THE STUDY OF LANGUAGE

A Survey of Linguistics and Related Disciplines in America

JOHN B. CARROLL

Harvard University

Harvard University Press

Cambridge

1955

Copyright 1953
By the President and Fellows of Harvard College
Second Printing

Distributed in Great Britain by
GEOFFREY CUMBERLEGE
Oxford University Press
London

Library of Congress Catalog Card Number 53-5067
Printed in the United States of America

THE STUDY OF LANGUAGE

PREFACE

This book is an outcome of a report written originally at the request of the Carnegie Corporation of New York. That report, entitled "A Survey of Linguistics and Related Disciplines" and submitted to the Carnegie Corporation in December 1950, was circulated informally among a number of linguistic scientists and other professional workers concerned with the study of language. As a result, I was urged to revise and expand the material in the report and to make it available in published form. This book is addressed to all who are interested in the study of speech, language, and communication, and particularly to those who recognize that these studies require coöperative effort on the part of the various specialists concerned with particular aspects of language problems. It is intended in no way to supplant the general and technical references available in various areas of interest; rather, one of the purposes of this book is to serve as a study guide, by providing the reader with references to some of the more significant books and articles pertaining to each part of the presentation. The very wide scope of the present treatment has precluded, in many cases, a detailed discussion of technical issues. Instead, the intention has been to suggest the mutual relations of various approaches to problems of language study.

The assignment originally given me by the Carnegie Corporation was broad and contained few specifications. I was asked to survey the field of linguistics—its present status, its methodological problems, and its connections with neighboring disciplines. Considerable attention was to be given to possible implications of linguistic science for educational problems in our schools, from the kindergarten up through the postgraduate levels.

In approaching this task, I found it impossible to limit my attention to the field of linguistics as defined in the standard works on linguistics and language study. The breadth of interest in problems of language and communication which has been manifested in recent years made it necessary to go far afield, for example, into a brief study of communication engineering. The scope of this survey, therefore, can best be described as attempting to embrace the totality of present-day inquiry into various phases of human communication, as seen from the standpoint of modern linguistic science in America. To encompass such a scope without neglecting, slighting, or misinterpreting at least some of the more important developments in the field would be a truly staggering task, and it would be immodest to claim that this report fulfills such a mission even approximately. Nevertheless, to the extent that there is need of a work which would attempt to bring under one cover a review of the present status of the study of language in America, the effort represented here seems to be justified.

As an aid in the preparation of the original report, I was fortunate in having been enabled by the Carnegie Corporation of New York to visit a number of universities and other centers where linguistic studies are being pursued. Many hours were spent in stimulating discussions with linguists and other interested specialists. A special debt of gratitude is owed to the following persons, who welcomed me on my visits to their institutions and were most gracious in arranging conferences and discussions with members of their staffs: Professors Franklin Edgerton and Bernard Bloch, Yale University; Joseph Greenberg, Columbia University; J Milton Cowan, Cornell University; Zellig S. Harris, University of Pennsylvania; Henry L. Smith, Jr. and George L. Trager, Foreign Service Institute, Department of State; Hans Kurath and Charles C. Fries, University of Michigan; Charles F. Voegelin, Indiana University; William N. Locke, Massachusetts Institute of Technology; and Leon Dostert, Georgetown University; and Miss Mary Bray, Executive Secretarv. International Auxiliary Language Association.

In addition, I wish to express appreciation to Professors Joshua Whatmough, Roman Jakobson, Ivor A. Richards, and Clyde Kluckhohn, and Dean Francis M. Rogers, all of Harvard University; Professor Irving Lorge of Columbia University; Professor Martin Joos of the University of Wisconsin; and Dr. George M. Cowan of the Summer Institute of Linguistics. These persons were particularly helpful in supplying information and suggestions for the preparation of the original report.

I am also much indebted to the following persons who offered comments which were helpful in preparing the present revised version:

试读结束，需要全本PDF请购买 www.ertongbook.co

Bernard Bloch, J Milton Cowan, Leon Dostert, Franklin Edgerton, Mortimer Graves, Eric Hamp, Archibald Hill, Roman Jakobson, Albert Marckwardt, R. I. McDavid, Norman McQuown, George A. Miller, I. A. Richards, Henry Lee Smith, Jr., and his associates at the Foreign Service Institute, and Charles F. Voegelin.

My colleagues in a seminar in psycholinguistics, held at Cornell University in the summer of 1951 under the sponsorship of the Social Science Research Council, were helpful in stimulating further clarification of the relation between psychology and linguistics: Frederick B. Agard, Cornell University; Stanley S. Newman, University of New Mexico; Charles E. Osgood, University of Illinois; Thomas A. Sebeok, Indiana University; and Richard L. Solomon, Harvard University.

For permissions to quote, the author makes grateful acknowledgment to the following sources: The American Psychological Association, for a quotation from the *Psychological Bulletin;* Columbia University Press, for a quotation from Linton's *Science of Man in the World Crisis* (copyright 1945); Ginn and Company, for quotations from Agard and Dunkel's *Investigation of Second-Language Teaching* (copyright 1948); Dr. Robert A. Hall, Jr., for quotations from his book *Leave Your Language Alone!* (copyright 1950); Harcourt, Brace and Company, for quotations from Sapir's *Language* (copyright 1921) and Ogden and Richards' *Meaning of Meaning* (1936); Harper and Brothers, for quotations from Wendell Johnson's *People in Quandaries* (copyright 1946); Harvard University Press, for quotations from Kluckhohn and Leighton's *The Navaho* (copyright 1946); Henry Holt and Company, for quotations from Bloomfield's *Language* (copyright 1933); The International Society of General Semantics, for quotations from its copyrighted journal *Etc., A Review of General Semantics;* Dr. Robert Lado, for a quotation from his doctoral thesis; the Linguistic Society of America, for numerous quotations from its copyrighted journal *Language,* and for quotations from Bloch and Trager's *Outline of Linguistic Analysis* (copyright 1942) and Joos's monograph *Acoustic Phonetics* (copyright 1948); the McGraw-Hill Book Company, for quotations from George Miller's *Language and Communication* (copyright 1951) and from Dollard and Miller's *Personality and Psychotherapy* (copyright 1950); the W. W. Norton Company, for quotations from Richards and Gibson's *Learning Basic English* (copyright 1945); Scott, Foresman and Company, for quotations from W. S. Gray's *On Their Own in Reading* (copyright 1948); the *Southwestern Journal of Anthropology;* the George W. Stewart Co., for quotations from Lasswell and associates' *Language of Politics* (copyright 1949); *The Technology Review,* edited at the Massachusetts Institute of Technology, for quotations from articles by Benjamin Lee Whorf; Dr. George Trager, for quotations from his paper *The Field of Linguistics* (1949); the University of Illinois Press, for quotations from Shannon and Weaver's *Mathematical Theory of Communication* (copyright 1949); the University of Michigan Press, for a quotation from Fries's *Teaching and Learning English as a Foreign Language* (copyright 1945); and John Wiley and Sons, Inc., for an excerpt from E. C. Berkeley's *Giant Brains* (copyright 1949).

I am especially indebted to Dr. John W. Gardner of the Carnegie Corporation of New York, whose request that I make the survey on which this book is based again brought me into active contact with the field of linguistics after some years spent away from these pursuits. It is to be understood, of course, that by virtue of providing funds which made the original report possible, the Carnegie Corporation of New York does not necessarily endorse any of the statements made or the views expressed here. The opinions expressed in this book are, of course, made solely on my own responsibility; my informants are not to be held to account for any aberrant views or other deficiencies that may be found here.

As in all such enterprises, writing this book had both its pleasant and its tedious phases. For her encouragement and expressions of delight in the former, as well as her patient understanding in the latter, I am very grateful to my wife, Mary Searle Carroll, who had no small part in enabling me to bring the work to a conclusion.

John B. Carroll

Cambridge, Massachusetts
July, 1952

CONTENTS

Chapter 1. **INTRODUCTION** 1

Chapter 2. **THE SCIENCE OF LINGUISTICS** 7

Language and Linguistics 7. The History of Linguistics 15. Branches of Linguistics 23. Current Trends in the Methodology of Descriptive Linguistics 29: *General remarks* 29, *Methodology in phonetics* 32, *Methodology in phonemics* 33, *Methodology in morphology and syntax* 35. Grammatical Categories 41. Linguistic Typology 42. The Linguistic *Weltanschauung* Problem 43. Historical and Comparative Linguistics 48. The Territory of Linguistics 53: *The Indo-European languages* 54, *Other well-studied language families* 55, *Major language families of Asia* 55, *The languages of the Pacific* 56, *The languages of Africa* 56, *The native languages of North America* 57, *The native languages of South America* 58, *Studies in linguistic geography* 59, *General remarks* 59. The Statistical Study of Language 61. Philological Studies 65. Summary 66.

Chapter 3. **LINGUISTICS AND PSYCHOLOGY** 69

Introduction 69. A Bibliographical Note 71. Treatments of Linguistic Problems in Psychology 71. Treatments of Psychological Problems in Linguistics 80. Current Studies in the Psychology of Communication 83. The Nature of Language Behavior 88: *Structural units of language behavior* 93. Some Major Problems of Psycholinguistics 94: *The acquisition of linguistic responses* 94, *The strength of linguistic responses* 97, *Language development in the child* 98, *The learning of second languages* 99, *The origin and development of language* 100, *Individual differences in language behavior* 101, *Speech pathology* 102, *Language and thought* 103. Implications of Psycholinguistics for Psychological Theory 105. Implications of Psychology for Linguistics 109. Implications of Linguistics for the Conduct of Psychological Research 109. Summary 110.

Chapter 4. **LINGUISTICS AND THE SOCIAL SCIENCES** 112
Introduction 112. Linguistics in Relation to Anthropology 113. Linguistics and Cultural History 116. Linguistics and Sociology 117. Linguistics and the Study of Mass Communications 119. Language Engineering 121. The Problem of an International Auxiliary Language 125. Summary 132.

Chapter 5. **LINGUISTICS AND PHILOSOPHY** 133
Introduction 133. The Nature of Philosophical Interest in Language 133: *Epistemology* 133, *The theory of signs* 133, *The unity of science* 134, *Metaphysics* 135. Some Special Problems in the Philosophy of Language 136. Conclusion 138.

Chapter 6. **LANGUAGE AND EDUCATION** 140
Introduction 140. The Teaching of the Language Arts 141: *The language arts in elementary education* 144, *The teaching of reading* 146, *The doctrine of correctness in English grammar and usage* 150, *Advanced language skills* 155, *Speech education* 158, *Semantics and education* 160. Second-Language Teaching 168: *A short history of developments in second-language teaching* 170, *Language teaching during World War II* 173, *The Investigation of the Teaching of a Second Language* 177, *Recent developments in language teaching* 179, *The Cornell language program* 180, *Language teaching at the Foreign Service Institute, Department of State* 181, *Georgetown University's Institute of Languages and Linguistics* 182, *The English Language Institute at the University of Michigan* 183, *English language research at Harvard University* 184, *An evaluation of the present situation in second-language teaching* 186, *The contribution of linguistics to second-language teaching* 190. Linguistic Problems in Educational Measurement 192: *Applications of linguistics in the measurement of psychological traits* 192, *The measurement of aptitude for foreign-language learning* 193, *The measurement of achievement in foreign languages* 195.

Chapter 7. **COMMUNICATION ENGINEERING AND THE STUDY OF SPEECH** 196
Introduction 196. The Theory of Communication 197. Electronic

Devices for the Analysis, Synthesis, and Conversion of Linguistic Data 205: *The sound spectrograph* 205, *The speech stretcher* 206, *A formant-graphing machine* 207, *The "electrical vocal tract"* 209, *The "pattern-playback" device as a speech synthesizer* 209, *Linguistic machines* 210. Summary 212.

Chapter 8. **ORGANIZATIONS, PERSONNEL, AND PUBLICATIONS** 213

Organizations and Periodicals in Linguistics 213: *The Linguistic Society of America* 213, *The Linguistic Institute* 214, *The Summer Institute of Linguistics* 214, *Other organizations in linguistics* 214, *Periodicals* 215. Organizations and Periodicals in Related Disciplines 216: *Philological organizations* 216, *Organizations of language teachers* 217, *Organizations in the field of speech education* 218, *Psychological, social science, and philosophical organizations* 218. Representation of Language Studies in the Research Councils and Foundations 219. Centers of Activity in Linguistics 220. Personnel in the Field of Linguistics 221.

Chapter 9. **THE FUTURE OF LANGUAGE STUDIES** 224

The Present Situation and Immediate Goals 227. Some Specific Recommendations 228.

NOTES 235

REFERENCES 246

INDEX 271

Chapter 1 INTRODUCTION

This book is concerned with the whole range of phenomena to which we ordinarily refer when we use such terms as *language, speech,* and *communication.* More specifically, it is concerned with those particular problems or aspects of language, speech, and communication which by reason of either their theoretical or their practical significance have become the central points of interest for certain groups of scientists, scholars, and educators.

Phenomena of language, speech, and communication are so diverse and complex that it was perhaps almost inevitable that a number of separate, specialized disciplines devoted to the investigation and teaching of various aspects of this subject matter should have developed. The process of specialization has by now gone so far that the integration of the efforts of various disciplines is not as complete as might be desired. Each discipline has overlooked possible bases of coöperation with other disciplines, with the result that we can observe not only a wasteful duplication of effort but also the neglect or the mishandling of certain important problems.

The study of language thus cuts across the interests of many fields. We shall address our attention to each of these fields, examining their assumptions, problems, methodologies, and findings. We shall also attempt to suggest areas in which the interests of different fields intersect. While we shall be concerned primarily with scientific and scholarly activity, we shall not lose sight of the interests of the layman, who is often conscious of language problems, whether he may be conversing with a friend who speaks a different dialect, training his child in what he thinks is "good English usage," or simply having difficulties in making his arguments understood.

First of all we recognize a group of scientists, scholars, and teachers whose interest in language is central. Within this group, there is a relatively small number of individuals, located chiefly at higher academic institutions, who call themselves *linguistic scientists.* In this book, we shall frequently

试读结束，需要全本PDF请购买 www.ertongbook.co

use the term "linguist" for convenience; nevertheless, a linguistic scientist would not want to be confused with a person who merely knows a variety of languages—a polyglot. Linguistic scientists are engaged in developing a sound body of scientific observations, facts, and systematic theory about language in general and about languages in particular. This body of scientific knowledge is properly referred to as *linguistics,* or *linguistic science.* But it must not be thought that linguistics is concerned with all phases of human communication. Instead, it narrows its attention to the study of languages conceived as what may be called "linguistic codes." A linguistic code may be regarded as a system of distinct sound symbols underlying the manifest speech behavior of the individuals comprising a speech community. While the existence of a linguistic code is obviously a necessary factor in any communication situation, it is only one factor. The linguist does not immediately concern himself with how linguistic codes are learned by speakers or with how they are used by these speakers in referring to whatever they are communicating about.

Language teachers are engaged in teaching people to use particular linguistic codes. Since they must presumably know the characteristics of these linguistic codes in order to teach them, one would think that they ought to be closely allied with linguistic scientists. The majority of language teachers, however, have little knowledge of the science of linguistics in its present state of development. For the most part, they have been brought up in a different tradition—either the tradition of literary and philological interest, or simply the tradition of teaching the "three R's." Perhaps the teacher of "foreign" languages is more likely to have some acquaintance with the results of linguistic studies in his own field than, say, the high-school English teacher. Nevertheless, most language teachers in the United States have been accustomed to use, in their teaching, concepts of language structure which are not completely scientific and which derive ultimately from a historical tradition that stems from the work of ancient Greek and Latin grammarians. Teachers of language have been prone to emphasize a normative rather than a descriptive point of view in talking about language.

The linguistic scientist, of course, is frequently a teacher of foreign languages, but in this role he is still primarily a linguistic scientist. A small number of language teachers have become sufficiently interested in linguistics to associate themselves with the Linguistic Society of America, an organization founded primarily in the interests of linguistic science.

To complete the list of specialties most closely associated with linguistics we must mention *philology*. In the sense of the term which is coming to be accepted in the United States, philology is the large middle ground between linguistic science, on the one hand, and the literary and humanistic studies, on the other. (In England, the term is more apt to refer to linguistic science as a whole, including philology in the American sense. It must also be noted that both in the United States and abroad the university department in which linguistics is pursued is often called a department of "comparative philology"; this is a reflection of the traditions of nineteenth-century scholarship out of which present-day linguistic science developed.) Philology is thus concerned with the linguistic aspects of literature and related art forms, as well as of cultural and social documents of various sorts. It attempts to interpret its materials in the light of linguistic history as well as in the light of the broader contexts of social and cultural history. The student of literature, the historian, or the archaeologist often finds it profitable to draw upon the results of linguistic science, especially in connection with the decipherment or interpretation of written documents from past ages. Philological studies also include those literary and cultural studies which are focused on major languages. For example, there is widespread interest in and study of the status of the English language and its dialects throughout the English-speaking world; these studies frequently pass beyond the purely structural interests of linguistic science, narrowly defined, and trace the development of the language in terms of cultural history. As another example of such studies, we may cite scholarly endeavors in the field of the Indic languages (for example, Sanskrit, Pali), where attention has been devoted to the interpretation of ancient religious documents.

The next broad group of pure and applied scientists who are concerned with language may be referred to as the *psychological* group. The *general* or *theoretical psychologist* is interested in describing and explaining human behavior in terms of broad theories and first principles. A major aspect of human behavior which cries out for such explanation is language behavior, and a majority of the great theoretical psychologists, from the time of Wundt, have given some account of speech and language in their theories. The *social psychologist* may become interested in language problems because of the importance he ascribes to communication in social interaction. The *child psychologist* finds the development of language and speech in the child one of his most interesting topics, and it is a curious fact that child psychologists have done much more with this problem than linguistic scientists. The *educational psychologist* is interested in language because of the overriding importance of language arts in contemporary education, from the teaching of reading and writing to the teaching of literary composition and foreign languages. The *psychometrician* is drawn into the picture when he tries to make tests of "verbal intelligence" or tests of achievement in various language arts. The *abnormal psychologist* and the *psychiatrist* meet problems of language in studying aphasia and the disordered speech of psychotics. For convenience, we shall classify the *speech pathologist* with the psychological group, because he is quite likely to have had considerable training in clinical psychology, neurology, etc. Similarly, we mention here those who are concerned with the education of the deaf and the blind, whose speech training involves peculiar difficulties. Recently, psychologists interested in acoustics and acoustic perception have become concerned with problems of language to a degree only equaled in the early history of modern psychology, when persons like E. W. Scripture were interested in experimental phonetics. Finally, it should be mentioned that there has existed in the psychological profession a group—a very small one at that—of individuals who are specifically interested in what they call the *psychology of language,* endeavoring to tie together a number of facts drawn from the various fields of psychology mentioned above. This group has recently been augmented by some of those who have been led to the study of language through their interests in acoustics, perception, and group communications; these latter have also been strongly influenced by the Wiener-Shannon theory of communication, and prefer to call their special interest the *psychology of communication.*

In general, psychological studies of language and communication have been marked by frequent failures to take proper account of the methods and results of linguistic science. But it is also true that few linguistic scientists are acquainted with the development of post-Watsonian psychology and have thus been somewhat handicapped in their attempts to discuss the psychological interpretation of linguistic phenomena. In the last two or three years, however, there have been a number of signs of increasing communication between linguists and psychologists.

A third broad group of specialists whose interests touch problems of linguistics is represented by what may be called the *social science* group. Strictly speaking, linguistic scientists belong in this group, for linguistics may be classed as a social science. Passing over linguistics, however, we would be inclined to mention anthropology as the social science most closely concerned with problems of language and communication. In fact, a major branch of present-day American linguistics developed primarily within anthropology. The anthropologist regards language as one of the cardinal aspects of culture—defining culture as a series of habits, customs, and attitudes of a particular tribal or national group. The anthropologist becomes interested in linguistic problems if only because it is frequently necessary for him to surmount the language barrier before being able to make an ethnographic description of a particular tribe, but having surmounted that barrier, he is likely to inquire into the possible interrelations between the language and other aspects of the culture pattern.

The sociologist, however, has thus far demonstrated surprisingly little interest in linguistic problems. He may pay lip service to the importance of communication in social interaction—in fact, a recently published textbook of social psychology (written by sociologists) lays considerable emphasis on language as a means of social control—but he seems to have shown, thus far, very little appreciation of the role of linguistic phenomena in the formation and differentiation of social groups.

The political scientist and the historian will occasionally meet problems of a linguistic nature, particularly when they are concerned with national origins and ethnic boundaries, or with the analysis of propaganda.

A fourth major group of specialists concerned with language problems, somewhat indirectly in this case, may be referred to as the *engineering group*. The history of this interest seems to have begun with the efforts of telephone and sound engineers to increase the suitability of various communications systems for the transmission of human speech. In the course of such efforts it became necessary to study the physical characteristics of speech sounds, and it was a natural development that sound engineers should attempt such projects as the synthesis of speech sounds by electronic means and the development of tests of speech intelligibility. It was only natural, also, that the engineer should have perceived the possibilities of developing various sorts of "linguistic machines," such as a machine for instantaneously converting human speech into a series of printed alphabetic symbols as the speech is emitted. Recently, communications engineers and mathematicians have developed a broad theory of communication, which is conceived to apply to any type of communication system whether organismic or mechanical. This theory of communication will be given considerable attention in later chapters of this book.

The last major group of individuals who are interested in language may be called the *philosophical* group. Some philosophers have addressed themselves to the metaphysical implications of language. Others have concerned themselves with symbolic logic as a kind of language. Still others are interested in linguistics as an exemplification of scientific method. Although the school of thought which was represented by Alfred Korzybski is not regarded as fully respectable in philosophical circles, we may note here, finally, that Korzybski's *general semantics* contains several attitudes and viewpoints which may have a place in linguistic theory, or if not that, at least a place in a general theory of communication.

Such is the varied assortment of specialists interested in the study of language and communication phenomena, a study which is beginning to emerge as one of the most fundamental disciplines in the psychological and social sciences—quite as important, for example, as the study of molecular physics in the natural and biological sciences.

Chapter 2 THE SCIENCE OF LINGUISTICS

LANGUAGE AND LINGUISTICS

Linguistics is the science of language; hence we had better start by trying to define language.

Suppose we go to some remote corner of the world and observe two persons conversing with one another. We ask ourselves whether these persons are speaking the same language. (This need not be the case; on a visit to the conclaves of the United Nations we happened to observe one delegate speaking in French and another replying in Russian.) We make a tape recording of the sounds we hear, and upon careful study of this recording it turns out that the sounds uttered by the two persons have at least some similarities. Though many of the sounds may seem strange to our ears, we can learn to recognize, fairly well, the vowels and consonants which occurred in the speech of our subjects. Suppose we find that the various vowels and consonants we recognize sound approximately the same no matter which one of our subjects is talking, and that they occur on the average with about the same frequencies This would be partial evidence for concluding that the two persons are speaking the same language. But it is not enough: they might perchance be speaking two different languages with the same systems of elementary sounds (though this would be a rare case). We analyze our tape recording further and find that the sounds often occur in similar sequences; if we listen carefully to the breaks between these sequences we might conclude that our subjects use many "words" in common, and we would then have further evidence that they are speaking the same language. We could go on in this way, making increasingly detailed analyses. We should want to study how the longer sequences of sounds are put together; we would try to discover certain constancies or invariances in the structure of our subjects' utterances. We would probably have to go back to our subjects for further information. We might, for example, be

试读结束，需要全本PDF请购买 www.ertongbook.co