LINGUISTICS
AND READING

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Introduction

This book attempts to bring to the study of the problems of learning to read and of the teaching of reading a body of knowledge not hitherto fully explored for help in this fundamental part of our education.

For many years I have held the view that, in order to achieve basically sound solutions to educational problems, we must, in some way, learn how to bring to bear upon the pressing problems of education all the knowledge that has been won, and all the new knowledge that is continually being won, in every one of the "subject-matter" disciplines. I have firmly believed also that, in order to accomplish that end, some of us who have worked primarily in academic disciplines must struggle to understand sympathetically the work, the methods, and the language of those devoted to the professional study of education. We must achieve such an understanding as to make complete communication and thorough cooperation possible. The bridging of the gap between

the academic scholar-teacher and the education specialist demands that kind of communication and that kind of cooperation.

Throughout most of my career I have tried to develop this kind of understanding in my special field — the historical and descriptive study of the English language. In spite of some widely circulated statements to the contrary, I have never been a "Professor of Education." I have, however, throughout my years as Professor of English in the Department of English of the University of Michigan, been welcomed as a member of the staff of the School of Education, have attended their faculty meetings, and through seminars and as chairman of doctoral committees have contributed to the advanced study of the problems of teaching English. In the field of English linguistics I have tried, not only to understand and to contribute to the developing knowledge of the nature and functioning of human language, but also to explore the applications of that knowledge to the problems of teaching. Some examples of the results of this work appear in my *The Teaching of the English Language* (1927), reprinted with the title *The Teaching of English* (1949); *Teaching and Learning English as a Foreign Language* (1945); and *Foundations for English Teaching* (1961).

This book, *Linguistics and Reading,* continues my striving to explore the applications of linguistic knowledge. It presents a non-technical survey of the knowledge concerning the nature and functioning of language that has been built up by the scientific study of language during the last 140 years, and an analysis of the reading process in the light of that knowledge. This book does *not deal with linguistics as content material that should be taught to children in the elementary schools.* As a matter of fact, the book does not deal with the *teaching of linguistics* to any level of student. It is true that teachers, or lay readers, or even linguistic students, who desire a brief account of the changing linguistic attitudes from 1825 to 1960, will find Chapter Two a useful unit apart from the rest of the book. But this book does not seek to provide for the teaching of linguistics as such. It is concerned with the *teaching of reading* and it seeks to analyze and restate a number of the fundamental questions about reading *not in the terms of the procedures of linguistic science* but against *the background of the knowledge concerning human language* which linguistic science has achieved.

The general analysis of the reading process in terms of language meanings and language signals is set forth in Chapter Four, "The Nature of the Reading Process." But Chapter Four rests upon an understanding of the developing views of the nature and functioning of human language that are surveyed in Chapter Two, "Linguistics: The Study of Language," and in Chapter Three, "Language Meanings and Language Signals." The reader will find Chapter Four, "The Nature of the Reading Process," much easier to grasp in its full significance if he comes to it fresh from the summaries of Chapter Two and the materials treated in Chapter Three. This general analysis of the reading process forms the theoretical basis upon which to build a detailed linguistic examination of the kinds of materials to which a reader must develop high-speed recognition responses. (See Chapter Six, "English Spelling: Background and Present Patterns," and Chapter Seven, "Materials and Methods: The Essentials of a Linguistically Sound Approach.") These five chapters constitute the chief burden of the book.

Chapter Two, the descriptive survey of linguistics, does *not* center attention upon the techniques and procedures of linguistic analysis — the problems that linguistic scholars faced, and the tools and increasingly rigorous methods they developed to solve those problems. If the purpose of Chapter Two had been a full history of the scientific study of language these matters of problems and procedures would have bulked much larger than they do. For the purpose of this book the descriptive survey of Chapter Two was limited primarily to a statement of the new views of the nature and functioning of human language that gradually emerged as unexpected results of the use of the new techniques and procedures. In the text of this survey chapter, brief summaries are given at the end of each of the three sections covering the three time periods: 1820 to 1875, 1875 to 1925, and 1925 to 1950. At the end of the third section, all three summaries are brought together.

This survey of the knowledge and understanding developed over a period of 140 years should help to dispel the image of the "linguist" as one who devotes himself primarily to the destruction of all the qualities that make for precise and full expression — an irresponsible speaker of the language for whom "anything goes."

The reader of this book should *not* attempt to read Chapters. Six and Seven before he has read at least the summaries of Chapter Two and the whole of Chapters Three and Four.

Throughout the discussions of the teaching of reading the arguments concerning the use of *phonics* bulk large. For many teachers the word *phonics* seems to stand for almost any procedure that seeks to make connections between the pronunciation of a word and its spelling. Particularly confusing and distressing to a linguist who tries to read these discussions is the lack of discrimination in the uses of the words *phonic* and *phonetic,* and *phonics* and *phonetics.* Chapter Five of this book tries to provide the basis for a mutual understanding in the uses of these terms and to relate to them the somewhat newer terms *phonemic* and *phonemics.* Only from such a basis of understanding can one proceed to a satisfactory treatment of the structural significance of the alphabet that English uses in its spelling patterns. Chapter Five, therefore, must also be read before Chapters Six and Seven. It can be read first or immediately after Chapter One.

Chapter One, "Past Practice and Theory in the Teaching of Reading," rests upon a first-hand study of two sets of materials. The first set of materials examined consisted of the professional studies of reading problems — studies published from 1910 to 1960, the period of what has been called "the scientific study of education." (For a brief summary of the bibliographical resources covering the tremendous number of these professional publications see Note 1 of Chapter One.)

The second set of materials studied consisted of the actual textbooks from which reading was taught in the home and in the school as well as the books and journal articles discussing the teaching of reading, and the sections of other books dealing with orthography and pronunciation — all of these published during the years from 1551 to 1900. I had already done a first-hand historical study of the grammars and the dictionaries in the light of the developing attitudes toward the English language from the fifteenth century to 1925.

The chapter itself, although it touches briefly the earlier reading materials, emphasizes the practice and the theory developed during the years from 1800 to 1900. It seeks primarily to bring

into focus the contributions of the nineteenth century to the practices of today.

My special interest in the problems of reading was aroused by conversations with Leonard Bloomfield nearly thirty years ago when we were both members of a small committee of the Linguistic Society of America appointed to consider some of the problems of the practical applications of linguistic knowledge. Bloomfield himself developed a set of materials through which he taught his boy to read and Agnes Fries and I, starting with the writing of a little book for a three-year-old boy in 1940, have, since that time, whenever an opportunity could be found from the press of other duties, continued our efforts to build up a satisfactory and linguistically sound approach to the teaching of reading. This present book on *Linguistics and Reading,* which attempts to set forth the fundamental principles of our thinking, has been taking shape slowly over a considerable period. In the meantime we have found a number of opportunities to experiment in a variety of situations with our new materials for teaching beginning reading. We have taught not only the normal five and six year olds but also children of three and four, as well as "retarded" children of eleven and twelve of very low intelligence quotients.

In this book, therefore, the approach to the problems of reading assumes the primacy of language and talk. This view of the fundamental relation of language to reading will appear throughout all the discussion, as it attempts to analyze (a) the nature of the reading process, (b) the sets of habits which must be acquired in order to read satisfactorily, (c) the essential features of materials adjusted to various stages of reading competence, and (d) the principles of procedure and teaching method that grow out of this approach.

If such a book is to be really useful, there must be considerable cooperation on the part of both author and reader. As author I have tried to realize something of the difficulties that readers have in grasping the significance of a new and different approach to problems they have studied for a long time with a different set of assumptions. The mere elimination of technical terms will not provide the answer. It will help, but the difficulties lie deeper. The new statements of the problems, the consideration

of matters not hitherto thought to be related to reading processes, the new views of language must in some way be attached to the experience of the readers. There is no easy road to this end. I believe, however, that the workers investigating reading problems, those who devise reading programs, those who train the teachers of reading, and the parents who are concerned with the educational development of their children cannot afford to neglect exploring fully the contribution which present-day linguistic knowledge could make to the developing of a more effective teaching of reading at all levels.

SUMMARY OF CONTENTS

This book presents the first attempt to bring together a non-technical descriptive survey of modern linguistic knowledge, an analysis of the nature of the reading process in the light of that knowledge, and a somewhat detailed linguistic examination of the kinds of materials to which the reader must develop high-speed recognition responses. It lays the foundation for an integrated program that will not only provide materials for the beginner and his progress through the first stage of reading achievement, but also a brief map of the course for his continued development through the stage of "productive reading" to the mature reading of literature.

The book begins with a survey of past practice and theory in the teaching of reading (Chapter One) in order to give some perspective to the discussion of the new materials to follow. Because the early discussions of the methods and materials for the teaching of reading English seem to have been neglected (or misunderstood) the survey began with John Hart's book of 1570 entitled

A Methode or comfortable beginning for all unlearned, whereby they may bee taught to read English, in a very short time with pleasure.

On the whole, however, it gives major attention to the developments in the teaching of reading before 1900. It brings together the materials to demonstrate that the important changes in approach

that characterize the history of the teaching of reading in the schools have grown out of the earnest struggle of the teachers and administrators themselves to find better ways — ways to achieve specific types of skills that the approach then in use neglected, ways to make their teaching measure up to their ideals of all that must be accomplished. The mere chronology of some of the major emphases in the teaching of reading as shown in the "directions for the teachers" and "explanations of method" that appear in the prefaces and introductions of widely distributed textbooks, in the manuals used for teacher training in the annual teachers institutes, and in the journals for teachers, sheds considerable light upon this struggle. This chronology also demonstrates that the chief methods and combinations of methods now discussed so vigorously were actually in use long before the time of modern educational research. As early as 1842 the Word-Method was vigorously discussed, and fully worked out in widely used books published in 1850, 1856, 1874, 1883. As a general practice these books also provided for the teaching of new words by using the methods of "word analysis by sound," usually preceded by a period of "preparation" activity to put the pupils "on their own" in approaching new words in their reading.

The Sentence-Method received considerable discussion and practice from 1870 on. Farnham's book, first published in 1881 with later editions of 1886 and 1895, was widely used in teacher training institutes in the East, especially in New York State, and in the Middle West, chiefly in Iowa and Nebraska. As explained and practiced by Farnham and his followers this approach through the "whole sentence" was well conceived and thoroughly worked out in a teachable program. It stressed the need for preparation exercises to make the pupils "ready" for reading, constantly insisted upon the getting of meaning and thought as the basic objective, made use of supplementary reading material and selection on the basis of pupil interest, and, asserting that "true education is a growth," based the teaching of reading upon the experience of the pupils. The leading teachers and administrators before 1890 did not conceive the task of teaching reading in any narrow fashion, and their practical classroom experimentation led to a continuing development in theory and in method. These

achievements all antedate the rise of "modern educational research" by at least a generation.

Among the great mass of studies devoted to the problems of teaching reading during the first half of the twentieth century one can find but one or two that have given any consideration to the new knowledge concerning the nature and functioning of language achieved by the labors of a host of linguistic scholars over more than a century.

Chapter Two, entitled "Linguistics: The Study of Language" attempts to explain to the educated lay reader the succession of problems to which the "scientific study of language" has devoted itself during the last 140 years, and the results of that work. Linguists themselves, of course, usually center attention upon the progress in the development of increasingly satisfactory techniques and procedures of linguistic analysis and description. But for those not professional linguists — teachers and educated laymen — of vastly greater importance is the new knowledge concerning the nature and functioning of human language that has come as the unexpected result of this century and a half of scientific linguistic work. It is this new understanding of the language that has shed new light upon the nature of the reading process and the problems of learning to read — the problems of beginning reading as well as those of mature reading.

Chapter Three carries further the descriptive explanation of each language as an arbitrary code of signals. We assume for our purpose here that our particular language provides the tool by which English speaking communities grasp and share meanings. These meanings constitute the storehouse of all the knowledge of our society. Our language is not the meanings themselves but rather the system of arbitrary patterns by means of which the meanings are signalled or communicated. Learning to use a language means learning (a) to recognize the significant patterns of the functioning units that identify the lexical items or "words," and those that identify the grammatical structures, and (b) to recall instantly the meanings that attach to these patterns, and (c) to produce these significant patterns for the recognition of other members of the community. In other words, a child has learned to "talk" his native language when he can make the regular responses to these language signals as produced by others

and also can produce these same language signals to elicit the regular responses in others of his linguistic community. Learning thus to "talk" (learning to produce and to receive the oral signals of his language) constitutes the basis upon which a child must build to learn to read.

Learning to read (as set forth in Chapter Four) is *not* a process of learning new or other language signals than those the child has already learned. The language signals are all the same. The difference lies in the medium through which the physical stimuli make contact with his nervous system. In "talk," the physical stimuli of the language signals make their contact by means of sound waves received by the ear. In reading, the physical stimuli of the same language signals consist of graphic shapes that make their contact with his nervous system through light waves received by the eye. The process of learning to read is the process of transfer from the auditory signs for language signals which the child has already learned, to the new visual signs for the same signals.

Learning to read, therefore, means developing a considerable range of high-speed recognition responses to specific sets of patterns of graphic shapes. In the transfer from a succession of sound patterns in a time dimension to a succession of graphic patterns in a space direction there are many (often little understood) arbitrary features that must be specifically and thoroughly learned by much practice. Insufficient practice of these seemingly insignificant details of contrastive shape and direction often lies back of the need for "remedial" teaching later.

Perhaps the most important weaknesses of the present approaches to the teaching of reading arise out of a misunderstanding or an ignoring of the structural significance of alphabetic writing, and the nature of the spelling patterns of present-day English. To help remove these misunderstandings Chapter Five seeks to clarify the uses of the words *phonics, phonetics,* and *phonemics,* and to show something of the place of our alphabet in the history of writing. Chapter Six furnishes a brief history of English spelling in order to show that although the alphabet as used for English is phonemically based, it is not a "phonemic alphabet," in the sense that there is a single letter for each phoneme and a single phoneme for each letter. Throughout the history of

English spelling the letters of the alphabet have never had a one for one correspondence with English phonemes. The phonemes, especially the vowel phonemes, have always been graphically represented by *spelling patterns*. English spelling today cannot be satisfactorily dealt with by trying to match individual letters with individual sounds. To say this, however, does not deny the basic relation that does exist between sounds and spellings. To grasp that relation, the beginning reader must learn to respond to the significant features of the major patterns of spelling rather than try to learn the many various sounds that each letter can be said to represent. From this point of view, all but a very small number of the spellings of English words fit into one of the spelling patterns. The comparatively few that do not fit, the "orphans," are primarily problems for the writer, who must produce in his writing the proper spellings for all of these "irregulars." The reader, as a reader, however, must learn to identify the words *as spelled for him by the author* of the text he is reading; for reading, it is not necessary for him to spell them himself. The major spelling patterns of present-day English are fortunately few in number, but for these the reader must develop, through long practice, high-speed recognition responses. These responses must become so habitual that practically all the clues that stimulate them eventually sink below the threshold of attention leaving only the cumulative comprehension of the meaning.

But, for the efficient development of these habits of automatic recognition on the part of the pupil, the materials for his practice cannot ignore these clues. They must be selected and organized in such a sequence as to lead him through all of the major and some of the minor spelling-patterns. The progression of the material must be so programmed that each new item of whatever length is tied by a simple contrast to an item formerly practiced. The simple contrasts used should always be of items within a whole pattern, never of items less than a word. The basic principle of the learning and the teaching should always be contrast within a frame.

The spelling-pattern approach differs fundamentally from the phonics approach. Underlying the phonics approach is the assumption that much of learning to read is learning to match words as written, letter by letter, with words as pronounced, sound by sound.

It is perfectly true that for a certain range of spelling-patterns, notably the first major set of spelling-patterns described in Chapter Six, the phonics approach has been helpful and this fact accounts for the persistence of phonics in the schools. But the "phonics way" does not lay the basis for the kinds of responses to spelling-patterns that can be used for all the materials. One can learn such words as MAN, MAT, MEN, MET, the phonics way, and project similar letter-sound correspondences through a substantial number of words. But even for the three letter words like MAN it is not the single letter A that indicates the vowel sound [æ]. It is the spelling-pattern MAN in contrast with the spelling-patterns MANE and MEAN that signals the different vowel phonemes that identify these three different word-patterns /mæn/ /men/ /min/; or MAT /mæt/ — MATE /met/ — MEAT /mit/.

Although the spelling-pattern approach always gives attention to whole words rather than to individual isolated letters it differs fundamentally from any of the common "word-method" approaches in that there is no uncertainty in the identifying characteristics that mark off one written word from another. These are the identifying characteristics of the language itself as incorporated in the patterns of our alphabetic spelling.

The handling of these beginning materials need not be mechanical, but they must be subjected to rigorous criteria of selection and programmed into a progression of small, coherent, contrastive steps. Even from the beginning there must be complete meaning responses not only to words but to complete utterances and, as soon as possible, to sequences of utterances. The *cumulative* comprehension of the meanings must become so complete that the pupil reader can as he goes along supply those portions of the language signals which the bundles of spelling-patterns alone do not represent. The case for the use of a considerable amount of properly directed oral reading rests primarily on the need to develop this kind of *productive* reading.

During the long period through which active observation, systematic reading, and concentrated investigation continued to build the understanding upon which the thinking of this book rests I have gained much stimulation and many very helpful insights from talks with colleagues, students, teachers in the schools, and

especially with children. I cannot list here even those who con-
tributed most but I want them to know that I am grateful. The
book would not have given attention to a considerable variety of
what now seem especially important details had not the realiza-
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She has borne the chief responsibility in providing materials for our
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