, New York

Judith E. Trost-Cardamone, Ph.D.

Professor, Department of Communicative Disorders, California State University-Northridge; Clinical Assistant Professor, University of Southern California School of Dentistry

Journals Represented

Year Book Medical Publishers subscribes to and surveys nearly 850 U.S. and foreign medical and allied health journals. From these journals, the Editors select the articles to be abstracted. Journals represented in this YEAR BOOK are listed below.

Acta Obstetrica et Gynecologica Scandinavica
Acta Oto-Laryngologica
Age and Ageing
American Journal of Mental Retardation
American Journal of Otology
American Journal of Physiology
American Journal of Roentgenology
Aphasiology
Applied Psycholinguists
Archives of Disease in Childhood
Archives of Neurology
Archives of Oto-Rhino-Laryngology
Archives of Otolaryngology—Head and Neck Surgery
Audiology
Augmentative Alternative Communication
Australian Journal of Human Communication Disorders
Brain and Cognition
Brain and Language
Brain—Journal of Neurology
British Journal of Audiology
British Journal of Disorders of Communication
British Journal of Radiology
Child Development
Cleft Palate Journal
Clinical Linguistics and Phonetics
Clinical Otolaryngology
Clinical Pediatrics
Cognition
Dysphagia
Ear and Hearing
Gastroenterology
International Journal of Pediatric Otorhinolaryngology
Journal of Applied Behavioral Analysis
Journal of Autism and Developmental Disorders
Journal of Child Language
Journal of Child Neurology
Journal of Childhood Communication Disorders
Journal of Clinical Oncology
Journal of Communication Disorders
Journal of Craniofacial Genetics and Developmental Biology
Journal of Fluency Disorders
Journal of Learning Disabilities
Journal of Memory and Language
Journal of Neuropsychiatry
Journal of Neuroscience
Journal of Nuclear Medicine
Journal of Psychiatric Research
Journal of Reproductive Medicine

Journal of Special Education
Journal of Speech and Hearing Disorders
Journal of Speech and Hearing Research
Journal of Voice
Journal of the Acoustical Society of America
Journal of the American Academy of Child and Adolescent Psychiatry
Lancet
Language and Speech
Language, Speech and Hearing Services in Schools
Laryngoscope
Neuropsychologia
Otolaryngology—Head and Neck Surgery
Pediatrics
Perceptual and Motor Skills
Plastic and Reconstructive Surgery
Scandinavian Audiology
Seminars in Hearing
Seminars in Speech and Language
Topics in Language Disorders

STANDARD ABBREVIATIONS

The following terms are abbreviated in this edition: acquired immunodeficiency syndrome (AIDS), the central nervous system (CNS), cerebrospinal fluid (CSF), computed tomography (CT), electrocardiography (ECG), and human immunodeficiency virus (HIV).

Publisher's Preface

We are pleased to introduce to the field of speech-language pathology and audiology the YEAR BOOK OF SPEECH, LANGUAGE, AND HEARING, and to welcome its editors, commencing with the 1990 edition, John Bernthal, Ph.D., James W. Hall, III, Ph.D., and J. Bruce Tomblin, Ph.D., and their guest associates.

The Speech, Language, and Hearing field is a burgeoning one, expanding to serve a burgeoning population. The number of individuals with communicative handicaps is increasing as the percentage of our society older than 65 years of age increases. In addition to serving this segment of the population, the field continues to meet the needs of children and adults through private practice and the Education for All Handicapped Children Act and Amendments, which provides assessment and intervention within the U.S. school systems. Active membership in the major association in the field—the American Speech-Language-Hearing Association—has increased dramatically in the past decade. And as ever, steady progress in neurophysiology and surgery continues, contributing to the field's effectiveness in treating stroke, neurologic disorder, and accident victims and those with birth defects. In nursing homes, schools, private practice, hospitals, and rehabilitation facilities the community of speech and language pathologists and audiologists has risen to meet the challenges presented by a changing society.

The goal of the YEAR BOOK OF SPEECH, LANGUAGE, AND HEARING is to provide clinicians, scientists, educators, and allied health professionals with a review of the world's literature, selected and commented on by the experts in the field. Locating appropriate information and keeping up to date present an enormous challenge to practitioners and researchers alike, for the literature dealing with audiology, and with speech and language pathology, is extremely broad, appearing in medical, allied health, and scientific journals. It is our sincere hope that the YEAR BOOK OF SPEECH, LANGUAGE, AND HEARING will meet this need and will prove a valuable resource and welcome addition to your professional library.

Introduction

This new addition to the YEAR BOOK series is directed toward speech-language pathologists and audiologists. Our task is to review contributions to the communication sciences and disorders literature that have clinical applicability. Among the selected papers, originally published in 65 different journals, we have also included recommended reading for those who wish to stay abreast of new topics in the field as well as additional discussion of unresolved issues.

As can be inferred from the title, the volume is divided into three major sections—*Speech, Language, and Hearing*. Each chapter of the speech section was edited by an active investigator. The individuals who selected and wrote comments on each paper were as follows: Augmentative Communication and Motor Speech Disorders: David Beukelman; Adult Language Disorders: Martha Taylor Sarno; Craniofacial Disorders: Judith Trost-Cardamone; Dysphagia and Swallowing Disorders: Adrienne Perlman; Fluency and Stuttering: Eugene Cooper; Voice and Voice Disorders: Stephen McFarlane; and Phonological Disorders: Nicholas Bankson and John Bernthal.

Bruce Tomblin edited the entire language section. It is to his credit that he has the breadth of knowledge and understanding to take on such a task. In this time of specialization, there are few individuals in the field who could successfully match this undertaking. Jay Hall edited the hearing section, with the assistance of Marleen T. Ochs in the chapter concerned with hearing science and psychoacoustics, and with the assistance of Carol Sammeth in the chapter on amplification, aural rehabilitation, and cochlear implants.

I want to acknowledge the excellent work of Drs. Hall and Tomblin in their sections. I had the good sense to stay out of the way and let them do the job. I also wish to thank the associate editors of each chapter in the speech portion of the volume. I would also like to thank Mosby-Year Book, Inc. and their staff for their commitment to this new venture and assistance throughout the process.

I welcome comments from you, the readers, to improve our subsequent efforts.

John E. Bernthal, Ph.D.

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SPEECH

JOHN E. BERNTHAL, PH.D.

Introduction

This section contains abstracts of papers dealing with a wide range of speech disorders. As no one individual can realistically follow all of the speech literature across all of the disorder areas, I have enlisted the aid of contributing editors, acknowledged experts in their respective areas. We have addressed a wide range of speech disorders in the chapters that follow. We've tried to select papers with clinical suggestions and implications, papers that examine new theoretical considerations, or papers that provide a better understanding of a topic area.

Martha Taylor Sarno begins the Speech section with a review of papers on aphasia and other related disorders. The selections are concerned with psychosocial changes and adjustments as well as the assessment and treatment of these disorders. One paper describes a Communication Effectiveness Index that examines differences among Alzheimer patients, the normal elderly, and stroke patients with aphasia.

In Chapter 2, David Beukelman has reviewed the literature in the areas of augmentative communication and motor speech disorders. In the area of augmentative communication, he focuses on papers concerned with difficult-to-serve populations and listener interactions to augmentative communication systems.

In Chapter 3, Judith Trost-Cardamone has included papers dealing with basic science and epidemiology, craniofacial terminology/nomenclature, and the management of cleft palate and craniofacial disorders.

In the fourth chapter, Adrienne Perlman has reviewed papers that consider the underlying symptoms of oral pharyngeal dysphagia, the effects of bolus size on swallowing, effects of radiation therapy on swallowing in head/neck patients, a computer analysis technique for videoradiographic studies of swallowing, and the activity of the pharyngeal constrictor muscle during reflective activity.

Eugene Cooper, in the chapter on fluency and stuttering, addresses reaction times and central auditory processing skills of stutterers and non-stutterers to various stimuli, the differentiation of stuttering and normal disfluency, and the dangers associated with a single therapeutic approach for all stutterers.

Nicholas Bankson joins me in Chapter 6 for a discussion of phonological disorders, which includes studies of phonological acquisition, phonology of two special populations, assessment, and intervention.

In the final Speech chapter, Voice and Voice Disorders, Stephen McFarlane discusses an "instrumental" evaluation of the phonatory characteristics, the clinical aspects of vocal cord paralysis, vocal nodules in children, and esophageal function associated with tracheoesophageal puncture and prosthetic devices.

My colleagues and I have attempted to capture the past year's important clinical developments in speech pathology. The papers summarized illustrate the breadth of issues involved in these developments and provide hints of what to expect in the years to come (to be covered in future editions of the YEAR BOOK OF SPEECH, LANGUAGE, AND HEARING!).

John E. Bernthal, Ph.D.

1 Aphasia and Related Disorders



Introduction

The articles that were selected for comment in this section reflect some of the areas that are currently receiving attention in the literature: functional communication effectiveness, the psychosocial sequelae of aphasia, long-term recovery, and the application of alternative and augmentative systems for the patient with aphasia—areas that I am pleased to see are being increasingly discussed in the literature. Some of this emphasis is the result of changes in the diagnostic categories of language-disordered individuals (e.g., those with Alzheimer's disease) seeking diagnostic services and program evaluation needs in the current cost-containment climate (i.e., functional communication effectiveness). Each of the domains is in great need of further research and experience. The papers include a number of contributions from investigators outside the United States, reflecting the universality of these topics in the Western World.

Martha Taylor Sarno, M.A., M.D. (honorary)

Psychosocial Changes and Psychosocial Adjustment With Chronic and Severe Nonfluent Aphasia

Herrmann M, Wallesch C-W (Freiburg Univ, West Germany)

Aphasiology 3:513–526, September 1989

1–1

Chronic and severe aphasia obviously causes major psychosocial changes in patients and their families. However, few studies have been done on the psychological, social, familial, and professional consequences of aphasia. The type and degree of psychosocial changes in severe chronic aphasics were investigated, with focus on disproportionate and unrealistic estimates of psychosocial outcome.

The close relatives of 20 chronic nonfluent aphasics were interviewed using a structured and standardized instrument. A modified translation of the Code-Müller Scale of Psychosocial Adjustment was used to elicit expectations of further psychosocial adaptation from patients, their relatives, and their speech therapists. The results indicated that the patients and their relatives experienced considerable psychosocial strain. Patients and relatives also estimated the probability of psychosocial adjustment improving as being significantly higher than that estimated by the speech therapists—Patients and their families remained optimistic about the prospect of future improvement, when in fact most of these patients are

unlikely to improve markedly. The discrepancy between therapists' and families' expectations and goals places a burden on patient management.

► An important contribution of this excellent study is its thorough and systematic cataloging of the social and emotional sequelae of aphasia in a group of chronic severe nonfluent patients. The items identified on the list of sequelae might serve as a checklist for professionals engaged in aphasia rehabilitation and a guide for therapeutic intervention.

The lack of information and counseling provided to families of aphasic patients, especially in the chronic stage, and the absence of aphasic support groups and community services appropriate for those with aphasia constitute a serious need. In the Western World, with the exception of the Scandinavian countries, there is little available in the way of social/support services. The persistence of psychosocial difficulties in the person with aphasia, and the social stigmatization of the patient and his family, which this study underscores, are major clinical and research challenges in aphasia rehabilitation.—M. Taylor Sarno, M.A., M.D. (hon)

Family Therapy in Families With an Aphasic Member

Währborg P, Borenstein P (Univ of Gothenburg; Lundby Hosp, Gothenburg, Sweden)

Aphasiology 3:93–98, January–February, 1989

1–2

A positive relationship between family support and stroke outcome has been reported previously. A technique of family therapy developed over a period of 10 years was evaluated in 22 aphasic patients and their families. The technique is based on systems theory, communication theory, and process theory. The family nature of the problem is emphasized and family members are guided in acting out their emotions.

None of the patients had global aphasia. Interviews covering emotions, behavior, social life, communication, and medical problems were conducted before and 6 months after the course of therapy. A minimum of 2 and a maximum of 6 therapy sessions were held.

Family life clearly improved after the course of therapy. Both aphasics and their relatives gained knowledge about the handicap. The aphasics were less likely to experience depression, emotional and social isolation, and impatience after family therapy. Communication skills were developed that allowed family members to provide the aphasic person with the emotional responses that he or she was unable to ask for. Longer and more frequent sessions might improve the outcome further.

► There is general consensus that a supportive family can be an important, if not essential, element in an aphasic patient's recovery. Yet, there have been few reports of studies in which family therapy techniques have been adopted for the purpose of modifying the behavior and attitudes of aphasics and their families. The negative effect that communication impairments such as aphasia have on human identity and family relationships makes family therapy an appro-

priate treatment choice. This report of the 10-year experience of a neurologist and a physician should inspire others to incorporate equivalent services in their aphasia rehabilitation programs. The authors provide a useful listing of the aims of family therapy with aphasics' families.—M. Taylor Sarno, M.A., M.D. (hon)

Processing of Visual Syntax in a Globally Aphasic Patient

Weinrich M, Steele RD, Carlson GS, Kleczewska M, Wertz RT, Baker E (Palo Alto VA Med Ctr, Calif; Stanford Univ; Martinez VA Med Ctr; Boston VA Med Ctr)

Brain Lang 36:391–405, April 1989

1–3

A number of patients with severe global aphasia who display no natural language function have been treated experimentally with a nonverbal visual communication system (VIC) designed to produce compensatory syntactic ability. A microcomputer-based extended version of this system, the C-VIC was developed to enable the globally aphasic patient to master a formal visual syntax and to generalize symbols for actions.

Man, 57, had acute onset of global aphasia and mild right hemiparesis. Although the hemiparesis soon resolved, 9 months of speech therapy brought little improvement in language ability. The patient was unable to repeat words aloud or to read printed material. His neurologic examination results were otherwise normal. The C-VIC system displays a stack of cards representing parts of speech on the computer screen. Cards are selected and arranged by the trainer and patient to form a string of symbols. Common nouns and modifiers are given representationally, proper nouns are portrayed by digitized photographs, prepositions by geometric shapes, and verbs by a combination of symbols. After a training period, the patient matched objects with C-VIC symbols with 100% accuracy. Verbs were more difficult to teach than other parts of speech. In 2 experiments the patient was tested on reversible prepositional phrases and 4 verbs. In both tests, responses were far more accurate with the C-VIC system than with printed stimuli.

Globally aphasic patients may be able to perform syntactic-like operations when information is represented in a nonverbal form. This patient's difficulty in generalizing from small to large objects raises questions about the extent of improvement that may be expected. Research is being directed at the representation of verbs, considered pivotal in the success of the C-VIC system.

► This paper is an extension of some earlier experimental work (1, 2). It suggests that many patients with global aphasia might be candidates for an alternative system of communication. The finding that a global aphasic patient was able to perform operations similar to the syntactic operations of natural language in the nonverbal representation of information makes a strong case for further research and development along these lines.—M. Taylor Sarno, M.A., M.D. (hon)