



edited by
James F. Kavanagh
and
James E. Cutting

The Role of Speech
in Language

Kavanagh
and Cutting, editors

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Proceedings of a conference entitled "The Role of Speech in Language" in the series "Communicating by Language" sponsored by the National Institute of Child Health and Human Development, National Institutes of Health.

The Role of Speech in Language

EDITED BY JAMES F. KAVANAGH AND
JAMES E. CUTTING



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Preface

This book reports the proceedings of the conference entitled "The Role of Speech in Language" sponsored by the Growth and Development Branch of the National Institute of Child Health and Human Development (NICHD). The conference was organized by the Cochairmen, Dr. James F. Kavanagh of the Growth and Development Branch and Dr. Alvin M. Liberman of the Haskins Laboratories and the University of Connecticut, and was held October 7 through October 10, 1973, at the Urban Life Center, Columbia, Maryland.

Within the Public Health Service of the Department of Health, Education and Welfare there are ten mission-oriented National Institutes of Health. The NICHD was established in 1963 as one of these ten Institutes. As part of its mission, the NICHD has stimulated and supported basic biological and behavioral research in communication. This research is intended to elucidate the processes by which individuals acquire and develop the ability to communicate and to lead to a better understanding of the role of communication in growth and development.

In connection with its interest in communication, the NICHD has sponsored a conference series, "Communicating by Language," to determine existing and potential directions for research as well as to identify the roles of the various disciplines in human communication. The first meeting was held at Princeton in 1964 and was an interdisciplinary exchange between scientists who are actively investigating the speech process. (The edited transcript is available through the ERIC Documentation Service: ED 059 200.) The second conference met at Old Point Comfort, Virginia, in 1965; it explored language development in children. (The proceedings were published by the MIT Press as *The Genesis of Language*.) Interdisciplinary experts on the reading process met in New Orleans in 1968 for the third conference. (The proceedings were published by the Government Printing Office as *Communicating by Language: The Reading Process*.) The fourth of the series was convened at Elkridge, Maryland, in 1971 to compare and contrast the processes of speech and reading. (The proceedings were published by the MIT Press as *Language by Ear and by Eye: The Relationships between Speech and Reading*.)

As a report on the fifth conference in this series, the present volume explores the function of speech in language. It is directed to the questions of how and within what limits the acoustic signal, the articulation that produces it, and the phonetic message it conveys are related to the rest of the language system. The aim is to describe what is known about this relationship and to pose fundamental questions that may stimulate further useful research.

The participants in this fifth conference were:

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Dr. Eimas was unable to attend the conference, but his research was summarized by Dr. Cutting.

At the time of the conference Dr. Cutting was attached to Yale University; Dr. Huttenlocher to Teachers College, Columbia University; and Dr. Lieberman to the University of Connecticut.

Dr. Studdert-Kennedy's work was supported in part by a grant to Haskins Laboratories from the National Institute of Child Health and Human Development. He wishes to express appreciation to Drs. Alvin Liberman, Ignatius Mattingly, and Donald Shankweiler for comments and criticisms.

Drs. Jenkins and Shaw acknowledge the support of the Center for Research in Human Learning at the University of Minnesota. The Center is supported by grants from the National Science Foundation (GB 17590), the National Institute of Child Health and Human Development (HD 01136), and the Graduate School of the University of Minnesota.

The research of Drs. Bellugi and Klima was supported by research grant NS 09811 from the National Institutes of Health and National Science Foundation Grant P4S 0132. They are also grateful to the more than 100 deaf people who worked with them in aspects of the research on sign language. In particular, they wish to thank Bernard Bragg, Carlene Canady, Henry Chen, Lou Fant, Lawrence Fleischer, Elizabeth Lay, David McKee, and Steve Turner, and the many students at Gallaudet College and California State University at Northridge who participated in their studies. Dr. Bellugi and Dr. Klima also appreciate the ingenuity and artistry of Frank A. Paul, who provided most of their illustrations of signing.

The preparation of Dr. Huttenlocher's paper was supported in part by a Career Development Award HD 21979 and in part by Grant HD 03215, both from the National Institutes of Health. She also thanks Deborah Burke, Susan Meadow, and Robert Schwartz for their helpful comments on the manuscript.

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Dr. Ross' work was supported in part by a grant from the National Institute of Mental Health (5 PO1 MH 13390-08). He is grateful to Paul Kiparsky, Terry Langendoen, and Dave Stampe for helpful comments, and to Jim Cutting for general assistance.

Finally, the editors would like to thank Kathryn Kavanagh and Christine Donnelly for their assistance during the conference, Daphene Cave, Sharon Kennelly, Sharon Mariotti, and Marian Young for their careful typing of parts of the manuscripts in this volume, and above all, Christine Smith for her invaluable help both in the preparation for the conference and for this book.

James F. Kavanagh
James E. Cutting

Is our understanding of language increased when we take into account that it is spoken? This question served as the point of departure for the twenty-eight papers and commentaries contained in *The Role of Speech in Language*.

In three parts—"The Development of Speech in Man and Child," "Language without Speech," and "Phonology and Language"—the book takes up the problems of how and within what limits the acoustic signal, the articulation that produces it, and the phonetic message it conveys are related to the rest of the language system.

The Role of Speech in Language is derived from a conference which was fifth in the series "Communicating by Language," sponsored by the National Institute of Child Health and Human Development, National Institutes of Health. Other books from this series published by the MIT Press are *The Genesis of Language*, edited by Frank Smith and George A. Miller; and *Language by Ear and by Eye: The Relationship between Speech and Reading*, edited by James F. Kavanagh and Ignatius G. Mattingly.

James F. Kavanagh is Acting Program Director, Growth and Development Branch, National Institute of Child Health and Human Development. James E. Cutting is Assistant Professor of Psychology, Wesleyan University, and Research Associate, The Haskins Laboratories.

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