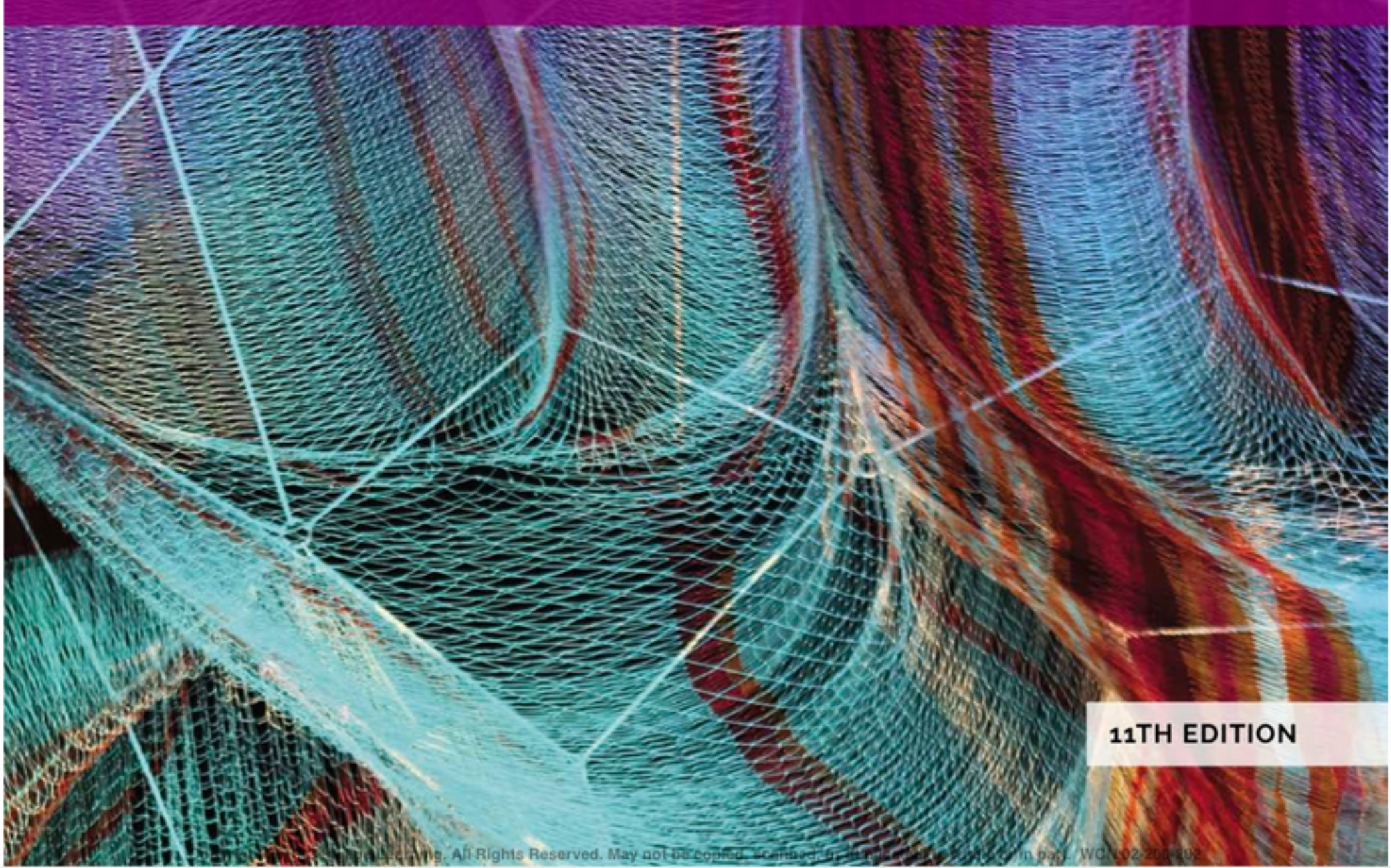
# An Introduction to Language

Victoria Fromkin • Robert Rodman • Nina Hyams



11TH EDITION

# An Introduction to Language

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**VICTORIA FROMKIN**
*Late, University of California, Los Angeles*

**ROBERT RODMAN**
*North Carolina State University, Raleigh*

**NINA HYAMS**
*University of California, Los Angeles*



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**Victoria Fromkin, Robert Rodman, Nina Hyams**

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Art Director: Marissa Falco

Cover Designer: NYMDesign

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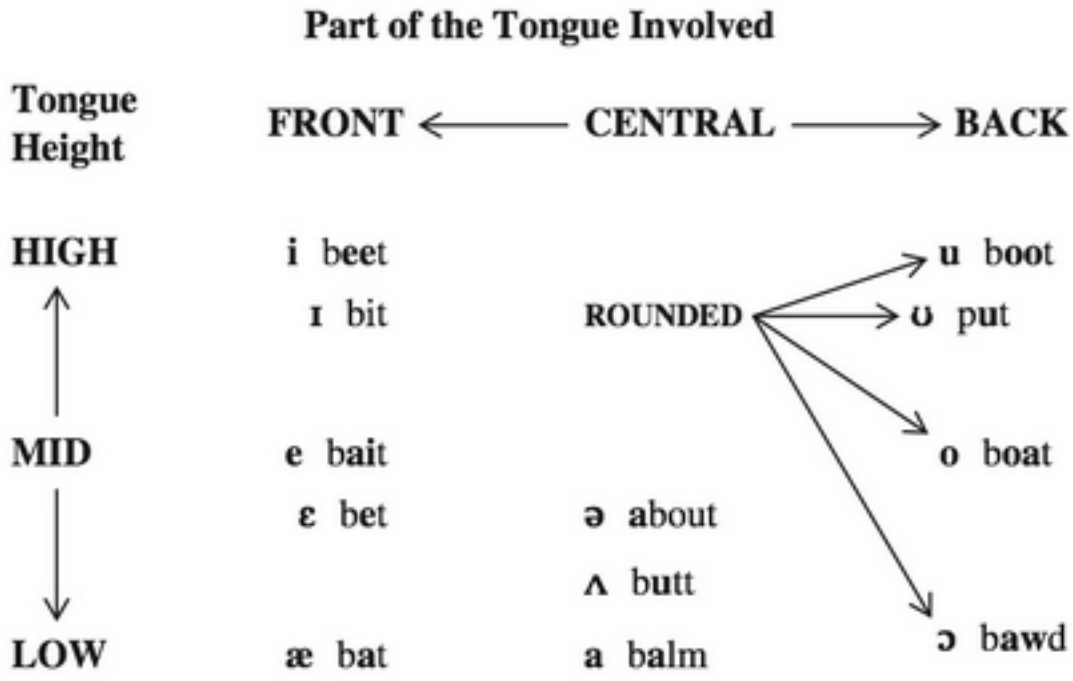
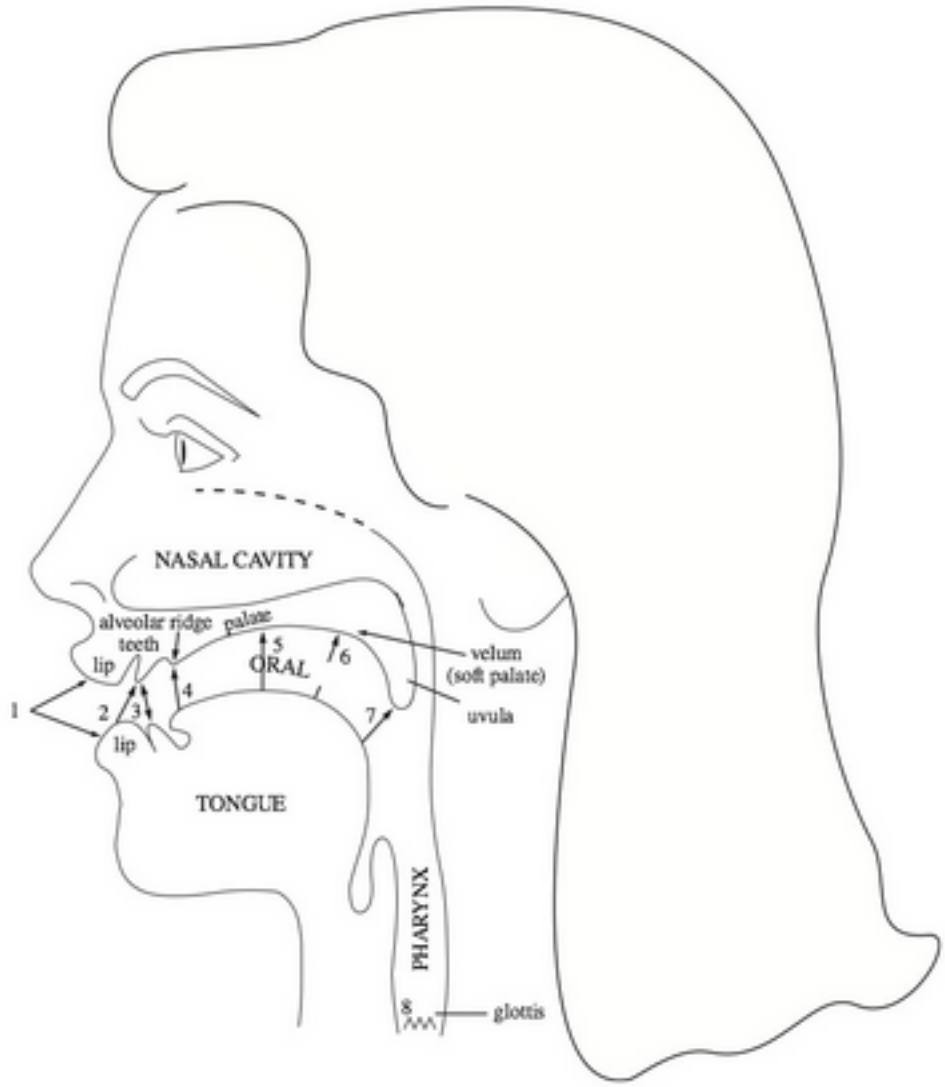
## Classification of American English Vowels




## A Phonetic Alphabet for English Pronunciation

| Consonants | | | | | | Vowels | | | |
|---|---|---|---|---|---|---|---|---|---|
| p | **p**ill | t | **t**ill | k | **k**ill | i | b**ee**t | ɪ | b**i**t |
| b | **b**ill | d | **d**ill | g | **g**ill | e | b**ai**t | ɛ | b**e**t |
| m | **m**ill | n | **n**il | ŋ | ri**ng** | u | b**oo**t | ʊ | f**oo**t |
| f | **f**eel | s | **s**eal | h | **h**eal | o | b**oa**t | ɔ | b**o**re |
| v | **v**eal | z | **z**eal | l | **l**eaf | æ | b**a**t | a | p**o**t/b**a**r |
| θ | **th**igh | ʧ | **ch**ill | r | **r**eef | ʌ | b**u**tt | ə | sof**a** |
| ð | **th**y | ʤ | **g**in | j | **y**ou | aɪ | b**i**te | aʊ | b**ou**t |
| ʃ | **sh**ill | ʍ | **wh**ich | w | **w**itch | ɔɪ | b**oy** | | |
| ʒ | mea**s**ure | | | | | | | | |

**The Vocal Tract.** Places of articulation: 1. bilabial; 2. labiodental; 3. interdental; 4. alveolar; 5. (alveo)palatal; 6. velar; 7. uvular; 8. glottal.

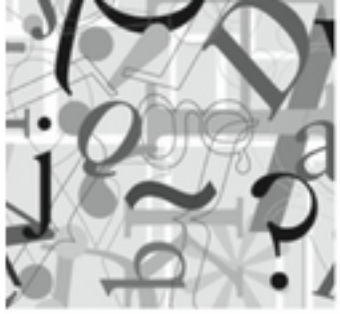



**Some Phonetic Symbols for American English Consonants**

| | Bilabial | Labiodental | Interdental | Alveolar | Palatal | Velar | Glottal |
|---|---|---|---|---|---|---|---|
| **Stop** (oral) | | | | | | | |
| voiceless | p | | | t | | k | ʔ |
| voiced | b | | | d | | g | |
| **Nasal** (voiced) | m | | | n | | ŋ | |
| **Fricative** | | | | | | | |
| voiceless | | f | θ | s | ʃ | | h |
| voiced | | v | ð | z | ʒ | | |
| **Affricate** | | | | | | | |
| voiceless | | | | | ʧ | | |
| voiced | | | | | ʤ | | |
| **Glide** | | | | | | | |
| voiceless | ʍ | | | | | ʍ | |
| voiced | w | | | | j | w | |
| **Liquid** (voiced) | | | | | | | |
| (central) | | | | r | | | |
| (lateral) | | | | l | | | |

*In memory of Robert David Rodman and Joseph Hyams*

# Contents



# Preface

> Well, this bit which I am writing, called Introduction, is really the er-h'r'm of the book, and I have put it in, partly so as not to take you by surprise, and partly because I can't do without it now. There are some very clever writers who say that it is quite easy not to have an er-h'r'm, but I don't agree with them. I think it is much easier not to have all the rest of the book.
>
> **A. A. MILNE,** *Now We Are Six,* 1927

> The last thing we find in making a book is to know what we must put first.
>
> **BLAISE PASCAL** (1623–1662)

Robert Rodman passed away on January 15, 2017, shortly after the completion of the eleventh edition of *An Introduction to Language*. His breadth of knowledge, charm, and wit touch every page of this new edition, and will be sorely missed in future editions. Robert and Vicki Fromkin published the first edition of *An Introduction to Language* in 1974. Their goal was to share with students their love of language and linguistics by presenting complex material in a lighthearted and personal way that included witty quotations (A. A. Milne was one of Vicki's favorites) and cartoons (Robert kept a huge file of them, which he regularly updated). This edition continues in the style and spirit of my friends, colleagues, and co-authors, Robert Rodman and Victoria Fromkin.

The first ten editions of *An Introduction to Language* succeeded, with the help of dedicated teachers, in introducing the nature of human language to hundreds of thousands of students. This is a book that students enjoy and understand and that professors find effective and thorough. Not only have majors in linguistics benefited from the book's easy-to-read yet comprehensive presentation, but also majors in fields as diverse as teaching English as a second language, foreign language studies, general education, the cognitive and neurosciences, psychology, sociology, and anthropology have enjoyed learning about language from this book.

## Highlights of This Edition

This edition has been rewritten for improved clarity, conciseness, and currency. It includes **new developments in linguistics and related fields** that will strengthen its appeal to a wider audience. Much of this information will enable

students to gain insight and understanding about linguistic issues and debates appearing in the national media and will help professors and students stay current with important linguistic research. We hope that it may also dispel certain common misconceptions that people have about language and language use.

The eleventh edition has been reduced to ten chapters from the original twelve of earlier editions. The chapters on Computer Processing of Human Language and Writing have been eliminated, with some of the material on the history of writing incorporated into Chapter 8 (Language Change). This more streamlined edition will enable teachers and students on a quarter system to more fully utilize the material, and for those on the semester system, it allows extra time for the more challenging chapters such as phonology and syntax.

**Exercises** (more than 200) continue to be abundant in this edition, and additional research-oriented exercises have been added for those instructors who wish their students to pursue certain topics more deeply. Some exercises continue to be marked as "challenge" questions: they go beyond the scope of what is ordinarily expected in a first course in language study. An **answer key** is available to instructors to assist them in areas outside of their expertise.

**Chapter 1, "What Is Language?"** continues as a concise introduction to the general study of language. It contains many "hooks" for engaging students, including "Language and Thought," which takes up the Sapir–Whorf hypothesis; the universal properties of languages including signed languages of the deaf; a consideration of animal "languages"; and the occasional silliness of self-appointed mavens of "good" grammar who beg us not to carelessly split infinitives and who find sentence-ending prepositions an abomination not to be put up with. New to this edition is a section on "Can computers learn human language."

**Chapter 2, "Morphology: The Words of Language,"** launches the book into the study of grammar with morphology, the study of word formation, as that is the most familiar and intuitive aspect of grammar to most students. The subject is treated with clarity and an abundance of simple illustrations from non-English languages emphasize the universality of word structure, including the essentials of derivational versus inflectional morphology, free and bound morphemes, and the hierarchical structure of words. The section on compounds words has been expanded to include a detailed discussion of their internal structure.

**Chapter 3, "Syntax: The Sentence Patterns of Language,"** is the most heavily revised chapter from the previous edition. The first half of the chapter introduces the universal and easily understood notions of constituency, syntactic categories (parts of speech), phrase structure trees and rules, structural ambiguity, and the infinite scope of language. Phrase structure trees are painstakingly built up, level by level, using traditional (pre-X-Bar) notation. The second half of the chapter delves into the internal structure of phrases, including the concepts of heads, complements, and selection. Current X-bar notation is introduced at this point, in a very restricted and clear way, to describe some of the deeper and more subtle syntactic structures of English and other languages. The chapter ends with a basic introduction to grammatical dependencies, including agreement rules and the transformational analysis of questions, carefully explained and illustrated. Formalisms are held to the bare minimum required to enhance clarity. Non-English examples abound in this chapter as in the rest of book,

and the weighty elements of theory are lightened by the inclusion of insightful examples and explanations, supplemented as always by quotations, poetry, cartoons, and humor.

**Chapter 4, "The Meaning of Language,"** on semantics, is finely structured so that the challenging topics of this complex subject can be digested in smaller pieces. The chapter first introduces students to truth-conditional semantics and the principle of compositionality. Following are discussions of what happens when compositionality fails, as with idioms, metaphors, and semantically anomalous sentences. Lexical semantics take up various approaches to word meaning, including the concepts of reference and sense, semantic features, argument structure, and thematic roles. The most heavily revised parts of this chapter are the sections on argument structure, thematic roles, and semantic features, the latter now containing a discussion of how these features affect the syntax. In the final section on pragmatics, we discuss and illustrate in depth the influence of situational versus linguistic context on the communicative content of utterances, the significance of implicature in comprehension, Grice's Maxims of Conversation, presuppositions, and J. L. Austin's speech acts.

**Chapter 5, "Phonetics: The Sounds of Language,"** retains its former organization and continues to embrace IPA (International Phonetics Association) notation for English in keeping with current practices, with the sole exception of using /r/ in place of the technically correct /ɹ/ when illustrating English. We continue to mention alternative notations that students may encounter in other publications.

**Chapter 6, "Phonology: The Sound Patterns of Language,"** continues to be presented with a greater emphasis on insights through linguistic data accompanied by small amounts of well-explicated formalisms, so that the student can appreciate the need for formal theories without experiencing the burdensome details. In this spirit, we have eliminated the section on Optimality Theory, which we now feel is beyond the scope of an introductory text. The chapter covers central concepts in segmental and prosodic phonology, and contains numerous exercises structured to guide students through the basics of phonological analysis.

**Chapter 7, "Language in Society,"** retains its forward position in the book from earlier editions reflecting its growing importance as a major sub-field of linguistics. The chapter presents the established facts and principles of sociolinguistics while bringing up to date subjects such as banned languages (it's still happening); dead and dying languages (also still happening); gender differences; minority dialects such as Hispanic English ("Spanglish"), and African American English. Included in this edition a discussion of Black American Sign Language (BASL), a dialect of American Sign Language (ASL). In addition, included are sections on contact languages such as pidgins, creoles, and lingua francas that may be found in linguistically heterogeneous areas; the use of computers in sociolinguistic analysis; second language teaching; and bilingual education, among others.

**Chapter 8, "Language Change: The Syllables of Time,"** has been updated with the latest research on language families, language relatedness, and language typology. In addition, in response to reviewers' requests, a detailed and more complex illustration of the application of the comparative method to two contemporary

dialects to reconstruct their ancestor—often called "internal reconstruction"—is now part of this chapter. The thematically related section on the history of writing is also included, moved from its previous location in a separate chapter.

**Chapter 9, "Language Acquisition,"** has been heavily revised for clarity and conciseness. It covers the basic stages and data from childhood language development including sections on bilingual language acquisition and child second language acquisition, all couched in the more general theoretical question of how children accomplish the complex task of learning a language. In addition, much of what has been learned about adult second language acquisition included in this chapter along with a section on "heritage languages," the learning of an intrafamily language after immigration to a country where that language is not spoken (e.g., Yiddish by Jews who emigrated from Russia).

**Chapter 10, "Language Processing and the Human Brain,"** could well have been entitled "psycholinguistics and neurolinguistics" but that may have made the subject seem overly daunting. This chapter combines a straightforward discussion of many of the issues that regard the psychology of language—what the mind does—with the neurology of language—what the brain does—during language usage. Dramatic changes in the understanding of the brain's role in language processing are occurring virtually every day owing to the rapid enhancement of the ability of neurolinguists to measure brain activity to tiny degrees of sensitivity at extremely precise locations. This chapter reports on those techniques and some of the results regarding language and the brain that ensue.

As in the tenth edition, language and brain is discussed at the end of the book so that we may report on recent advances in neurolinguistic research of interest to beginning linguistics students, but which require an understanding of the different components of grammar, discussed in earlier chapters.

Terms that appear bold in the text are defined in the revised **glossary** at the end of the book. The glossary has been expanded and improved so that the Eleventh edition provides students with a linguistic lexicon of nearly 700 terms, making the book a worthy reference volume.

The **order of presentation of Chapters 2 through 6** was once thought to be nontraditional. Our experience, backed by previous editions of the book and the recommendations of colleagues throughout the world, has convinced us that it is easier for the novice to approach the structural aspects of language by first looking at morphology (the structure of the most familiar linguistic unit, the word). This is followed by syntax (the structure of sentences), which is also familiar to many students, as are numerous semantic concepts. We then proceed to the more novel (to students) phonetics and phonology, which students often find daunting. However, the book is written so that individual instructors can present material in the traditional order of phonetics, phonology, morphology, syntax, and semantics (Chapters 5, 6, 2, 3, and 4) without confusion, if they wish.

As in previous editions, the primary concern has been basic ideas rather than detailed expositions. This book assumes no previous knowledge on the part of the reader. An updated list of references at the end of each chapter is included to accommodate any reader who wishes to pursue a subject in more depth. Each chapter concludes with a summary and exercises to enhance the students' interest in and comprehension of the textual material.

# Additional Resources

## MindTap: Empower Your Students

MindTap is a platform that propels students from memorization to mastery. It gives you complete control of your course, so you can provide engaging content, challenge every learner, and build student confidence. Customize interactive syllabi to emphasize priority topics, then add your own material or notes to the eBook as desired. This outcomes-driven application gives you the tools needed to empower students and boost both understanding and performance.

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Get the flexibility to reorder textbook chapters, add your own notes, and embed a variety of content including Open Educational Resources (OER). Personalize course content to your students' needs. They can even read your notes, add their own, and highlight key text to aid their learning.

### Get a Dedicated Team, Whenever You Need Them

MindTap isn't just a tool, it's backed by a personalized team eager to support you. We can help set up your course and tailor it to your specific objectives, so you'll be ready to make an impact from day one. Know we'll be standing by to help you and your students until the final day of the term.

## Answer Key

The Answer Key for *An Introduction to Language* contains answers to all of the exercises in the core text, and is available to instructors through the publisher.

## Instructor Companion Web Site

This password-protected companion site contains useful resources for instructors—including chapter-level PowerPoint lecture slides, and a downloadable version of the Answer Key. Go to www.cengagebrain.com to access the site.

# Acknowledgments

We would like to express our deep appreciation to UCLA Professors Susan Curtiss and Jesse Harris for helping us maintain the currency of Chapter 10, *Language Processing and the Human Brain*, two areas of rapid progress.

Brook Danielle Lillehaugen undertook the daunting task of writing the Answer Key to the ninth, tenth, and eleventh editions. Her thoroughness, accuracy, and insightfulness in construing solutions to problems and discussions of issues are appreciated by all who avail themselves of this useful document, including us, the authors.

We also express deep appreciation for the incisive comments of the reviewers of the tenth edition, whose frank assessment of the work, both critical and laudatory, heavily influenced this new edition:

Ellyn Arwood, University of Portland; Craig Barrette, Brescia University; Althea Bradford, Winston-Salem State University; Ulrike Christofori, San Joaquin Delta College; Liliana Cobas, Carlos Albizu University; Anthony DeFazio, New York University; Michael Duffett, San Joaquin Delta College; Laurie Durzo, Penn State University; Carmen Fought, Pitzer College; Brent Green, Salt Lake Community College; Alicia Holland, Capella University; Susan Inouye, Kapiolani Community College; John Jeep, Miami University; McLoddy Kadyamusuma, State University of New York at Fredonia; Patti Kurtz, Minot State University; Nancy Lee-Jones, Endicott College; Sally LeVan, Gannon University; Keming Liu, The City University of New York; Deanna Nisbet, Regent University; Silvia Peart, United States Naval Academy; Edward Rielly, Saint Joseph's College; Kelly Schroeder, Fresno Pacific University; Jefferey Taylor, Metropolitan State University of Denver; and Elizabeth Winkler, Western Kentucky University.

We continue to be deeply grateful to the individuals who have sent us suggestions, corrections, criticisms, cartoons, language data, and exercises over the course of many editions. Their influence is still strongly felt in this eleventh edition. The list is long and reflects the global, communal collaboration that a book about language—the most global of topics—merits. To each of you, our heartfelt thanks and appreciation. Know that in this eleventh edition lives your contribution:[1]

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[1]Some affiliations may have changed or are unknown to us at this time.

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Please forgive us if we have inadvertently omitted any names, and if we have spelled every name correctly, then we shall believe in miracles.

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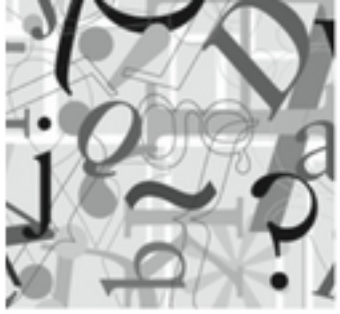
Last but certainly not least, we acknowledge our debt to those we love and who love us and who inspire our work when nothing else will: Nina's son, Michael; Robert's children Zack and Emily together with a quartet of grandchildren: Cedar, Luke, Juniper, and Henry; our parents and siblings; and our dearly beloved and still deeply missed colleagues, Vicki Fromkin and Peter Ladefoged.

The responsibility for errors in fact or judgment is, of course, ours alone. We continue to be indebted to the instructors who have used the earlier editions and to their students, without whom there would be no eleventh edition.

Robert Rodman
Nina Hyams



# About the Authors

**VICTORIA FROMKIN** received her bachelor's degree in economics from the University of California, Berkeley, in 1944 and her M.A. and Ph.D. in linguistics from the University of California, Los Angeles, in 1963 and 1965, respectively. She was a member of the faculty of the UCLA Department of Linguistics from 1966 until her death in 2000, and served as its chair from 1972 to 1976. From 1979 to 1989 she served as the UCLA Graduate Dean and Vice Chancellor of Graduate Programs. She was a visiting professor at the Universities of Stockholm, Cambridge, and Oxford. Vicki served as president of the Linguistics Society of America in 1985, president of the Association of Graduate Schools in 1988, and chair of the Board of Governors of the Academy of Aphasia. She received the UCLA Distinguished Teaching Award and the Professional Achievement Award, and served as the U.S. Delegate and a member of the Executive Committee of the International Permanent Committee of Linguistics (CIPL). She was an elected Fellow of the American Academy of Arts and Sciences, the American Association for the Advancement of Science, the New York Academy of Science, the American Psychological Society, and the Acoustical Society of America, and in 1996 was elected to membership in the National Academy of Sciences. She published more than one hundred books, monographs, and papers on topics concerned with phonetics, phonology, tone languages, African languages, speech errors, processing models, aphasia, and the brain/mind/language interface—all research areas in which she worked. Vicki Fromkin passed away on January 19, 2000, at the age of 76.

**ROBERT RODMAN** received his bachelor's degree in mathematics from the University of California, Los Angeles, in 1961, a master's degree in mathematics in 1965, a master's degree in linguistics in 1971, and his Ph.D. in linguistics in 1973. He was on the faculties of the University of California at Santa Cruz, the University of North Carolina at Chapel Hill, Kyoto Industrial College in Japan, and North Carolina State University. His research areas included forensic linguistics and computer speech processing. In 2009, he was elected into the American Academy of Social Sciences as an Associate Fellow for his achievements in computational forensic linguistics. Robert Rodman passed away on January 15, 2017, at the age of 76.

**NINA HYAMS** received her bachelor's degree in journalism from Boston University in 1973 and her M.A. and Ph.D. degrees in linguistics from the Graduate Center of the City University of New York in 1981 and 1983, respectively. She joined the faculty of the University of California, Los Angeles, in 1983, where she is currently a professor of linguistics. Her main areas of research are childhood language development and syntax. She is author of the book *Language Acquisition and the Theory of Parameters* (D. Reidel Publishers, 1986), a milestone in language acquisition research. She has also published numerous articles on the development of syntax, morphology, and semantics in children. She has been a visiting scholar at the University of Utrecht and the University of Leiden in the Netherlands and has given lectures throughout Europe and Japan. Nina lives in Los Angeles with her pal Spot, a rescued border collie mutt, and his olde English bulldogge companion, the ever soulful Nellie.

1

# What Is Language?

> When we study human language, we are approaching what some might call the "human essence," the distinctive qualities of mind that are, so far as we know, unique to man.
>
> NOAM CHOMSKY, *Language and Mind*, 1968

Whatever else people do when they come together—whether they play, fight, make love, or make automobiles—they talk. We live in a world of language. We talk to friends, associates, wives and husbands, lovers, teachers, parents, rivals, and even enemies. We talk face-to-face and over all manner of electronic media, and everyone responds with more talk. Hardly a moment of our waking lives is free from words, and even our dreams are filled with talk. We also talk when there is no one to answer. Some of us talk aloud in our sleep. We talk to our pets and sometimes to ourselves.

The capacity for language, perhaps more than any other attribute, distinguishes humans from other animals. According to the philosophy expressed in many myths and religions, language is the source of human life and power. To some people of Africa, a newborn child is a *kintu*, a "thing," not yet a *muntu*, a "person." It is only by the act of learning language that the child becomes a human being. To understand our humanity, we must understand the nature of language that makes us human. That is the goal of this book. We begin with a simple question: What does it mean to "know" a language?

## Linguistic Knowledge

> Do we know only what we see, or do we see what we somehow already know?
>
> CYNTHIA OZICK, "What Helen Keller Saw," *New Yorker*, June 16 & 23, 2003

When you know a language, you can speak and be understood by others who also know that language. This means you are able to produce strings of sounds that signify certain meanings and to understand or interpret the sounds produced by others. But language is much more than speech. Deaf people produce and understand sign languages just as hearing persons produce and understand spoken languages. The languages of the deaf communities throughout the world are equivalent to spoken languages, differing only in their modality of expression.

Most everyone knows at least one language. Five-year-old children are nearly as proficient at speaking and understanding as their parents. Yet, the ability to carry out the simplest conversation requires profound knowledge that most speakers are unaware of. This is true for speakers of all languages, from Albanian to Zulu. A speaker of English can produce a sentence having two relative clauses without knowing what a relative clause is. For example:

> My goddaughter who was born in Sweden and who now lives in Iowa is named Disa, after a Viking queen.

In a parallel fashion, a child can walk without understanding or being able to explain the principles of balance and support or the neurophysiological control mechanisms that permit one to do so. The fact that we may know something unconsciously is not unique to language.

## Knowledge of the Sound System

> When I speak it is in order to be heard.
>
> ROMAN JAKOBSON

Part of knowing a language means knowing what sounds (or signs[1]) are in that language and what sounds are not. One way this unconscious knowledge is revealed is by the way speakers of one language pronounce words from another language. If you speak only English, for example, you may substitute an English sound for a non-English sound when pronouncing "foreign" words such as French *ménage à trois*. If you pronounce it as the French do, you are using sounds outside the English sound system.

French people speaking English often pronounce words such as *this* and *that* as if they were spelled *zis* and *zat*. The English sound represented by the initial letters *th* in these words is not part of the French sound system, and the mispronunciation reveals the French speaker's unconscious knowledge of this fact.

[1]The sign languages of the deaf will be discussed throughout the book. A reference to "language," then, unless speech sounds or spoken languages are specifically mentioned, includes both spoken and signed languages.

Knowing the sound system of a language includes more than knowing the inventory of sounds. It means also knowing which sounds may start a word, end a word, and follow each other. The name of a former president of Ghana was *Nkrumah*, pronounced with an initial sound like the sound ending the English word *sink*. While this is an English sound, no word in English begins with the *nk* sound. Speakers of English who have occasion to pronounce this name often mispronounce it (by Ghanaian standards) by inserting a short vowel sound, like *Nekrumah* or *Enkrumah*, making the word correspond to the English system. Children develop the sound patterns of their language very rapidly. A one-year-old learning English already knows that *nk* cannot begin a word, just as a Ghanaian child of the same age knows that it can in his language. We will learn more about sounds and sound systems in Chapters 5 and 6.

## Knowledge of Words

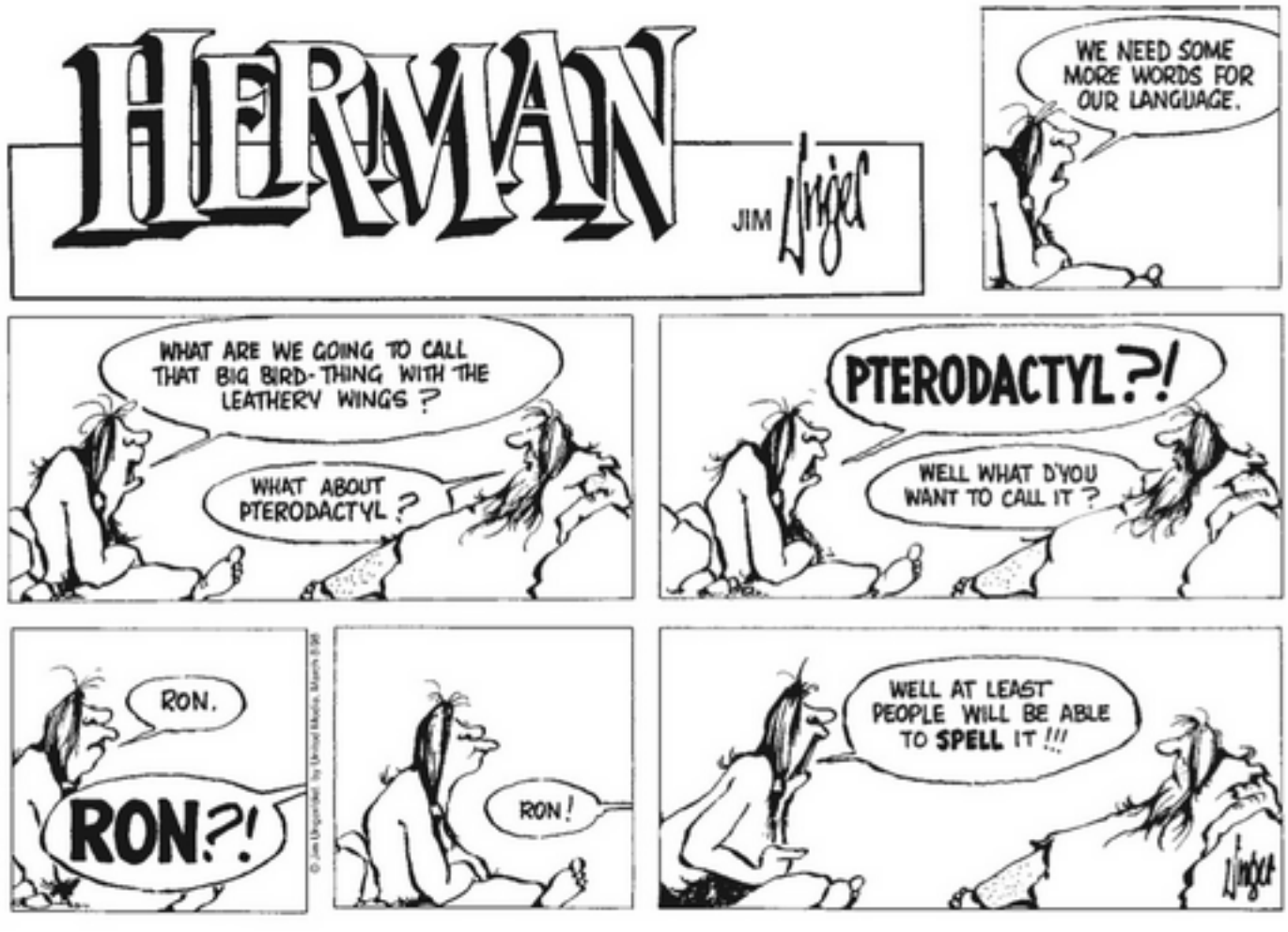
Sounds and sound patterns of our language constitute only one part of our linguistic knowledge. Beyond that we know that certain sequences of sounds signify certain concepts or **meanings**. Speakers of English understand what *boy* means, and that it means something different from *toy* or *girl* or *pterodactyl*. We also know that *toy* and *boy* are words, but *moy* is not. When you know a language, you know words in that language; that is, you know which sequences of sounds have specific meanings and which do not.

## Arbitrary Relation of Form and Meaning

> What's in a name? That which we call a rose
>
> By any other name would smell as sweet;
>
> WILLIAM SHAKESPEARE, *Romeo and Juliet*, Act II, Scene II

If you do not know a language, the words (and sentences) of that language will be mainly incomprehensible, because the relationship between speech sounds and the meanings they represent is, for the most part, an **arbitrary** one. When you are acquiring a language, you have to learn that the sounds represented by the letters *house* signify the concept  ; if you know French, this same meaning is represented by *maison*; if you know Russian, by *dom*; if you know Spanish, by *casa*. Similarly,  is represented by *hand* in English, *main* in French, *nsa* in Twi, and *ruka* in Russian. The same sequence of sounds can represent different meanings in different languages. The word *bolna* means "speak" in Hindi–Urdu and "aching" in Russian; *bis* means "devil" in Ukrainian and "twice" in Latin; a *pet* is a domestic animal in English and a fart in Catalan; and the sequence of sounds *taka* means "hawk" in Japanese, "fist" in Quechua, "a small bird" in Zulu, and "money" in Bengali.

These examples show that the words of a particular language have the meanings they do only by convention. Despite a penchant that biologists have for Greek roots, a pterodactyl could have been called *ron, blick*, or *kerplunkity*.

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This **conventional** and arbitrary relationship between the **form** (sounds) and **meaning** (concept) of a word is also true in sign languages. If you see someone using a sign language you do not know, it is doubtful that you will understand the message from the signs alone. A person who knows Chinese Sign Language (CSL) would find it difficult to understand American Sign Language (ASL), and vice versa.

Many signs were originally like miming, where the relationship between form and meaning is not arbitrary. Bringing the hand to the mouth to mean "eating," as in miming, would be nonarbitrary as a sign. Over time these signs may change, just as the pronunciation of words changes, and the miming effect is lost. These signs become conventional, so that the shape or movement of the hands alone does not reveal the meaning of the signs.

There is some **sound symbolism** in language—that is, words whose pronunciation suggests their meanings. Most languages contain **onomatopoeic** words like *buzz* or *murmur* that imitate the sounds associated with the objects or actions they refer to. But even here, the sounds differ from language to language and reflect the particular sound system of the language. In English *cock-a-doodle-doo* is an onomatopoeic word whose meaning is the crow of a rooster, whereas in Finnish the rooster's crow is *kukkokiekuu*. Forget *gobble gobble* when you're in Istanbul; a turkey in Turkey goes *glu-glu*.

Sometimes particular sound combinations seem to relate to a particular concept. Many English words beginning with *gl* relate to sight, such as *glare, glint, gleam, glitter, glossy, glaze, glance, glimmer, glimpse,* and *glisten*. However, *gl* words

and their like are a very small part of any language, and *gl* may have nothing to do with "sight" in another language, or even in other words in English, such as *gladiator, glucose, glory, glutton,* and *globe.*

To know a language, we must know words of that language. But no speaker knows all the entries in an unabridged dictionary—and even if someone did, he would still not know that language. Imagine trying to learn a foreign language from an online dictionary. However, many words you learned, you would not be able to form nor understand very many phrases. And even if you could manage to get your message across using a few words from a traveler's dictionary, such as "car—gas—where?" the best you could hope for is to be pointed in the direction of a gas station. If you were answered with a sentence, it is doubtful that you would understand what was said or be able to look it up, because you would not know where one word ended and another began. Chapter 3 will discuss how words are put together to form phrases and sentences, and Chapter 4 will explore word and sentence meanings.

## The Creativity of Linguistic Knowledge

> All humans are artists, all of us . . . Our greatest masterpiece of art is the use of a language to create an entire virtual reality within our mind.
>
> DON MIGUEL RUIZ, 2012

> ALBERT: So are you saying that you were the best friend of the woman who was married to the man who represented your husband in divorce?
>
> ANDRÈ: In the history of speech, that sentence has never been uttered before.
>
> NEIL SIMON, *The Dinner Party*, 2000

Knowledge of a language enables you to combine sounds to form words, words to form phrases, and phrases to form sentences. No matter how smart your smartphone is, it cannot contain all the sentences of a language because the number is infinite. Knowing a language means being able to produce and understand new sentences never spoken before. This is the **creative aspect** of language. Not every speaker can create great literature, but everybody who knows a language can create and understand novel sentences.

That language is creative and sentences potentially infinite in length and number is shown by the fact that any sentence can be made indefinitely longer. In English, you can say:

This is the house.

or

This is the house that Jack built.

or

This is the malt that lay in the house that Jack built.

or

> This is the dog that worried the cat that killed the rat that ate the malt
> that lay in the house that Jack built.

The longer these sentences become the less likely we are to hear or say them. A sentence such as "The old, old, old, old, old, old man fell" with half-dozen occurrences of *old* would be highly unusual in either speech or writing, even to describe Methuselah. But such a sentence is theoretically possible. If you know English, you have the knowledge to add any number of adjectives to a noun, and any number of clauses to a sentence, as in "the house that Jack built."

All human languages permit their speakers to increase the length and complexity of sentences in these ways; creativity is a universal property of human language.

Our creative ability is reflected not only in what we say, but also in our understanding of new or novel sentences. Consider the following sentence: "Daniel Boone decided to become a pioneer because he dreamed of pigeon-toed giraffes and cross-eyed elephants dancing in pink skirts and green berets on the wind-swept plains of the Midwest." You may not believe the sentence; you may question its logic; but you can understand it, although you probably never heard or read it before now.

In pointing out the creative aspect of language, Noam Chomsky, who many regard as the father of modern linguistics, argued persuasively against the view that language is a set of learned responses to stimuli. It's true that if someone steps on your toes, you may automatically respond with a scream or a grunt, but these sounds are not part of language. They are involuntary reactions to stimuli. After we reflexively cry out, we can then go on to say: "Thank you very much for stepping on my toe, because I was afraid I had elephantiasis and now that I can feel the pain I know I don't," or any one of an infinite number of sentences, because the particular sentences we produce are not controlled by any stimulus.

Even some involuntary cries such as "ouch" change according to the language we speak. Step on an Italian's toes and he will cry "ahi." French speakers often fill their pauses with the vowel sound that starts their word for "egg"—*oeu(f)*—a sound that does not occur in English. Even conversational fillers such as *er, uh,* and *you know* in English are constrained by the language in which they occur.

The fact of human linguistic creativity was well expressed more than 400 years ago by Huarte de San Juan (1530–1592): "Normal human minds are such that . . . without the help of anybody, they will produce 1,000 (sentences) they never heard spoke of . . . inventing and saying such things as they never heard from their masters, nor any mouth."

## Knowledge of Sentences and Nonsentences

> A person who knows a language has mastered a system of rules that assigns sound and meaning in a definite way for an infinite class of possible sentences.
>
> NOAM CHOMSKY, *Language and Mind*, 1968

Our knowledge of language not only allows us to produce and understand an infinite number of well-formed (even if silly and illogical) sentences. It also permits us to distinguish well-formed (grammatical) from ill-formed (ungrammatical) sentences. This is further evidence of our linguistic creativity because ungrammatical sentences are typically novel, not sentences we have previously heard or produced, precisely because they are ungrammatical!

Consider the following sentences:

**a.** John kissed the little old lady who owned the shaggy dog.
**b.** Who owned the shaggy dog John kissed the little old lady.
**c.** John is difficult to love.
**d.** It is difficult to love John.
**e.** John is anxious to go.
**f.** It is anxious to go John.
**g.** John, who was a student, flunked his exams.
**h.** Exams his flunked student a was who John.

If you were asked to put an asterisk or star before the examples that seemed ill formed or ungrammatical or "not good" to you, which ones would you mark? Our intuitive knowledge about what is or is not an allowable sentence in English convinces us to star *b, f,* and h. Which ones did you star?

Would you agree with the following judgments?

**a.** What he did was climb a tree.
**b.** *What he thought was want a sports car.[2]
**c.** Drink your beer and go home!
**d.** *What are drinking and go home?
**e.** I expect them to arrive a week from next Thursday.
**f.** *I expect a week from next Thursday to arrive them.
**g.** Linus lost his security blanket.
**h.** *Lost Linus security blanket his.

If you find the starred sentences unacceptable, as we do, you see your linguistic creativity at work.

These sentences also illustrate that not every string of words constitutes a well-formed sentence in a language. Sentences are not formed simply by placing one word after another in any order, but by organizing the words according to the rules of sentence formation of the language. These rules are finite in length and finite in number so that they can be stored in our finite brains. Yet, they permit us to form and understand an infinite set of new sentences. They also enable us to judge whether a sequence of words is a well-formed sentence of our language or not. These rules are not determined by a judge or a legislature, or even taught in a grammar class. They are unconscious rules that we acquire as young children as we develop language and they are responsible for our linguistic creativity. Linguists refer to this set of rules as the **grammar** of the language.

[2]The asterisk is used before examples that speakers find ungrammatical. This notation will be used throughout the book.

Returning to the question we posed at the beginning of this chapter—what does it mean to know a language? It means knowing the sounds and meanings of many, if not all, of the words of the language, and the rules for their combination—the grammar, which accounts for infinitely many possible sentences. We will have more to say about these rules of grammar in later chapters.

## Linguistic Knowledge and Performance

> "What's one and one and one and one and one and one and one and one and one and one?" "I don't know," said Alice. "I lost count." "She can't do Addition," the Red Queen interrupted.
>
> LEWIS CARROLL, *Through the Looking-Glass*, 1871

Speakers of all languages have the knowledge to understand or produce sentences of any length. Here is an example from the ruling of a federal judge:

> We invalidate the challenged lifetime ban because we hold as a matter of federal constitutional law that a state initiative measure cannot impose a severe limitation on the people's fundamental rights when the issue of whether to impose such a limitation on these rights is put to the voters in a measure that is ambiguous on its face and that fails to mention in its text, the proponent's ballot argument, or the state's official description, the severe limitation to be imposed.

Theoretically, there is no limit to the length of a sentence, but in practice very long sentences are unlikely, the verbose federal judge's ruling notwithstanding. Evidently, there is a difference between having the knowledge required to produce or understand sentences of a language and applying this knowledge. It is a difference between our knowledge of words and grammar, which is our **linguistic competence**, and how we use this knowledge in actual speech production and comprehension, which is our **linguistic performance**.

Our linguistic knowledge permits us to form longer and longer sentences by joining sentences and phrases together or adding modifiers to a noun. However, there are physiological and psychological reasons that limit the number of adjectives, adverbs, clauses, and so on that we actually produce and understand. Speakers may run out of breath, lose track of what they have said, or die of old age before they are finished. Listeners may become tired, bored, disgusted, or confused, like poor Alice when being interrogated by the Red Queen.

When we speak we usually wish to convey some message. At some stage in the act of producing speech, we must organize our thoughts into strings of words. Sometimes the message is garbled. We may stammer, or pause, or produce **slips of the tongue** such as saying *preach seduction* when *speech production* is meant (discussed in Chapter 10).