BOOK REVIEW

Review of Speech and Language: Advances in Basic Research and Practice
(Volume 11)


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Volume 11 of this series, edited by Lass, updates the reader on six different areas of speech and language. The characteristics are included and the intent is not to present different aspects of a unifying theme.

The first chapter, "Contemporary Aphasia Diagnosis," authored by Robert S. Tikofsky, initially presents aphasia testing from an historical viewpoint. He discusses the problems associated with the lack of standardized tests and with research motivated by different interests in aphasia.

A review of five diagnostic aphasia batteries, spanning the 1960s to 1985, presents the primary aspects of each test and its underlying conceptual framework. It is characteristic of previous volumes, a wide variety of topics is included and the intent is not to present different aspects of a unifying theme.

The second selection, "Acoustic-Phonetic Description of Speech Production in Speakers with Cleft Palate and Other Velopharyngeal Disorders," by Phillips and Kent, starts with a description of velopharyngeal function and velopharyngeal incompetence and discusses how these relate to speech-motor control. This is followed by a cogent description of the several factors (physiologic movements, timing, rhythm, etc.) involved in motor speech production and their relationship to velopharyngeal closure. The speech patterns and compensatory mechanisms used by cleft palate speakers are described as well as the early speech and phonetic development in these speakers and the effects of anatomical changes on speech production. Of particular value are the spectrograms which visually illustrate the deviant aspects of speech production in young children, older children and adults with velopharyngeal incompetence. The authors point out that some differences, particularly in young children, are subtle and therefore acoustic analysis adds an important dimension to perceptual analysis of the speech of these individuals.

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The third chapter, "Implications of Infant Vocalizations for Assessing Phonological Disorders," first briefly reviews the continuity-discontinuity positions regarding the relationship between infant phonological systems and early infant vocalizations. Focusing on the currently available evaluation methods, Smith first reviews the transcriptional analysis studies. Comparison of normal, Down's Syndrome, and hearing impaired infants show that these groups have similar prelinguistic sound production patterns. Therefore, the transcription studies do not seem to provide a potential for identifying infants at risk for later phonological disorders. A similar conclusion was drawn for the acoustic analysis studies, utilizing on-set time and final syllable vowel lengthening measures.

A promising avenue for future research is that of metalinguistic observations of infant vocalizations, which classify infant vocalizations into more general sound-categories rather than strictly phonetic or acoustic parameters. Smith also indicates that incorporating the notion of communicative intent and dealing with phonological and language precursors simultaneously may provide more successful in predicting later phonological disorders.

This chapter is helpful in reviewing the literature on transcription and acoustic analysis studies of infant vocalizations. In addition, it points the reader to future avenues to pursue in attempting to develop a metric from infant vocal behaviour which will predict later language disorders.

33

Cohen, van den Breek, and van Gool describe "A Study of Pitch Phenomena and Applications in Electrolynx Speech." The initial portion of the chapter describes pitch phenomena in human speech, that is, intonation. The authors describe the various problems measuring pitch and the elusive connection between meaning and pitch in language. Some of the difficulties arise because differences in measurements of pitch instrumentally do not necessarily correlate with the significance of such pitch differences to the listener. Consequently, the authors describe a series of steps used to arrive at a description of pitch variations and a grammar of intonation for the Dutch language. This information was then applied to electrolynx (EL) speech. Since listeners' main objections to EL speech were its mechanical and monotonous qualities, the authors hypothesized that intonated EL speech might be more acceptable. Using stylized pitch patterns, the authors estimated that they could generate greater than 70% of the intonation patterns occurring in Dutch. Incorporating two features of intonation, declination, the overall gradual fall of the melodic line of pitch in an utterance, and pitch movements, that is, pitch rises and falls for accented words, the authors gathered some data regarding the acceptability of intonated EL speech. The initial portion of the chapter describes pitch phenomena in human speech, that is, intonation. The next selection by Donald Fucss and Linda Petrofino discusses the practical applications of neuroanatomy for the speech-language pathologist. The selection starts with a review of neuroanatomy to include the central nervous system, the peripheral nervous system, and the autonomic nervous system. With such a short selection, the information presented is necessarily an overview. It is written in understandable language which is generally clear to the reader. Some diagrams might be improved although most demonstrate the point under discussion. Along with the neuroanatomical information, the functions of various structures are outlined. For cortical functioning, the authors might have referred to the recent work of Ojemann and his colleagues. The authors clearly state that their aim is not to make the speech-language pathologist into a neurologist but to provide information about the neurological examination and what kinds of beneficial information it can provide for the speech-language pathologist. The authors include a description of neurological tests for higher cortical function, cranial nerves, the motor systems, sensory systems, and reflexes. In addition, they outline pathological signs and their significance to nervous system dysfunction. With this information, the authors hope that the speech-language pathologist will be able to recognize abnormal functioning and to use this information in case management.

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The final selection of the volume by Sarah Hawkins is entitled "On the Development of Motor Control in Speech: Evidence from Studies of Temporal Coordination." Of both theoretical and practical importance to communication disorders specialists is the development of motor control of speech in children. Hawkins describes several potential theoretical candidates, such as a "top-down" model, a "bottom-up" model, and schema theory. Hawkins analyzes data from studies of temporal coordination and their contribution to the understanding of the development of motor control in speech. Hawkins describes both basic assumptions about children's perceptual and speech production abilities as well as the influences of acoustic-phonetic and neuromotor aspects of development. Hawkins describes several principles most common to the development of motor skills and summarizes some general principles about motor skill learning. Hawkins also describes two strategies for learning to produce consonant clusters reliably. These programming strategies describe the detailed organization of articulatory gestures necessary to produce the clusters. Although Hawkins recognizes that this is not a physiological explanation of consonant cluster revolution, Hawkins rightfully points out that many issues remain unanswered and although researchers can describe behaviour, it is more difficult to explain it. She makes several suggestions for future research and indicates that we need to keep in mind that our organization of research data may not be the brain's organization of it.
The authors' goal in producing this manual of voice therapy was to present a single source which will encompass pertinent information for most dysphonias, varying from functional to organic, psychogenic to surgically induced disorders in voice. Both adult and pediatric populations are considered in the text. The authors' ambitious attempt to incorporate extensive research materials in the volume has fulfilled its goal and benefited the readers. The materials are presented in a highly organized fashion.

The ensuing chapters categorize types of dysphonia as their titles suggest: Laryngeal Trauma and Trauma-induced Disorders, Functional, Psychogenic, and Spasmodic Dysphonias, Neurogenic, Myopathic, and Apraxic Dysphonias, Dysphonias with Congenital Etiologies, Functional, Psychogenic, and Spasmodic Dysphonias, Disorders of Vocal Resonance, and Laryngectomee Rehabilitation. Under each category, differential diagnoses of disorders are identified by vocal characteristics. One format is used for all disorders throughout the book, namely: etiology, symptoms, laryngoscopic findings, and therapy management. The format is logical and the information is complete. The pages are easy to turn and will stay in place with the need of only one hand. The "hi-tech" conceptualized diagrams (as in Chapter 5) parallel the nerves and paralysis to a water pipe system. Somehow this seems to demand considerable artistic imagination from the reader to conceptualize the real thing.

The writing is in the style of a technical manual and non-narrative, information is presented in a highly organized but cumbersome manner. The chapter is divided and further subdivided, beginning with Roman numerals to capital letters and further parenthesized numbers and more small letters. It is more time consuming (and conical to the purpose of a manual) for one to trace the beginning of a topic since each page has as many "a, b," and "1, 2," as the other. Trying to find, for example, p. 718 would be far easier than looking for VII.1.b (2) in chapter 4. It would also be preferable to have subheadings printed on each page instead of chapter titles.

Overall, this book serves well as a primer for voice disorders and therapy, owing to its systematic presentation of the vast source of information. However, one must realize that therapy is not only something we the clinicians do to the patients by simply following a recipe from step A to step Z while awaiting the chemical changes. Human patients with their own psyches invariably emit subtle and direct messages which require an astute clinician to pick them up and utilize them to adjust the dose, alter the approach and enhance the patient's progress in therapy. What a technical manual does not offer is the sophistication of experience itself and its ability to recognize problems.

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35