THE
DEVELOPMENT OF
Language

JEAN BERKO GLEASON

Fourth Edition

The Development of Language

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Preface

This is the fourth edition of *The Development of Language,* which is intended for anyone with an interest in how children acquire language and in how language develops over the life span. Each chapter has been written by an expert in a particular area of research, in a way that is accessible to educated nonexperts. This edition has been designed as a text for upper-level undergraduate or graduate courses in language development, or as readings for courses in psycholinguistics, cognitive development, developmental psychology, speech pathology, and related subjects. The book also serves as a resource for professionals in all of the fields just noted.

This edition has been revised extensively to contain state-of-the-art material on all the topics that are covered. The fourth edition also contains new features that we have added in response to suggestions from students, colleagues, and reviewers; these will enhance its value as a text. In particular: (1) major sections have been rewritten to increase their accessibility to readers from diverse backgrounds; (2) language development in the school years has been treated separately from the development of literacy in Chapter 10, with much new information on peers and the media; and (3) a section of Key Words has been added at the end of each chapter. These highlighted words from the chapter also appear in the Glossary, and they provide the reader with a quick way to check the important new terms that have been introduced.

Previous study of linguistics on the part of the reader is not assumed, and each chapter presents its material along with whatever linguistic background information is necessary for understanding. On the other hand, we assume that readers will be familiar with basic concepts in psychology (e.g., *attachment*) and with the work of major figures like Jean Piaget and B. F. Skinner. Most books on language development are concerned only with language acquisition by children, and have tended to assume that development is complete when the most complex syntactic structures have been attained. But linguistic development, like psychological development, is a lifelong process, and so we have set out to illuminate the nature of language development over the life span.

It would be hard for a single author to write this book. The study of language development has grown so rapidly in recent years that there are now many topics that are highly specialized, and it is rare for one person to be an expert in all areas of this

expanding field. For instance, there are few investigators who are authorities on the language of both infants and elderly people. Yet both topics are covered here. Fortunately, a number of researchers specializing in major subfields have agreed to contribute to the book; the chapters, therefore, are written by authors who not only know their topic well, but are known for their research in it. They present what they consider to be the salient ideas and the most recent and relevant studies in their own areas.

Since development is always the result of an interaction between innate capacities and environmental forces, we take an interactive perspective, one that takes into account both the biological endowment that makes language possible and the environmental factors that foster development. Our theoretical perspective has remained the same—both interactive and eclectic—but we have tried to add new material that represents the field, even if it does not necessarily represent our own views. Theory remains a controversial area in psycholinguistics; the most important theoretical positions are presented here, along with their strengths and weaknesses, in what we hope is an evenhanded but thought-provoking approach. We count proponents of each of the divergent theories among our personal friends, and value their continued friendship.
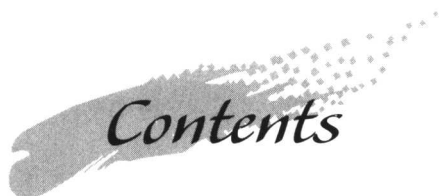
We have had to be selective in our choice of major topics, and some of our favorite subjects have, of necessity, been omitted. There are so many different topics that are now recognized in the study of language development that it is impossible to include them all in one cohesive book. And we have not attempted to include cross-cultural and bilingual studies that rely on knowledge of languages other than English.

We also have a newly revised instructor's manual and test bank prepared by Pam Gleason, available to instructors who use the book as a text. The manual provides helpful outlines of the chapters, emphasizes key points, and provides suggestions for classroom activities. A number of the authors here can be seen in the Public Broadcasting Service NOVA production on language development called "Babytalk," which is still available in some areas; more recently, PBS has made available a videotaped college course called "Discovering Psychology," with a half-hour program (#6) devoted to early language development.

It is impossible to edit a book without becoming indebted to many people; I am grateful, first of all, to the authors who agreed to contribute to this volume, and I welcome John Bonvillian and Richard Ely, who are new contributors. Thanks also to Kris Farnsworth and Stephen Dragin, our editors at Allyn & Bacon, and to Mary Perry at Boston University, who, as ever, has been immensely helpful in every way. I thank the following reviewers for their comments and suggestions: Martin Fujiki, Brigham Young University; and Elda Buchanan, Bradley University.

My family is due thanks as well: My husband, Andrew Gleason, for his patience, and my daughters Katherine, Pam, and Cynthia, now grown, whose developing language was a source of inspiration and joy. Some of their early pronouncements, like "My teacher holded the baby rabbits and we patted them," have been quoted so often they should be in *Bartlett's*.

—Jean Berko Gleason

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Chapter One

The Development of Language: An Overview and a Preview

Jean Berko Gleason, *Boston University*

Introduction

Why do we study language development? This phenomenal yet basically universal human achievement poses some of the most challenging theoretical and practical questions of our times: How and why do young children acquire complex grammar? What if no one spoke to them—would children invent language by themselves? Are humans unique, or can language be taught to higher primates? Are there theories or models that can adequately account for language development? Is language a separate capacity, or is it simply one facet of our general cognitive ability? What is it that individuals actually must know in order to have full adult competence in language, and to what extent is the development of those skills representative of universal processes? What about individual differences? What happens when language develops atypically, and is there anything we can do about it? What happens to language skills as one grows older—what is acquired, and what is lost? These are some of the questions that intrigue language-development researchers, and they have led to the plan of this book.

Children in every part of the world, regardless of the degree of grammatical or phonological complexity, acquire the major components of their native language by the time they are three or four years old. By the time they are of school age and begin the formal study of grammar, they already can vary their speech to suit the social and communicative nature of a situation, they know the meaning and pronunciation of literally thousands of words, and they use quite correctly the grammatical forms—subjects, objects, verbs, plurals, and tenses—whose names they learn only in the late elementary years. Language development, however, does not cease when the individual reaches school age or, for that matter, adolescence or maturity—the developmen-

tal process continues throughout the life cycle. The reorganization and reintegration of mental processes that are typical of other intellectual functions can also be seen in language, as the changing conditions that accompany maturity lead to modification of linguistic capacity. This book, therefore, is written from a developmental perspective that encompasses the life span. Since most studies of language development have centered on children, this preponderance is reflected in the research reported here. The major questions addressed, however, are not limited to what can be learned from the study of children and, in fact, require the study of mature individuals as well.

This chapter is divided into four major sections:

The first section provides a brief overview of *the course of language development* from early infancy to old age. It contains a preview of the chapters that follow (the major topics included are treated at length in later chapters of the book).

The second section notes some of the unique *biological foundations* for language that make its development possible in humans. Biological factors are necessary, but they are not sufficient to ensure language development, which does not occur without social interaction.

The third section describes the major *linguistic systems* that individuals must acquire. No particular linguistic theory is espoused here; instead, descriptive techniques are used that have provided the framework for much basic research in language acquisition, and more technical linguistic material is presented in the appropriate substantive chapter. If there is a unifying perspective that the authors of this book share, it is the view that individuals acquire during their lives an **internalized representation** of language that is systematic in nature and amenable to study. This does not imply that inner representation could be established in the absence of social contact, or without several different types of learning (as Chapter 7 on theoretical perspectives makes clear).

The fourth and final section of this chapter focuses on the background and methods of the *study of language development.*

An Overview of the Course of Language Development

Communication Development in Infancy

During their first months, human beings begin to acquire the communicative skills that underlie language, long before they say their first words. Babies are intensely social beings; they gaze into the eyes of their caregivers and are sensitive to the emotional tone of the voices around them. They pay attention to the language spoken to them; they take their turn in conversation, even if that turn is only a burble (Masataka, 1993; Snow, 1977). If they want something, they learn to make their intentions

known. In addition to possessing the social motivations that are evidenced so early in life, data now show that infants are also physiologically equipped to process incoming speech signals; they are even capable of making fine distinctions among speech sounds that are both rare in the world's languages and previously unknown to them (Eimas, 1975; Werker & Tees, 1984). The latest evidence available suggests that by the age of six months babies have already begun to categorize the sounds of their own language, much as adult speakers do (Kuhl, Williams, Lacerda, Stevens, & Lindblom, 1992).

Midway through their first year, infants begin to babble, playing with sound much as they play with their fingers and toes. There is considerable controversy over the relation between babbling and talking (Blake & Boysson-Bardies, 1992; Boysson-Bardies & Vihman, 1991; Jakobson, 1968); however, most researchers now believe that babbling blends into early speech and may continue even after the appearance of recognizable words. At approximately the same age that they take their first steps, many infants produce their first words. Like walking, early language appears at around the same age and in much the same way all over the world, regardless of the degree of sophistication of the society. The relative ease of pronunciation of a language and its degree of grammatical complexity do not appear to affect the age at which children begin to speak (Lenneberg, 1967). The early precursors of language that arise during the first year of life are discussed in Chapter 2.

Phonological Development: Learning Sounds and Sound Patterns

Once infants have begun to speak, the course of language development appears to have some universal characteristics (Brown, 1973). Typically, toddlers' early utterances are only one word long, and the words are simple in pronunciation and concrete in meaning (Stoel-Gammon & Cooper, 1984). They refer to the objects, events, and people in the child's immediate surroundings—words like *hi, doggie, mommy,* and *juice* (Bloom, 1970; Clark, 1993; Nelson & Lucariello, 1985). Here, as in other areas of linguistic research, it is important to recognize that different constraints act upon the child's **comprehension** and **production** of a particular form. Some sounds are more difficult to pronounce than others, and combinations of consonants may prove particularly problematic. Within a given language, children solve the phonological problems they encounter in varying ways. A framework for the study of children's growing ability to both recognize and produce the sounds of their language is provided in Chapter 3.

Semantic Development: Learning the Meanings of Words

The ways in which speakers relate words to their referents and their meanings are the subject matter of **semantic development**. Just as there are constraints on the phono-

logical shapes of children's early words, there appear to be limits on the kinds of meanings that those early words embody—for instance, very young children are more likely to have in their vocabularies words that refer to objects that move *(bus)* than objects that are immobile *(bench)*. Their vocabularies reflect their daily lives, and are unlikely to refer to events that are distant in time or space or to anything of an abstract nature. As they enter the school years, children's words become increasingly complex and interconnected, and children also gain a new kind of knowledge: **metalinguistic awareness**. This new ability makes it possible for them to think about their language, understand what words are, and even define them (Papandropoulou & Sinclair, 1974; Snow, 1990). Investigations of children's first words and their meanings, as well as the ways in which early meaning systems become elaborated into complex semantic networks, are discussed in Chapter 4.

Putting Words Together: Morphology and Syntax in the Preschool Years

Sometime during their second year, after they know about fifty words, most children progress to a stage of two-word combinations (Brown, 1973). Words that they said in the one-word stage are now combined into these **telegraphic** utterances, without articles, prepositions, inflections, or any of the other grammatical modifications that adult language requires. The child can now say such things as "That doggie," meaning "That is a doggie," and "Mommy juice," meaning "Mommy's juice" or "Mommy, give me my juice" or "Mommy is drinking her juice."

An examination of children's two-word utterances in many different language communities (Brown, 1973; Slobin, 1979) has shown that everywhere in the world children at this age are expressing the same kinds of thoughts and intentions in the same kinds of utterances. They ask for more of something; they say no to something; they notice something, or they notice that it has disappeared. This leads them to produce utterances like "More milk!" "No bed!" "Hi, kitty!" and "All-gone cookie!"

A little later in the two-word stage, another dozen or so kinds of meanings appear. For instance, children may name an actor and a verb: "Daddy eat." They modify a noun: "Bad doggie." They specify a location: "Kitty table." They name a verb and an object, leaving out the subject: "Eat lunch." At this stage, children are expressing these basic meanings but they cannot use the language forms that indicate number, gender, and tense. Even in a highly inflected language (such as Hebrew) in which it would be impossible to speak the root word without some of these markers, children settle on one form, which they use indiscriminately: Girls, for example, frequently use the feminine form of words, regardless of the grammatical requirements (Dromi & Berman, 1982). Toddler language is in the here and now; there is no tomorrow and no yesterday in language at the two-word stage. What children can say is closely related to their level of cognitive and social development, and a child who cannot conceive of the

past is unlikely to speak of it. As the child's utterances grow longer, grammatical forms begin to appear. In English, articles, prepositions, and inflections representing number, person, and tense begin to be heard. Although the two-word stage has some universal characteristics across all languages, what is acquired next depends on the features of the language being learned. English-speaking children learn the articles *a* and *the,* but in a language such as Russian there are no articles. Russian grammar, on the other hand, has features that English grammar does not. One remarkable finding has been that children acquiring a given language do so in essentially the same order. In English, for instance, children learn *in* and *on* before other prepositions such as *under.* After they learn regular plurals and pasts, like *nooses* and *heated,* they create some **overregularized** forms of their own, like *gooses* and *eated.*

Researchers account for children's early utterances in varying ways, however. The work of the 1960s, inspired by grammatical theory (Chomsky, 1957, 1965), interpreted early word combinations as evidence that the child was a young cryptographer, endowed with a cognitive impetus to develop syntax and a grammatical system. More recently, the child's intentions and need to communicate them to others have been looked to for explanations of grammatical development. But children's unique ability to acquire complex grammar, regardless of the motivation behind it, remains at the heart of linguistic inquiry. The learning of morphological systems, such as the plural or past tense (Berko, 1958), remains some of the strongest evidence we have that children are not simply learning bits and pieces of the adult linguistic system but are constructing generative systems of their own. Early sentences and the acquisition of morphology are examined in Chapter 5.

Language in Social Contexts

Language development includes acquiring the necessary ability to use language appropriately in a multiplicity of social situations. The system of rules that dictates the way language is used to accomplish social ends is called **pragmatics.** An individual who acquires the phonology, morphology, syntax, and semantics of a language has acquired **linguistic competence.** A sentence such as "Excuse me, but might I borrow your pencil for a moment?" certainly shows that the speaker has linguistic competence, since it is obviously perfectly grammatical. If, however, this sentence is addressed to a two-year-old, it is just as certainly inappropriate; more appropriate would be something like "Give me the pencil—that's right, give it to me." Linguistic competence is not sufficient; speakers must also acquire **communicative competence** (Hymes, 1972), or the ability to vary their language appropriately in a variety of situations; in other words, it requires knowledge of pragmatics. During the preschool years, young children learn to express a variety of speech acts, such as polite requests, or clarification of their own utterances. Their parents are particularly eager that they learn to be polite (Snow, Perlmann, Gleason, & Hooshyar, 1990). Speakers ultimately

learn important variations in language that serve to mark their gender, regional origin, social class, and occupation. Other necessary variations are associated with such things as the social setting, topic of discourse, and characteristics of the person being addressed. The use of language in social contexts is discussed in Chapter 6.

Theoretical Approaches to Language Acquisition

In general, explaining what it is that children acquire during the course of language development is easier than explaining how they do it. Do parents shape their children's early babbling into speech through reinforcement and teaching strategies? Or is language, perhaps, an independent and **innate** faculty, built into the human bio-behavioral system? Learning theorists and linguistic theorists do not agree on these basic principles. Between the theoretical poles represented by learning theorists on the one hand and linguistic theorists on the other, lie three different interactionist perspectives: (1) *Cognitive developmentalists* believe that language is just one facet of human cognition, and that children in acquiring language are basically learning to put words to concepts they have already acquired. (2) *Information theorists* who study language are also interested in human cognition, but from the perspective of the neural architecture that supports it. They see children as processors of information, and they use the computer to model the ways neural connections supporting language are strengthened through exposure to adult speech. (3) *Social interactionist theorists* emphasize the child's motivation to communicate with others. They emphasize the role that the special features of **child-directed speech (CDS)** may play in facilitating children's language acquisition. A discussion and an evaluation of the theories that have been put forth to explain language development are included in Chapter 7.

Individual Differences: Implications for the Study of Language Acquisition

Even though this brief overview has emphasized the regularities and continuities that have been observed in the development of language, it is important to know that individual differences have been found in almost every aspect, even during the earliest period of development. In the acquisition of phonology, for instance, some children are quite conservative and avoid words they have difficulty pronouncing; others are willing to take a chance. Early words and early word combinations reveal different strategies in acquiring language. Although much of linguistic inquiry has been directed at finding commonalities across children in language acquisition, it is important to remember that there is also variation in the onset of speech, the rate at which language develops, and the style of language used by the child. This should not surprise us, since we know that babies differ in temperament, cognitive style, and in many other ways; variation is a very healthy part of our genetic heritage. In addition,

children's early language may reflect the preferences of adults in a society—for instance, American parents stress the names of things, but *nouns might not be so important in all societies.* Individual differences must be accounted for by any comprehensive theory of language development, and they must be taken into account by those who work with children. Individual differences are the topic of Chapter 8.

Atypical Language Development

Language has been a human endowment for so many millenia that it is exceptionally robust; as we shall see, it is under most circumstances almost impossible to suppress. There are conditions, however, that may lead to atypical language development—for instance, sensory problems such as deafness. In this case the capacity for language is intact, but lack of accessible auditory input makes the acquisition of oral language difficult; children with hearing impairments who learn a manual language such as **American Sign Language** (ASL), however, are able to communicate in a complete and sophisticated language.

Children who are diagnosed as mentally retarded, such as most children with **Down syndrome,** may show rather typical patterns of language development, but at a slower rate than normally developing children. Children with **autism** frequently exhibit patterns of language development that are atypical in multiple ways; they may have particular problems, for instance, using language that deals with the emotional states of others (Tager-Flusberg & Sullivan, 1995). Occasionally children suffer from **specific language impairment,** problems in language development accompanied by no other obvious physical, sensory, or emotional difficulties. Still other children have particular problems producing speech, even though their internal representation of language is intact: They may stutter or have motor impairments. Atypical language development, and its relation to the processes described in earlier chapters, is the subject of Chapter 9.

Language and Literacy in the School Years

By the time they get to kindergarten, children have amassed a vocabulary of about 8,000 words and almost all of the basic grammatical forms of their language. They can handle questions, negative statements, dependent clauses, compound sentences, and a great variety of other constructions. They have also learned much more than vocabulary and grammar—they have learned to use language in many different social situations. They can, for instance, talk baby talk to babies, be rude to their friends, and act somewhat polite with their grandparents. Their communicative competence is growing.

During the school years, children are increasingly called upon to interact with peers; peer speech is quite different from speech to parents, and it is often both

During the school years children acquire new linguistic skills as they interact with peers. Explaining how to build a fire or telling a joke requires connected discourse and decontextualized language.

humorous and aggressive. Jokes, riddles, and play with language constitute a substantial portion of their spontaneous speech. Faced with many new models, school-aged children also learn from television and films, and their speech may be marked by expressions from their favorite entertainments.

New cognitive attainments in the school years make it possible for children to talk in ways that they could not as preschoolers, and to think about language itself—they may even have favorite words (like *pumpernickel*) that are not necessarily their favorite things. They become increasingly adept at producing connected, multi-utterance speech and can now produce narratives that describe their past experience. In order to succeed in school, children must also learn to use **decontextualized language**—language that is not tied to the here and now. In addition to their narrative skills, they now develop the ability to provide explanations and descriptions using decontextualized language (Snow, 1983).

The attainment of literacy marks a major milestone in children's development, and it calls upon both their metalinguistic abilities (for instance, they must understand what a word is), and their new abilities to use decontextualized language. Study of the cognitive processes involved in reading and the development of adequate models that