

语音学与音系学经典丛书

# 英语音系

Noam Chomsky and Morris Halle 著

# The Sound Pattern of English

 上海外语教育出版社  
外教社 SHANGHAI FOREIGN LANGUAGE EDUCATION PRESS  
[www.sflep.com](http://www.sflep.com)

语言学经典丛书

# 英语音系

Noam Chomsky and Morris Halle 著

# The Sound Pattern of English

## 图书在版编目(CIP)数据

英语音系 / (美) 诺姆·乔姆斯基 (Noam Chomsky),  
(美) 莫里斯·哈勒 (Morris Halle) 著.  
—上海: 上海外语教育出版社, 2017  
(语音学与音系学经典丛书)  
ISBN 978-7-5446-5022-9

I. ①英… II. ①诺… ②莫… III. ①英语—语音—研究  
IV. ①H311

中国版本图书馆CIP数据核字 (2017) 第231605号

Original edition published by The MIT Press, Cambridge, MA, U.S.A.  
Not for sale or shipment outside the People's Republic of China (including  
the territories of Hong Kong, Macao and Taiwan).

本书由麻省理工学院出版社授权上海外语教育出版社有限公司出版。  
仅供在中华人民共和国境内 (香港、澳门、台湾除外) 销售。

图字: 09-2017-226号

出版发行: **上海外语教育出版社**

(上海外国语大学内) 邮编: 200083

电 话: 021-65425300 (总机)

电子邮箱: bookinfo@sflep.com.cn

网 址: <http://www.sflep.com.cn> <http://www.sflep.com>

责任编辑: 许进兴

---

印 刷: 常熟高专印刷有限公司  
开 本: 787×1092 1/16 印张 30.75 字数 876千字  
版 次: 2018年4月第1版 2018年4月第1次印刷  
印 数: 2 100 册

---

书 号: ISBN 978-7-5446-5022-9 / H  
定 价: 98.00 元

本版图书如有印装质量问题, 可向本社调换

## “语音学与音系学经典丛书”专家委员会

主任：马秋武

委员：（按姓氏音序）

- |     |                 |
|-----|-----------------|
| 包智明 | 新加坡国立大学         |
| 陈忠敏 | 复旦大学            |
| 端木三 | 美国密西根大学         |
| 冯胜利 | 香港中文大学 / 北京语言大学 |
| 宫 齐 | 暨南大学            |
| 孔江平 | 北京大学            |
| 李爱军 | 中国社会科学院语言研究所    |
| 李智强 | 美国旧金山大学         |
| 梁 洁 | 同济大学            |
| 林 华 | 加拿大维多利亚大学       |
| 林茂灿 | 中国社会科学院语言研究所    |
| 林燕慧 | 美国密西根州立大学       |
| 石 锋 | 南开大学 / 北京语言大学   |
| 史宝辉 | 北京林业大学          |
| 王韞佳 | 北京大学            |
| 许 毅 | 英国伦敦大学学院        |
| 许德宝 | 澳门大学            |
| 张吉生 | 华东师范大学          |
| 朱晓农 | 香港科技大学          |

## 出版说明

语言学研究是外教社学术出版的重要领域之一。一直以来，外教社坚持原创与引进并举，经典与前沿并重，先后推出了一系列广受赞誉的语言学著作，对我国语言学的教学和科研发挥了巨大的推动作用。

近年来，语音研究呈现出强劲的发展势头，学派众多，理论新颖，成果丰硕。国内越来越多的高校开始认识到语音学与音系学教学与科研的重要性，并陆续开设了相关课程。

为此，外教社根据国际上语音研究的最新成果，结合国内高校对语音学与音系学用书的迫切需要，从西方已出版的众多著作中遴选出一批有代表性的经典书目，推出“语音学与音系学经典丛书”。本系列涵盖了语音学和音系学的核心内容，既有涉及语音学与音系学入门知识的基础教材，又包含了这一领域研究者必读的经典之作，系统介绍了西方语音学与音系学的研究现状与发展趋势，在一定程度上弥补了国内这一方面学术资源的匮乏，便于读者由浅入深，循序渐进，为学习和研究打下坚实基础。

希望这套丛书的推出能满足国内语音学和音系学领域读者的实际需求，进一步推动我国语言学研究的发展与繁荣。

## 前言

语音不仅是语言三个基本要素之一，而且还是第一基本要素。汉语的语音研究由来已久，但长久以来，在我国它却一直作为一种以认读音音、作诗吟曲等为目的的辅助性学问。进入20世纪，西方语音学理论与方法传入我国后，才真正改变了中国传统语音研究的理念与方法。一百多年来，经过我国几代学者们的不懈努力与奋斗，我们逐渐形成了现代汉语的语音学理论与方法，并发表了一系列具有重要历史影响的学术论文与论著。

但与此同时，也不得不承认：我们的语音学研究与英美等西方国家相比还存在较大差距。特别是20世纪初以来，西方语音学研究在诸多方面都发生了根本性变化，尤其体现在以下两大方面：

首先是在学科领域的划分上。因研究目的与方法的不同而形成了两个不同的重要语音研究领域：语音学与音系学。20世纪初，音系学从语音学研究领域中脱离出来，逐渐形成了一门独立的学科。一百多年以来，音系学先后经历了两个大的发展阶段：第一阶段是介绍和发现音位概念、探索语音之间关系为主的结构主义音系学（亦称“音位学”）；第二阶段是以SPE为基础理论框架的生成音系学，特别是在后一阶段中呈现出学派众多、理论新颖、观点各异、精彩纷呈的景象。

其次是在语音研究的工具与手段上。随着计算机信息技术的突飞猛进，语音分析工具不断推陈出新，这为语音学的迅猛发展提供了坚实可靠的研究基础。在众多不同学科背景的学者通力协作下，语音合成、语音识别的自然度与技术水平有了极大的提高，各种实用语音软件得到普及，并很快进入到人们的日常生活之中，正在实现语言学家多年来一直追求的语言研究产业化的目标与理想。

要跟上语音研究领域的强劲发展势头，我们就必须及时全面系统地了解西方语音学与音系学的研究现状与发展趋势。为此，外教社从西方已出版的众多语音学与音系学著作中精心选取并推出了一批有代表性的经典著作。应该说，成规模地推出一批有代表性的当代语音学与音系学著作专集，在国内还是第一次，这无疑是一件非常有意义的事情，值得庆贺。近年来，越来越多的人开始认识到语言学学科的重要性。现在，开设语言学课程的高校不少，选择语言学专业或方向的学生也很多，但我们知道，能开设并系统讲授语音学尤其是音系学课程的学校却不多。众所周知，这方面的课程在英美国家语言学专业都是必修课程。试想，如果我们的高校连语音学和音系学入门课程都不能开设，那么何以称得上是语言学专业？当然，造成这一局面的原因是多方面的，但缺少好的语音学和音系学方面的教材与著作，是其中的一个重要因素。外教社推出的“语音学与音系学经典丛书”，既关注语音研究领域中的代表性重要成果，也考虑到国内众多语言学专业或方向的学生学习语音学与音系学的实际状况和迫切需要。希望这套丛书的出

版在一定程度上能够弥补国内这方面的缺陷，满足国内学者和学生的实际需求。

此外，需要指出的是，语音学与音系学是两个既相关又有所不同的学科领域。国内汉语学界对此并不做区分，所用的“语音学”是它的广义概念，既包括语音学，也包括音系学。但西方语言学界对此是做区分的，他们通常所使用的是狭义的语音学，即指对语音的一种跨学科研究，一般是不包括音系学（语音的语言学研究）的。近年来，由于多学科的积极参与和努力，现代语音学研究已日趋科学化，其研究方法更像是一门理工科的学问。这对于文科背景的语言学专业学生来说，确实是一种挑战，但也并非想象的那么难。事实上，只要具备一定的（高中）理科知识，学习起来也是不成问题的。“音系学”这个概念比较新，它源自英语的phonology，20世纪80年代中期之后，这个译名才逐渐被接受。音系学不同于语音学，它是非物质或非物理的，是人类语言所具有的能产性属性赖以存在的基础，是有关储存于人脑中的语音知识的学问。很显然，音系学非常抽象，要想理解和掌握音系学的理论原则与分析方法，就需要具有比较严谨的逻辑推理和分析能力。由于音系学研究的目的在于发现和揭示表层语音知识背后的不同语言普遍具有的潜在力量或规律，因而音系学教材不可避免地会涉及很多我们甚至从未听说过的语言的语料。这些语料看似复杂，其实不然，它们一定都遵循某种潜在的规律。这也正是音系学研究的意义所在。综上所述，语音学更关注实际的语音体现形式，而音系学则更关注潜在的语音结构与规律。这套丛书将两者结合起来，意在加强和促进国内在这两个研究领域的通力协作，以推动中国当代语音学与音系学理论的发展以及两者在汉语中的应用。

希望这套丛书能成为广大读者的良师益友。



复旦大学外文学院

2017年3月

THE SOUND PATTERN  
OF ENGLISH



# THE SOUND PATTERN OF ENGLISH

NOAM CHOMSKY  
MORRIS HALLE

To Roman Jakobson

# PREFACE TO THE PAPERBACK EDITION

In the preface to the original edition of this book we remarked that no treatment "that we have proposed has survived a course of lectures unchanged and we do not doubt that the same fate awaits the grammatical sketch that we develop here." While our record as prophets is in general rather unimpressive, in the present instance we were right on the money: few of the matters treated in this 1968 book have remained unaffected by the developments in phonology that have taken place in the past twenty years. In the light of this the question inevitably arises as to what reasons, other than vanity, cupidity, and/or lack of critical judgment on the part of the authors or our publisher, might justify reprinting this book at this time. Our answer is that while the solutions to many particular problems proposed in SPE are out of date, many of the theoretical issues raised there remain critical to phonology to this day, and in quite a number of instances the solutions proposed in SPE have yet to be improved upon. Moreover, there are few works in phonology that have quite the scope of SPE: it deals both with matters of broad theoretical importance as well as with numerous questions of detail; it attempts to contribute to the theoretical foundations of phonetics as well as of phonology and it embeds its central empirical topic—the phonology of modern English (General American)—on the one hand, in a discussion of parallel phenomena in other languages, and on the other hand, in an account of the historical evolution of the English vowel system.

It is for these reasons, we believe, that SPE remains—and will for some time in the future remain—a book that students of phonology should find worth reading and pondering and arguing with. And the existence of a potential audience of this kind justifies the reprinting of the book at this time.

NOAM CHOMSKY  
MORRIS HALLE  
AUGUST 1990

# PREFACE

This study of English sound structure is an interim report on work in progress rather than an attempt to present a definitive and exhaustive study of phonological processes in English. We feel that our work in this area has reached a point where the general outlines and major theoretical principles are fairly clear and where we can identify the areas requiring additional intensive study with a reasonable expectation that further investigation within the same general framework will not significantly alter the overall picture we have presented, although it may well be that new and different insights—perhaps along the lines discussed in Chapter Nine—will lead to significant modifications. We have decided to publish this study in its present intermediate stage in the hope that it will stimulate criticism and discussion of basic issues and perhaps involve other investigators in the immense task of extending this sketch to the whole of English, providing the same sort of description for other languages, and enriching and sharpening (and, no doubt, revising in many ways) the phonological theory on which it is based.

This book is organized in the following way. Part I opens with an introductory chapter, Chapter One, in which background assumptions are briefly sketched. In Chapter Two of Part I our major conclusions with respect to phonological theory and the phonology of English are outlined. Also discussed are the possible implications of this work with regard to perceptual processes and the conditions under which knowledge of a language (and, presumably, knowledge of other sorts) can be acquired. We have tried in Part I to present an informal account of the main conclusions that we reach and to illustrate the kinds of data that support them. Thus, readers interested only in general conclusions may wish to read no further.

Part II of the book is an elaboration of the topics treated in Chapter Two of Part I. Chapters Three and Four examine in considerable detail two aspects of English sound structure which were only sketched in Chapter Two. In the course of this detailed investigation of English sound patterns and their underlying structure, certain rules of English phonology are developed. These rules are restated in Chapter Five, which concludes Part Two. The primary emphasis in Part II is on the phonology of English; theory is developed informally as needed for the exposition and analysis.

Part III deals with certain aspects of the historical evolution of the sound patterns revealed in the synchronic study in Part II.

Part IV is devoted to phonological theory. The informal discussion in Part I is expanded upon, and the theory presented in an ad hoc manner in Part II is systematically

developed. The first chapter of Part IV—Chapter Seven—is concerned with universal phonetics, that is, with the general theory of linguistic representation of speech signals. Chapter Eight deals with the principles of organization of the phonological component of the grammar, that is, with the rules that relate syntactic structures to phonetically represented speech signals. In the ninth and concluding chapter, a proposal is presented for an extension of phonological theory that takes into account the intrinsic content of features. Part IV is not concerned with the structure of English but is intended rather as a contribution to universal grammar.

We have made no attempt to avoid redundancy or repetitiousness where we felt that this would assist the reader in following the analysis or argument. Thus, much of the discussion in Part I is repeated in Part II, with additional detail and analysis, and Part IV recapitulates, more systematically, much of the contents of Parts I and II. Each of the four parts of the book is very nearly self-contained. In particular, readers familiar with the general background of this work and its major conclusions as outlined in lectures and publications during the last few years might prefer to skip Part I altogether.

In writing the book we have had two classes of potential readers in mind: first, readers who are concerned only with the general properties of English sound structure, with the consequences of these properties for general linguistic theory, and with the implications of general linguistic theory for other fields; second, readers who are concerned with the detailed development of phonological theory and the theory of English, that is, English grammar. Part I of the book is directed to the first class of readers; Parts II, III, and IV, to the second.

One other point of clarification is needed. We have investigated certain topics in considerable detail and have neglected certain others in what might appear to be a rather idiosyncratic and unmotivated pattern. For example, we have studied the stress contours of English in some detail, but we say nothing about the gradations of aspiration that can easily be observed for English stop consonants. For one concerned solely with the facts of English, the gradations of stress may not seem more important than the gradations of aspiration. Our reason for concentrating on the former and neglecting the latter is that we are not, in this work, concerned exclusively or even primarily with the facts of English as such. We are interested in these facts for the light they shed on linguistic theory (on what, in an earlier period, would have been called “universal grammar”) and for what they suggest about the nature of mental processes in general. It seems to us that the gradations of stress in English can be explained on the basis of very deep-seated and nontrivial assumptions about universal grammar and that this conclusion is highly suggestive for psychology, in many ways that we will sketch. On the other hand, gradations of aspiration seem to shed no light on these questions, and we therefore devote no attention to them. We intend no value judgment here; we are not asserting that one *should* be primarily concerned with universal grammar and take an interest in the particular grammar of English only insofar as it provides insight into universal grammar and psychological theory. We merely want to make it clear that this is our point of departure in the present work; these are the considerations that have determined our choice of topics and the relative importance given to various phenomena.

This general aim of our book also explains why we have not included a full discussion of exceptions and irregularities. Had our primary concern been the grammar of English, we would have said very little about the principle of the “transformational cycle” (see Chapters Two and Three) and its consequences (in particular, the properties of English stress contours), but we would have provided a complete account of irregular verbs, irregular plurals, exceptions to rules of stress placement and vowel alternation, etc. Since our main interest is, rather, in universal grammar, we have followed exactly the opposite course. We discuss the transformational cycle and its consequences in detail and we do not include an account of irregularities and exceptions, except insofar as these phenomena seem relevant

to the formulation of general principles of English phonology. Given the goals of the research reported on here, exceptions to rules are of interest only if they suggest a different general framework or the formulation of deeper rules. In themselves they are of no interest.

We do not doubt that the segment of English phonology that we develop in detail is inaccurate in certain respects, perhaps in fundamental respects; and it is a near certainty that the phonological theory we propose will be shown to require substantial revision as research progresses. We mention many difficulties, inadequacies, and exceptions as we proceed. It would be a time-consuming but straightforward task to compile a complete list of exceptions, at least for the rules of word-level phonology. Given the purpose of this study such an effort would be beside the point unless it were to lead to the formulation of new and deeper rules that explained the exceptions or to a different theory that accounted both for the regularities that our rules express and for some of their defects and limitations. We see no reason to give up rules of great generality because they are not of even greater generality, to sacrifice generality where it can be attained. It seems hardly necessary to stress that if we are faced with the choice between a grammar  $G_1$  that contains a general rule along with certain special rules governing exceptions and a grammar  $G_2$  that gives up the general rule and lists everything as an exception, then we will prefer  $G_1$ . For this reason, citation of exceptions is in itself of very little interest. Counterexamples to a grammatical rule are of interest only if they lead to the construction of a new grammar of even greater generality or if they show some underlying principle is fallacious or misformulated. Otherwise, citation of counterexamples is beside the point.

We stress this point because of what seems to us a persistent misinterpretation, in linguistic discussion, of the significance of exceptions to rules—a misinterpretation which in part reflects a deeper misunderstanding as to the status of grammars or of linguistic theory. A grammar is a theory of a language. It is obvious that any theory of a particular language or any general theory of language that can be proposed today will be far from adequate, in scope and in depth. One of the best reasons for presenting a theory of a particular language in the precise form of a generative grammar, or for presenting a hypothesis concerning general linguistic theory in very explicit terms, is that only such precise and explicit formulation can lead to the discovery of serious inadequacies and to an understanding of how they can be remedied. In contrast, a system of transcription or terminology, a list of examples, or a rearrangement of the data in a corpus is not “refutable” by evidence (apart from inadvertence—errors that are on the level of proofreading mistakes). It is for just this reason that such exercises are of very limited interest for linguistics as a field of rational inquiry.

In addition to features of English phonology which seem of no general systematic importance, we have omitted from our discussion many topics about which we have not been able to learn enough, though they may very well be of considerable importance. For example, we have omitted pitch from consideration because we have nothing to add to the study of the phonetics of intonation and have not yet attempted to deal with the still quite open question of the systematic role of pitch contours or levels within the general framework of syntactic and phonological theory as we so far understand it. (See Stockwell (1960), Bierwisch (1966), Lieberman (1966) for discussion of these topics.) Thus pitch and terminal juncture will never be marked in the examples we present. As far as we have been able to determine, the various omissions and gaps have no serious bearing on the questions that we have dealt with, although, clearly, one must keep an open mind on this matter.

The dialect of English that we study is essentially that described by Kenyon and Knott (1944). We depart from their transcriptions occasionally, in ways that will be noted, and we also discuss some matters (e.g., stress contours beyond the word level) not included in their transcriptions. For the most part, however, we have used very familiar data of the sort presented in Kenyon and Knott. In fact, their transcriptions are very close to our own speech, apart from certain dialectal idiosyncrasies of no general interest, which we omit. It seems to

us that the rules we propose carry over, without major modification, to many other dialects of English, though it goes without saying that we have not undertaken the vast and intricate study of dialectal variation. For reasons that we will discuss in detail, it seems to us very likely that the underlying lexical (or phonological) representations must be common to all English dialects, with rare exceptions, and that much of the basic framework of rules must be common as well. Of course, this is an empirical question, which must be left to future research. We will make only a few remarks about dialectal variation, where this seems to have some bearing on the problems we discuss.

The general point of view that underlies this descriptive study is one that several of us have been developing for more than fifteen years, at M.I.T. and elsewhere, at first independently, but increasingly as a joint effort. It is represented in such publications as Chomsky, *Syntactic Structures* (1957a); Halle, *The Sound Pattern of Russian* (1959); Chomsky, *Current Issues in Linguistic Theory* (1964); Katz and Postal, *An Integrated Theory of Linguistic Descriptions* (1964); Chomsky, *Aspects of the Theory of Syntax* (1965); Matthews, *Hidatsa Syntax* (1965); Katz, *The Philosophy of Language* (1966); Postal, *Aspects of Phonological Theory* (1968); and in many articles, reports, and dissertations. Much of the apparent novelty of this point of view is the result of historical accident. Although it naturally owes very much to the important studies, both of general linguistics and of English, that have been carried on during the past thirty or forty years, the approach that is developed in the works cited and that we follow here has much deeper roots in an older, largely forgotten, and widely disparaged tradition. (See Chomsky (1964, 1966a) and Postal (1964b) for discussion.) It seems to us accurate to describe the study of generative grammar, as it has developed during recent years, as fundamentally a continuation of this very rich tradition, rather than as an entirely novel departure.

We have been working on this book, with varying degrees of intensity, for about ten years, and have discussed and presented various aspects of this work at several stages of development. One or the other of us has lectured on this material at M.I.T. for the past seven years. No system of rules that we have proposed has survived a course of lectures unchanged, and we do not doubt that the same fate awaits the grammatical sketch that we develop here.

The research for this book was conducted largely at the Research Laboratory of Electronics, M.I.T., and has been partly assisted by grants from the National Science Foundation and, more recently, from the National Institute of Health (Grant 1 PO1 MH 13390-01).

It would be impossible for us, at this point, to acknowledge in detail the contribution that our students and colleagues have made to the clarification and modification of our ideas. We would like to thank Robert Lees and Paul Postal for their many invaluable comments and suggestions; Paul Kiparsky, Theodore Lightner, and John Ross for the questions they have raised and the answers they have supplied or forced us to find; Richard Carter, S. Jay Keyser, S. Y. Kuroda, James Sledd, Richard Stanley, and Robert Stockwell for reading and criticizing various parts of the book in different stages of its evolution. We owe thanks to Patricia Wanner, who has been in charge of typing the numerous versions of the manuscript, to Karen Ostapenko, Deborah MacPhail, and Michael Brame, who have prepared the Bibliography and Indexes, and to Florence Warshawsky Harris, our editor and former student, who has devoted a major part of her life during these last two years to seeing our difficult and forever unfinished manuscript through the press.

We dedicate the book to Roman Jakobson to mark, albeit belatedly, his seventieth birthday and to express our admiration and gratitude for his inspired teaching and his warm friendship which for so many years have enriched our lives.

NOAM CHOMSKY  
MORRIS HALLE

# CONTENTS

## PREFACE

vii

## PART I GENERAL SURVEY

### ONE · SETTING

3

1. Grammar 3
2. Linguistic Universals 4
3. Phonetic Representations 5
4. Components of a Grammar 6
5. Surface Structures 7
  - 5.1. Lexical and Phonological Representations 9
  - 5.2. On the Abstractness of Lexical Representations 11
  - 5.3. Analysis into Words 12
6. Summary 14

### TWO · A SKETCH OF ENGLISH PHONOLOGY AND PHONOLOGICAL THEORY

15

1. The Principle of the Transformational Cycle and Its Application to English  
Stress Contours 15
2. On the Reality of Phonetic Representation 24
3. The Transformational Cycle Within the Word 26
4. The Segmental Phonology of English—a First Approximation 28
5. More on the Transformational Cycle Within the Word 29
6. Particular and Universal Grammar 43
7. On the Abstractness of Lexical Representation 44
8. Vowel Alternations 50

## PART II ENGLISH PHONOLOGY

### THREE · THE TRANSFORMATIONAL CYCLE IN ENGLISH PHONOLOGY

59

1. Introductory Remarks 59
  - 1.1. The Rules of the Phonological Component 60

xi



1.2. Notational Conventions	61
1.3. Distinctive Features	64
1.3.1. Boundary Features	66
1.3.2. Segmental Features	68
2. Stress Placement in Verbs—a First Approximation	69
3. Stress Placement in Nouns—a First Approximation	71
4. Alternating Stress Rule	77
5. Stress Placement in Adjectives	79
6. Derivational Affixes	80
7. Summary of Stress Placement Rules	83
8. Nuclear Stress	89
9. Compounds	91
10. Complex Verbs	94
11. Nouns Derived from Verbs	96
12. Revised Version of the Main Stress Rule	98
13. Complex Nouns and Adjectives	100
14. Vowel Reduction	110
15. Further Investigation of Derivational Affixes	126
16. Stress as a Lexical Category	145
 FOUR · WORD-LEVEL PHONOLOGY	 163
1. Introductory Remarks	163
2. Phonological and Phonetic Representation	164
2.1. Lexical Redundancy Rules	171
2.2. Treatment of Exceptions	172
3. The Features	177
4. Vowel Alternations	178
4.1. Alternations of Nonback Vowels	178
4.2. Alternations of Back Vowels	186
4.3. The Vowel Shift Rule	187
4.3.1. Refinements and Extensions of the Vowel Shift Rule	188
4.3.1.1. Rounding and Backness Adjustments	188
4.3.1.2. Rounding and Stress	190
4.3.2. Final Weak-Stressed [o]	190
4.3.3. The Diphthong [ɔy]	191
4.3.4. Prevocalic ɣ-Glides	192
4.3.5. Vowel Shift for Lax Vowels	201
4.3.6. Further Remarks on Diphthongization	205
4.3.7. Further Remarks on Phonetically Low Vowels	205
4.3.8. Rounding Adjustment	217
5. Further Consequences of the Vowel Shift Rule	219
6. The Consonant System of English	223
 FIVE · SUMMARY OF RULES	 236
1. Readjustment Rules	238
2. Phonological Rules	239
 PART III HISTORY	
 SIX · THE EVOLUTION OF THE MODERN ENGLISH VOWEL SYSTEM	 249
1. Introductory Remarks	249
1.1. On Linguistic Change	249