

西方语言学丛书



# 语言导论

## AN INTRODUCTION TO LANGUAGE

第七版

SEVENTH EDITION

Victoria Fromkin

University of California, Los Angeles (Deceased)

Robert Rodman

North Carolina State University, Raleigh

Nina Hyams

University of California, Los Angeles



北京大学出版社

PEKING UNIVERSITY PRESS

著作权合同登记 图字：01-2004-0504 号

本书英文影印版由北京大学出版社和汤姆森学习出版集团合作出版。限在中华人民共和国大陆地区(不包括香港、澳门、台湾地区)出版发行。未经上述出版者许可,不得以任何方式抄袭、复制或节录书中的任何部分。

版权所有,翻印必究。

### 图书在版编目(CIP)数据

语言导论(第7版)/(美)弗罗姆金(Fromkin, V.)等著. —影印本. —北京:北京大学出版社, 2004. 2

(西方语言学丛书)

ISBN 7-301-06943-X

I. 语… II. 弗… III. 语言学—英文 IV. H0

中国版本图书馆 CIP 数据核字(2004)第 004745 号

书 名: 语言导论

著作责任者: Victoria Fromkin; Robert Rodman; Nina Hyams

责任编辑: 徐 刚

标准书号: ISBN 7-301-06943-X/H·0978

出 版 者: 北京大学出版社

地 址: 北京市海淀区中关村北京大学校内 100871

网 址: <http://cbs.pku.edu.cn/cbs.htm>

电 话: 出版部 62752015 发行部 62754140 编辑室 62752028

电子信箱: [zpup@pup.pku.edu.cn](mailto:zpup@pup.pku.edu.cn)

印 刷 者: 北京大学印刷厂

发 行 者: 北京大学出版社

经 销 者: 新华书店

787 毫米×960 毫米 16 开本 40 印张 734 千字

2004 年 2 月第 1 版 2004 年 2 月第 1 次印刷

定 价: 60.00 元

# 出版说明

乔姆斯基的转换生成语法强调人类语言的普遍性,试图从语法原则与参数的高度揭开人类语言的普遍结构,更进一步揭示人类认知的奥秘。人类历史上似乎从未有哪一门学科如此富于创造性和挑战性,也很少有一种科学能够如此深刻地对相关学科产生如此广泛而深远的影响。这一理论在不断拓展的语料视野面前,在不断回应新思想方法的挑战过程中,不断地调整自己的思路和方法,跋涉了半个世纪,其所取得的成就不仅使语言学家激动和自豪,也为当代哲学、心理学、信息学、计算机科学、人工智能等众多领域的学者所瞩目。

乔姆斯基自称其理论远绍十七世纪法国普遍唯理语法。1898年,马建忠在他的《马氏文通》后序中这样说:“盖所见为不同者,惟此已形已声之字,皆人为之也。而亘古今,塞宇宙,其种之或黄或白,或紫或黑之钩是人也,天皆赋之以此心之所以能意,此意之所以能达之理。则常探讨画革旁行诸国语言之源流,若希腊、若拉丁之文词而属比之,见其字别种,而句司字,所以声其心而形其意者,皆有一定不易之律;而因以律吾经籍子史诸书,其大纲盖无不同。于是因所同以同夫所不同者,是则此编之所以成也。”马氏是留法的,普遍唯理语法对他的影响同样是深刻的。

不过,在中国,普遍主义的思想也就此昙花一现,很快就湮没在强调汉语特点的思路中。半个多世纪之后,转换生成语法逐渐为中国学者所知,可是很多人都认为它不适合汉语语法研究,只有在国外的学者在这方面做了些工作,取得了不少成绩。这种研究尽管还存在许许多多的问题,但至少可以说明,汉语研究同样可以走普遍语法的道路。

马氏的模仿是显然的。然而我们今天的研究就能肯定不是模仿了么?朱德熙先生曾经说:“长期以来印欧语语法观念给汉语研究带来的消极影响……主要表现在用印欧语的眼光来看待汉语,把印欧语所有而汉语所无的东西强加给汉语。”“我们现在在这里批评某些传统观念,很可能我们自己也正在不知不觉之中受这些传统观念的摆布。这当然只能等将来由别人来纠正了,正所谓后之视今,亦犹今之视昔。”其言盖有深意焉。然而问题其实并不在于是否模仿,而在于模仿来的方法、视角是不是可以得出符合汉语事实的结论。反对模仿蕴涵着一个前提:即汉语与印欧语的结构没有相同之处。但是今天的我们对汉语的结构究竟了解了多少呢?

任何语言都有自己的特点,这一点毋庸置疑。但是不了解语言的普遍性,也就谈不上特点,也就无所谓走自己的道路。而且,在某一水平面上成为特点的规律,在更高或更深层的水平上也许就不成其为特点,而仅仅是普遍性的一种特殊表现而已。

当代社会文化领域中多元化是主流,当代语言学理论也趋于多元。在西方,形式语言学不大可能再如以往如此这般地波澜壮阔,而是进入一个相对平静的稳定发展的时期,语言的功能方面的研究已经占据一席之地。在未来的一段时期内,语言学将是一个酝酿期,为下一个重大突破作准备。而在中国,语言学在长期的“借鉴”之后,也在思考如何能够从汉语出发,取得重大突破,反哺世界学林。语言学发展到今天,又重新面临着路怎样走这一根本问题。

不管下一步怎么走,充分了解西方学者的成绩,借鉴他们的思路和方法无疑是必不可少的。特别是对于取得了如此重大成就的当代西方语言学,如果不能有正确的了解,无异于闭门造车,要想出门合辙,不亦难乎?

北大出版社多年来坚持学术为本的出版方针,我们愿意为语言学在新世纪的发展尽一分绵薄之力。为了推动我国语言学事业的发展,在总编张文定先生的主持下,我们将原版引进一批高质量的语言学专著和教材,命之曰“西方语言学丛书”,以饕学林。引进的作品将包括语音学、韵律学、句法学、语义学、语言史、词源学、方言学等各个领域;既包括宏观的理论研究,也包括重要问题的个案研究;既包括形式语言学的方法,也包括认知、功能等视角。但不管是哪一种,都是经过精挑细选,庶几开卷有益。

我们期待着中国语言学的新突破!

北京大学出版社

# 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



**T**he seventh edition of *An Introduction to Language* is dedicated to the memory of our friend, colleague, mentor, and coauthor, Victoria Fromkin. Vicki loved language, and she loved to tell people about it. She found linguistics fun and fascinating, and she wanted every student and every teacher to think so, too. Though this edition is completely rewritten for improved clarity and currency, we have nevertheless preserved Vicki's lighthearted, personal approach to a complex topic, including humorous and pithy quotations from noted authors (A. A. Milne was one of Vicki's favorites). We hope we have kept the spirit of Vicki's love for teaching about language alive in the pages of this book.

The first six editions of *An Introduction to Language* succeeded, with the help of dedicated teachers, in introducing the nature of human language to tens 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, majors in fields as diverse as teaching English as a second language, foreign language studies, general education, psychology, sociology, and anthropology have enjoyed learning about language from this book.

This edition 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 second chapter, “Brain and Language,” retains its forward placement in the book because we believe that one can learn about the brain through language, and about the nature of the human being through the brain. This chapter may be read and appreciated without technical knowledge of linguistics. When the centrality of language to human nature is appreciated, students will be motivated to learn more about human language, and about linguistics, because they will be learning more about themselves. As in the previous edition, highly detailed illustrations of MRI and PET scans of the brain are included, and this chapter highlights some of the new results and tremendous progress in the study of neurolinguistics over the past few years. The arguments for the autonomy of language in the human brain are carefully presented so that the student sees how experimental evidence is applied to support scientific theories.

Chapters 3 and 4, morphology and syntax, have been substantially revised to reflect current thinking on how words and sentences are structured, in particular, with regard to the concept of *head*. Comparison of languages is intended to enhance the student’s understanding of the differences among languages as well as the universal aspects of grammar. Nevertheless, the introductory spirit of these chapters is not sacrificed, and students gain a deep understanding of word and phrase structure with a minimum of formalisms, and a maximum of insightful examples and explanations, as always supplemented by quotes, poetry, and humor.

Chapter 7, phonology, is also substantially revised to reflect current paradigms, yet 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 chapter as well as the chapters on morphology and syntax, “how to” sections on language analysis give students the opportunity for hands-on linguistic study. Exercises, many of them new, further increase the student’s understanding of how language works.

The most significant revisions and additions to the seventh edition occur in Part 3, “The Psychology of Language.” Chapter 8, “Language Acquisition,” is rewritten “from the bottom up” to reflect the tremendous progress in our knowledge of how children learn language. Material on the acquisition of non-English languages supplements the generous amount of data already present on English acquisition. Bilingualism is taken up in detail with much new data, as is L2—the learning of a second language. The arguments for innateness and Universal Grammar that language acquisition provides are exploited to show the student how scientific theories of great import are discovered and supported through observation, experiment, and reason. As in most chapters, American Sign Language (ASL) is discussed and its important role in understanding the biological foundations of language emphasized.

In chapter 9, the section on psycholinguistics is updated to conform to recent discoveries, and the section on computational linguistics has been entirely renovated to reflect progress in machine translation, speech synthesis, speech recognition, and language understanding.

Part 4 is concerned with language in society, including sociolinguistics and historical linguistics. Chapter 10 includes material on language variation and the study of

ethnic minority and social dialects. Attitudes toward language and how they reflect the views and mores of society are included in this chapter. We establish the scientific basis for discussing such topics as Ebonics (a popular term for dialects of African-American English) and so-called “standard” languages. Another section on language and sexism reflects a growing concern with this topic.

Chapter 11 on language change includes a greatly expanded section on language extinction, the reasons for it, and what may be done about it. The chapter has also been restructured to improve clarity, and is supplemented with additional exercises and examples of the comparative method.

Chapter 12 on writing systems has additional discussions on writing communication via the Internet, which has a flavor of its own. This chapter should be read by those interested in the teaching of reading, and offers some reasons as to “why Johnny can’t read.”

Terms that appear bold in the text are defined in the revised glossary in the appendix. The glossary has been expanded and improved with more than 600 entries.

The order of presentation of chapters 3 through 7 was once thought to be nontraditional. Our experience, backed by previous editions of the book and the recommendations of colleagues throughout the world, have 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 6, 7, 3, 4, and 5) without confusion, if they wish.

As in previous editions, the primary concern has been with basic ideas rather than detailed expositions. This book assumes no previous knowledge on the part of the reader. A 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 student’s interest in and comprehension of the textual material.

We are deeply grateful to the individuals who have sent us suggestions, corrections, criticisms, cartoons, language data, and exercises, all of which we have tried to incorporate in this new edition. We owe special thanks to colleagues who reviewed the manuscript in progress: Jennifer Cole and Rajka Smiljanic, University of Illinois at Urbana-Champaign; Molly Diesing, Cornell University; Genevieve Escure, University of Minnesota; Patrick Farrell, University of California-Davis; Elly van Gelderen, Arizona State University; Maurice Holder, University of New Brunswick; Bruce C. Johnson, University of Northern Colorado; Jane Kaplan, Ithaca College; Chin W. Kim, University of Illinois at Urbana-Champaign; Elisabeth Kuhn, Virginia Commonwealth University; Seung-Jae Moon, University of Wisconsin, Milwaukee; William C. Ritchie, Syracuse University; Michael B. Smith, Oakland University; Tully J. Thibeau, University of Montana; and Thomas E. Young, Purdue University North Central.

Others who have helped us are (and if we have omitted any of the many, please forgive us): Jon Hareide Aarbakke, Susan Ballance, Paul Baltes, Merry Bullock, Lyle Campbell, Richard S. Cervin, Don Churma, Billy Clark, Charles J. Coker, Susie Curtiss,

Roy Dace, J. Day, Kamil Ud Deen, David Deterding, Anthony Diller, Gregoire Dunant, M. Therese Gallegos, Mary Ghaleb, Jill Gilkerson, Lila R. Gleitman, Mark Hansell, Eric Hyman, Herbert Immenga, Olaf Jäkel, Yan Jiang, Kyle Johnson, Irina Kalika, Rachel Lagunoff, Yonata Levy, Monica Macaulay, Peggy MacEachern, Marcyliena Morgan, Pamela Munro, Jihwan Myeong, JaeHo Myung, Almerinda Ojeda, Gunter Radden, Willem J. deReuse, Otto Santa Ana, Carson Schütze, Bonnie Schwartz, Dawn L. Sievers, Gabriella Solomon, Kelly Stack, B. Stefanow, Ean Taylor, Larry Trask, Rudolf Weiss, John C. White, Howard Williams, Walt Wolfram, and Mary Wu.

We are particularly grateful to Hanna and Antonio Damasio of the University of Iowa Medical School for information on their brain studies and the MRI and PET illustrations; to Colin Wilson for extensive assistance with chapter 7, phonology; and to Stephen Wilson for writing the excellent solutions manual available to instructors.

Finally, we wish to thank the editorial and production team at Heinle. They have been superb and supportive in every way: Michael Rosenberg, acquisitions editor; Lianne Ames, senior production editor; Amanda Robinson, developmental editor; Joan M. Flaherty, copy editor; Sandra Lord, permissions editor; Gail Farrar, project manager, and Mark Bergeron, design.

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 seventh edition.

Robert Rodman  
Nina Hyams



# Contents

## Part 1 The Nature of Human Language

---

<b>Chapter 1</b>			
<b>What Is Language?</b>	<b>3</b>	<b>References for Further Reading</b>	<b>29</b>
<b>Linguistic Knowledge</b>	<b>4</b>	<b>Exercises</b>	<b>30</b>
Knowledge of the Sound System	4		
Knowledge of Words	5		
<i>Arbitrary Relation of Form and Meaning</i>	5		
The Creativity of Linguistic Knowledge	8		
Knowledge of Sentences and Nonsentences	11		
<b>Linguistic Knowledge and Performance</b>	<b>12</b>		
<b>What Is Grammar?</b>	<b>14</b>	<b>Chapter 2</b>	
Descriptive Grammars	14	<b>Brain and Language</b>	<b>33</b>
Prescriptive Grammars	15		
Teaching Grammars	17	<b>The Human Brain</b>	<b>34</b>
<b>Language Universals</b>	<b>18</b>	The Modularity of the Brain	34
The Development of Grammar	19	<i>Evidence from Childhood Brain Lesions</i>	39
Sign Languages: Evidence for Languages		<i>Split Brains</i>	40
Universals	20	<i>Further Experiments</i>	41
<i>American Sign Language (ASL)</i>	21	More Evidence for Modularity	43
<b>Animal "Languages"</b>	<b>23</b>	<i>Aphasia</i>	43
"Talking" Parrots	23	<i>Distinct Categories of Conceptual Knowledge</i>	48
The Birds and the Bees	24	<b>The Autonomy of Language</b>	<b>48</b>
<b>What We Know about Language</b>	<b>27</b>	Asymmetry of Abilities	49
<b>Summary</b>	<b>28</b>	<i>Laura</i>	49
		<i>Christopher</i>	50
		Genetic Evidence for Language Autonomy	50
		<b>Language and Brain Development</b>	<b>51</b>
		The Critical Period	51
		A Critical Period for Bird Songs	54

<b>The Evolution of Language</b>	56	The Development of Language	59
In the Beginning: The Origin of Language	56	in the Species	59
<i>God's Gift to Mankind?</i>	57	<b>Summary</b>	61
<i>The First Language</i>	58	<b>References for Further Reading</b>	62
<i>Human Invention or the Cries of Nature?</i>	59	<b>Exercises</b>	63

## Part 2

# Grammatical Aspects of Language

---

<b>Chapter 3</b>		<i>Universality of Compounding</i>	95
<b>Morphology: The Word of Language</b>	69	Acronyms	95
<b>Dictionaries</b>	72	Back-Formations	97
<b>Content Words and Function Words</b>	73	Abbreviations	97
<b>Morphemes: The Minimal Units of Meaning</b>	75	Words from Names	98
Bound and Free Morphemes	77	Blends	98
<i>Prefixes and Suffixes</i>	77	<b>Grammatical Morphemes</b>	99
<i>Infixes</i>	79	Inflectional Morphemes	100
<i>Circumfixes</i>	80	Exceptions and Suppletions	102
<i>Roots and Stems</i>	80	Morphology and Syntax	103
Huckles and Ceives	81	<b>Morphological Analysis: Identifying Morphemes</b>	105
<b>Rules of Word Formation</b>	82	<b>Summary</b>	106
Derivational Morphology	83	<b>References for Further Reading</b>	108
The Hierarchical Structure of Words	84	<b>Exercises</b>	108
More about Derivational Morphemes	86		
Lexical Gaps	87	<b>Chapter 4</b>	
Rule Productivity	88	<b>The Sentence Patterns of Language</b>	117
"Pullet Surprises"	90		
<b>Sign Language Morphology</b>	91	<b>Grammatical or Ungrammatical?</b>	118
<b>Word Coinage</b>	92	What Grammaticality Is Based On	119
Compounds	93	What Grammaticality Is Not Based On	120
<i>Meaning of Compounds</i>	94		

<b>What Else Do You Know about Syntax?</b>	<b>121</b>	<b>-nyms</b>	<b>178</b>
<b>Sentence Structure</b>	<b>123</b>	<i>Homonyms and Polysemy</i>	<i>179</i>
Syntactic Categories	125	<i>Synonyms</i>	<i>181</i>
Phrase Structure Trees	128	<i>Antonyms</i>	<i>182</i>
Heads and Complements	130	Formation of Antonyms	183
<i>Selection</i>	<i>131</i>	<i>Hyponyms</i>	<i>184</i>
<i>What Heads the Sentence?</i>	<i>133</i>	<i>Metonyms</i>	<i>184</i>
The Infinity of Language	135	<i>Retronyms</i>	<i>185</i>
<b>Phrase Structure Rules</b>	<b>137</b>	Proper Names	185
Growing Trees: The Relationship between Phrase Structure Rules and Phrase Structure Trees	140	<b>Phrase and Sentence Meaning</b>	<b>187</b>
Structural Ambiguities	143	Phrasal Meaning	188
Trees That Won't Grow	144	<i>Noun-Centered Meaning</i>	<i>189</i>
More Phrase Structure Rules	146	Sense and Reference	190
<b>Sentence Relatedness</b>	<b>152</b>	<i>Verb-Centered Meaning</i>	<i>191</i>
Transformational Rules	153	Thematic Roles	192
Structure Dependent Rules	154	Thematic Roles in Other Languages	194
Syntactic Dependencies	156	The Theta-Criterion	195
<i>Wh Questions</i>	<i>157</i>	Sentential Meaning	195
UG Principles and Parameters	159	The "Truth" of Sentences	196
Sign Language Syntax	162	<i>Paraphrase</i>	<i>197</i>
<b>Summary</b>	<b>164</b>	<i>Entailment</i>	<i>198</i>
<b>References for Further Reading</b>	<b>165</b>	<i>Contradiction</i>	<i>198</i>
<b>Exercises</b>	<b>165</b>	Events versus States	199
		Pronouns and Coreferentiality	199
		<b>To Mean or Not to Mean</b>	<b>201</b>
		Anomaly: No Sense and Nonsense	201
		Metaphor	204
		Idioms	205
		<b>Pragmatics</b>	<b>207</b>
		Linguistic Context: Discourse	208
		<i>Pronouns</i>	<i>209</i>
		<i>The Articles The and A</i>	<i>211</i>
		Situational Context	212
		<i>Maxims of Conversation</i>	<i>213</i>
		<i>Speech Acts</i>	<i>214</i>
		<i>Presuppositions</i>	<i>216</i>
		<i>Deixis</i>	<i>217</i>
		<b>Summary</b>	<b>219</b>
<b>Chapter 5</b>			
<b>The Meanings of</b>			
<b>Language</b>	<b>173</b>		
<b>Lexical Semantics (Word Meanings)</b>	<b>173</b>		
Semantic Properties	174		
<i>Evidence for Semantic Properties</i>	<i>176</i>		
<i>Semantic Properties and the Lexicon</i>	<i>176</i>		
<i>More Semantic Relationships</i>	<i>177</i>		

**References for Further Reading** 221  
**Exercises** 222

**Chapter 6**  
**Phonetics: The Sounds of Language** 231

**Sound Segments** 232  
 Identity of Speech Sounds 233  
**Spelling and Speech** 235  
 The Phonetic Alphabet 236  
**Articulatory Phonetics** 240  
 Airstream Mechanisms 240  
 Consonants 242  
     *Places of Articulation* 242  
         Bilabials [p] [b] [m] 242  
         Labiodentals [f] [v] 242  
         Interdentals [θ] [ð] 242  
         Alveolars [t] [d] [n] [s] [z] [l] [r] 242  
         Palatals [ʃ] [ʃ̥] [ʒ] [ʒ̥] [ç] [j] 243  
         Velars [k] [g] [ŋ] 243  
         Uvulars [ʀ] [q] [ʁ] 243  
         Glottal [ʔ] [h] 243  
     *Manners of Articulation* 244  
         Voiced and Voiceless Sounds 244  
         Nasal and Oral Sounds 246  
         Stops [p] [b] [m] [t] [d] [n] [k] [g] 247  
             [ŋ] [ç] [j] [ʔ] 247  
         Fricatives [f] [v] [θ] [ð] [s] [z] [ʃ] [ʒ] 248  
         Affricates [tʃ] [dʒ] 248  
         Liquids [l] [r] 249  
         Glides [j] [w] 250  
     *Phonetic Symbols for American English*  
         Consonants 250  
         Vowels 252  
         Tongue Position 252

*Lip Rounding* 254  
*Diphthongs* 255  
*Nasalization of Vowels* 255  
*Tense and Lax Vowels* 255  
*Dialect Differences* 256  
 Major Classes 257  
     Noncontinuants and Continuants 257  
     Obstruents and Sonorants 257  
     Consonants and Vowels 257  
         Labials [p] [b] [m] [f] [v] 258  
         Coronals [t] [d] [n] [s] [z] [ʃ] [ʒ] 258  
             [ç] [j] [l] 258  
         Anterior [p] [b] [m] [f] [v] [θ] [ð] 258  
             [t] [d] [n] [s] [z] 258  
         Sibilants [s] [z] [ʃ] [ʒ] [ç] [j] 258  
     Syllabic Sounds 258  
     Prosodic Suprasegmental Features 258  
         Tone and Intonation 259  
**Diacritics** 262  
**Phonetic Symbols and Spelling**  
     Correspondences 262  
**Sign-Language Primes** 265  
**Summary** 267  
**References for Further Reading** 268  
**Exercises** 268

**Chapter 7**  
**Phonology: The Sound Patterns of Language** 273

**The Pronunciation of Morphemes** 275  
     The Pronunciation of Plurals 275  
         Exceptions to the Plural Rule 279  
     Allomorphy in English: Further Examples 280  
     Allomorphy in Other Languages 281

<b>Phonemes: The Phonological Units of Language</b>	<b>283</b>	Segment Deletion and Addition Rules	307
Vowel Nasalization in English	283	Movement (Metathesis) Rules	311
Minimal Pairs in ASL	287	From One to Many and from Many to One	312
Complementary Distribution	287	The Function of Phonological Rules	315
<b>Distinctive Features</b>	<b>291</b>	Slips of the Tongue: Evidence for Phonological Rules	316
Feature Values	291	<b>Prosodic Phonology</b>	<b>317</b>
<i>Predictability of Redundant (Nondistinctive) Features</i>	292	Syllable Structure	317
<i>More on Redundancies</i>	294	Word Stress	318
<i>Unpredictability of Phonemic Features</i>	295	Sentence and Phrase Stress	320
<b>Natural Classes</b>	<b>297</b>	Intonation	321
Feature Specifications for American English Consonants and Vowels	299	<b>Sequential Constraints</b>	<b>322</b>
<b>The Rules of Phonology</b>	<b>301</b>	<i>Lexical Gaps</i>	324
Assimilation Rules	301	<b>Phonological Analysis: Discovering Phonemes</b>	<b>324</b>
Feature Changing Rules	305	<b>Summary</b>	<b>327</b>
Dissimilation Rules	306	<b>References for Further Reading</b>	<b>329</b>
Feature Addition Rules	307	<b>Exercises</b>	<b>329</b>

## Part 3

# The Psychology of Language

---

<b>Chapter 8</b>		<b>Children Construct Grammars</b>	<b>347</b>
<b>Language Acquisition</b>	<b>341</b>	The Innateness Hypothesis	348
<b>Mechanisms of Language Acquisition</b>	<b>342</b>	Stages in Language Acquisition	351
Do Children Learn through Imitation?	343	The Perception and Production of Speech Sounds	352
Do Children Learn through Reinforcement?	344	First Words	354
Do Children Learn Language through Analogy?	345	The Development of Grammar	356
Do Children Learn through Structured Input?	346	<i>The Acquisition of Phonology</i>	356
		<i>The Acquisition of Word Meaning</i>	358
		<i>The Acquisition of Morphology</i>	360

<i>The Acquisition of Syntax</i>	363		
<i>The Acquisition of Pragmatics</i>	367		
<i>The Development of Auxiliaries: A Case Study</i>	368		
Setting Parameters	371		
The Acquisition of Signed Languages	372		
<b>Knowing More Than One Language</b>	<b>374</b>		
Childhood Bilingualism	374		
<i>Theories of Bilingual Development</i>	376		
<i>Two Monolinguals in One Head</i>	377		
<i>The Role of Input</i>	377		
<i>Cognitive Effects of Bilingualism</i>	378		
Second Language Acquisition	379		
<i>Is L2 Acquisition the Same as L1 acquisition?</i>	379		
<i>Native Language Influence in L2 Acquisition</i>	381		
<i>The Creative Component of L2 Acquisition</i>	382		
<i>A Critical Period for L2 Acquisition?</i>	383		
<b>Second-Language Teaching Methods</b>	<b>384</b>		
<b>Can Chimps Learn Human Language?</b>	<b>384</b>		
Gua	385		
Viki	385		
Washoe	385		
Sarah	386		
Learning Yerkish	386		
Koko	386		
Nim Chimpsky	386		
Clever Hans	388		
Kanzi	389		
<b>Summary</b>	<b>390</b>		
<b>References for Further Reading</b>	<b>392</b>		
<b>Exercises</b>	<b>393</b>		
		<b>Chapter 9</b>	
		<b>Language Processing: Human and Computer</b>	<b>397</b>
		<b>The Human Mind at Work: Human Language Processing</b>	<b>397</b>
		Comprehension	399
		<i>The Speech Signal</i>	399
		<i>Speech Perception and Comprehension Comprehension Models and Experimental Studies</i>	403
		<i>Lexical Access and Word Recognition</i>	404
		Syntactic Processing	406
		Speech Production	408
		<i>Planning Units</i>	408
		<i>Lexical Selection</i>	410
		<i>Application and Misapplication of Rules</i>	410
		Nonlinguistic Influences	411
		<b>Computer Processing of Human Language</b>	<b>412</b>
		Text and Speech Analysis	412
		<i>Frequency Analysis, Concordances, and Collocations</i>	413
		<i>Information Retrieval and Summarization</i>	414
		<i>Spell Checkers</i>	415
		Machine Translation	416
		Computers That Talk and Listen	418
		<i>Computational Phonetics and Phonology</i>	418
		Speech Recognition	418
		Speech Synthesis	420
		<i>Computational Morphology</i>	423
		<i>Computational Syntax</i>	424
		<i>Computational Semantics</i>	429
		<i>Computational Pragmatics</i>	430

Computer Models of Grammar	432	References for Further Reading	436
Summary	433	Exercises	437

## Part 4

# Language and Society

---

<b>Chapter 10</b>			
<b>Language in Society</b>	<b>445</b>	<i>Double Negatives</i>	462
<b>Dialects</b>	<b>445</b>	<i>Deletion of the Verb "Be"</i>	462
Regional Dialects	446	<i>Habitual "Be"</i>	462
Accents	447	History of African American English	463
<b>Dialects of English</b>	<b>448</b>	<b>Latino (Hispanic) English</b>	<b>465</b>
Phonological Differences	449	Chicano English (ChE)	466
Lexical Differences	450	<i>Phonological Variables of ChE</i>	466
Dialect Atlases	451	<i>Syntactic Variables in ChE</i>	467
Syntactic Differences	453	<b>Lingua Francas</b>	<b>468</b>
<b>The "Standard"</b>	<b>454</b>	<b>Pidgins and Creoles</b>	<b>469</b>
Language Purists	455	Pidgins	469
Banned Languages	457	Creoles	472
The Revival of Languages	459	<b>Styles, Slang, and Jargon</b>	<b>472</b>
<b>African American English</b>	<b>459</b>	Styles	472
Phonology of African American English	460	Slang	473
<i>R-Deletion</i>	460	Jargon and Argot	475
<i>L-Deletion</i>	460	<b>Taboo or Not Taboo?</b>	<b>476</b>
<i>Consonant Cluster Simplification</i>	460	Euphemisms	479
<i>Neutralization of [ɹ] and [ɛ] before Nasals</i>	461	Racial and National Epithets	481
<i>Diphthong Reduction</i>	461	<b>Language, Sex, and Gender</b>	<b>482</b>
<i>Loss of Interdental Fricatives</i>	461	Marked and Unmarked Forms	483
Syntactic Differences between AAE and SAE	461	The Generic "He"	485
		Language and Gender	486
		<b>Secret Languages and Language Games</b>	<b>487</b>

<b>Summary</b>	<b>488</b>	<b>Types of Languages</b>	<b>531</b>
<b>References for Further Reading</b>	<b>490</b>	<b>Why Do Languages Change?</b>	<b>534</b>
<b>Exercises</b>	<b>491</b>	<b>Summary</b>	<b>536</b>
		<b>References for Further Reading</b>	<b>537</b>
		<b>Exercises</b>	<b>538</b>
<b>Chapter 11</b>		<b>Chapter 12</b>	
<b>Language Change:</b>		<b>Writing: The ABCs</b>	
<b>The Syllables of Time</b>	<b>499</b>	<b>of Language</b>	<b>545</b>
<b>The Regularity of Sound Change</b>	<b>501</b>	<b>The History of Writing</b>	<b>546</b>
Sound Correspondences	501	Pictograms and Ideograms	547
Ancestral Protolanguages	502	Cuneiform Writing	548
<b>Phonological Change</b>	<b>503</b>	The Rebus Principle	550
Phonological Rules	503	From Hieroglyphs to the Alphabet	551
The Great Vowel Shift	504	<b>Modern Writing Systems</b>	<b>552</b>
<b>Morphological Change</b>	<b>506</b>	Word Writing	553
<b>Syntactic Change</b>	<b>508</b>	Syllabic Writing	554
<b>Lexical Change</b>	<b>510</b>	Consonantal Alphabet Writing	556
Addition of New Words	511	Alphabetic Writing	556
Borrowings or Loan Words	512	<b>Reading, Writing, and Speech</b>	<b>559</b>
<i>History through Loan Words</i>	512	Reading	561
Loss of Words	514	Spelling	562
Semantic Change	515	Spelling Pronunciations	566
<i>Broadening</i>	515	<b>Summary</b>	<b>567</b>
<i>Narrowing</i>	516	<b>References for Further Reading</b>	<b>567</b>
<i>Meaning Shifts</i>	516	<b>Exercises</b>	<b>568</b>
<b>Reconstructing “Dead” Languages</b>	<b>516</b>	<b>GLOSSARY</b>	<b>573</b>
The Nineteenth-Century Comparativists	517		
<i>Cognates</i>	518	<b>INDEX</b>	<b>599</b>
Comparative Reconstruction	520		
Historical Evidence	522		
<b>Extinct and Endangered Languages</b>	<b>524</b>		
<b>The Genetic Classification</b>			
<b>of Languages</b>	<b>526</b>		
Languages of the World	528		



P A R T  
1

# The Nature of Human Language



Reflecting on Noam Chomsky's ideas on the innateness of the fundamentals of grammar in the human mind, I saw that any innate features of the language capacity must be a set of biological structures, selected in the course of the evolution of the human brain.

—S. E. Luria, *A Slot Machine, A Broken Test Tube, An Autobiography*

The nervous systems of all animals have a number of basic functions in common, most notably the control of movement and the analysis of sensation. What distinguishes the human brain is the variety of more specialized activities it is capable of learning. The preeminent example is language.

—Norman Geschwind, 1979

Linguistics shares with other sciences a concern to be objective, systematic, consistent, and explicit in its account of language. Like other sciences, it aims to collect data, test hypotheses, devise models, and construct theories. Its subject matter, however, is unique: at one extreme it overlaps with such 'hard' sciences as physics and anatomy; at the other, it involves such traditional 'arts' subjects as philosophy and literary criticism. The field of linguistics includes both science and the humanities, and offers a breadth of coverage that, for many aspiring students of the subject, is the primary source of its appeal.

—David Crystal, 1987