

Making Everything Easier!™

Phonetics

FOR
DUMMIES®
A Wiley Brand

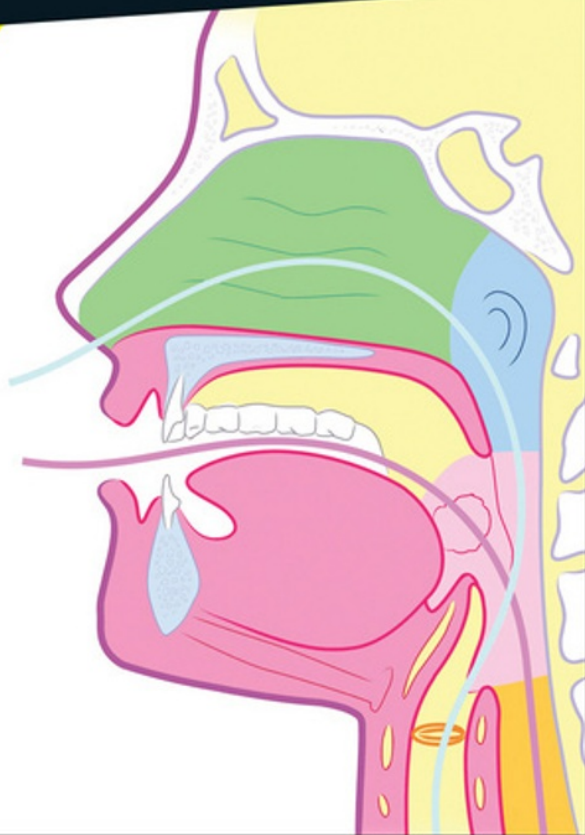
Learn to:

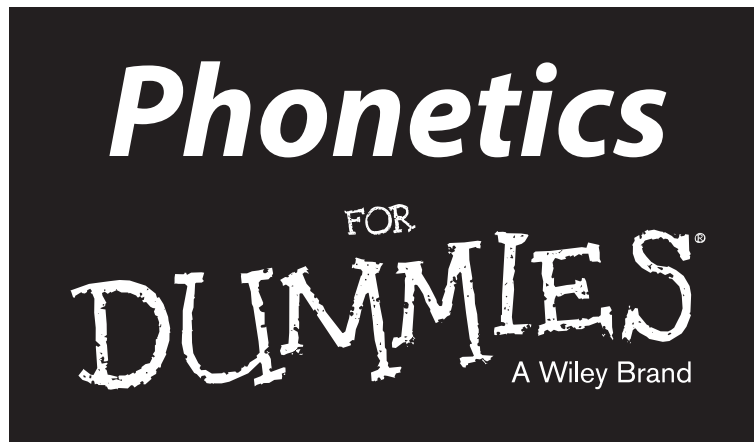
- Understand the science behind speech
- Grasp real-world applications of phonetics
- Transcribe speech using the International Phonetic Alphabet (IPA)
- Perform well in your phonetics course

William F. Katz, PhD

Professor, The University of Texas at Dallas

fonetics





by William F. Katz, PhD
Professor, The University of Texas at Dallas



Phonetics For Dummies®

Published by: **John Wiley & Sons, Inc.**, 111 River Street, Hoboken, NJ 07030-5774, www.wiley.com

Copyright © 2013 by John Wiley & Sons, Inc., Hoboken, New Jersey

Published simultaneously in Canada

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as permitted under Sections 107 or 108 of the 1976 United States Copyright Act, without the prior written permission of the Publisher. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at <http://www.wiley.com/go/permissions>.

Trademarks: Wiley, For Dummies, the Dummies Man logo, Dummies.com, Making Everything Easier, and related trade dress are trademarks or registered trademarks of John Wiley & Sons, Inc., and may not be used without written permission. All other trademarks are the property of their respective owners. John Wiley & Sons, Inc., is not associated with any product or vendor mentioned in this book.

LIMIT OF LIABILITY/DISCLAIMER OF WARRANTY: WHILE THE PUBLISHER AND AUTHOR HAVE USED THEIR BEST EFFORTS IN PREPARING THIS BOOK, THEY MAKE NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF THE CONTENTS OF THIS BOOK AND SPECIFICALLY DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO WARRANTY MAY BE CREATED OR EXTENDED BY SALES REPRESENTATIVES OR WRITTEN SALES MATERIALS. THE ADVICE AND STRATEGIES CONTAINED HEREIN MAY NOT BE SUITABLE FOR YOUR SITUATION. YOU SHOULD CONSULT WITH A PROFESSIONAL WHERE APPROPRIATE. NEITHER THE PUBLISHER NOR THE AUTHOR SHALL BE LIABLE FOR DAMAGES ARISING HEREFROM.

For general information on our other products and services, please contact our Customer Care Department within the U.S. at 877-762-2974, outside the U.S. at 317-572-3993, or fax 317-572-4002. For technical support, please visit www.wiley.com/techsupport.

Wiley publishes in a variety of print and electronic formats and by print-on-demand. Some material included with standard print versions of this book may not be included in e-books or in print-on-demand. If this book refers to media such as a CD or DVD that is not included in the version you purchased, you may download this material at <http://booksupport.wiley.com>. For more information about Wiley products, visit www.wiley.com.

ISBN 978-1-118-50508-3 (pbk); ISBN 978-1-118-50509-0 (ebk); 978-1-118-50510-6 (ebk); 978-1-118-50511-3 (ebk)

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1

Contents at a Glance

<i>Introduction</i>	<i>1</i>
<i>Part I: Getting Started with Phonetics</i>	<i>7</i>
Chapter 1: Understanding the A-B-Cs of Phonetics	9
Chapter 2: The Lowdown on the Science of Speech Sounds	15
Chapter 3: Meeting the IPA: Your New Secret Code.....	37
Chapter 4: Producing Speech: The How-To.....	51
Chapter 5: Classifying Speech Sounds: Your Gateway to Phonology	73
<i>Part II: Speculating about English Speech Sounds</i>	<i>91</i>
Chapter 6: Sounding Out English Consonants	93
Chapter 7: Sounding Out English Vowels	107
Chapter 8: Getting Narrow with Phonology	123
Chapter 9: Perusing the Phonological Rules of English	131
Chapter 10: Grasping the Melody of Language	145
Chapter 11: Marking Melody in Your Transcription	157
<i>Part III: Having a Blast: Sound, Waveforms, and Speech Movement.....</i>	<i>169</i>
Chapter 12: Making Waves: An Overview of Sound.....	171
Chapter 13: Reading a Sound Spectrogram	191
Chapter 14: Confirming That You Just Said What I Thought You Said	219
<i>Part IV: Going Global with Phonetics</i>	<i>235</i>
Chapter 15: Exploring Different Speech Sources.....	237
Chapter 16: Visiting Other Places, Other Manners.....	253
Chapter 17: Coming from the Mouths of Babies.....	277
Chapter 18: Accentuating Accents	291
Chapter 19: Working with Broken Speech	315
<i>Part V: The Part of Tens</i>	<i>333</i>
Chapter 20: Ten Common Mistakes That Beginning Phoneticians Make and How to Avoid Them.....	335
Chapter 21: Debunking Ten Myths about Various English Accents.....	341
<i>Index</i>	<i>347</i>

Table of Contents

<i>Introduction</i>	1
About This Book	1
Conventions Used in This Book	2
Foolish Assumptions	3
What You're Not to Read	4
How This Book Is Organized	4
Part I: Getting Started with Phonetics	4
Part II: Speculating about English Speech Sounds	4
Part III: Having a Blast: Sound, Waveforms, and Speech Movement	5
Part IV: Going Global with Phonetics	5
Part V: The Part of Tens	5
Icons Used in This Book	6
Where to Go from Here	6
 <i>Part I: Getting Started with Phonetics</i>	7
 Chapter 1: Understanding the A-B-Cs of Phonetics	9
Speaking the Truth about Phonetics	10
Prescribing and Describing: A Modern Balance	11
Finding Phonetic Solutions to the Problems of the World	12
 Chapter 2: The Lowdown on the Science of Speech Sounds	15
Defining Phonetics and Phonology	16
Sourcing and Filtering: How People Make Speech	17
Getting Acquainted with Your Speaking System	19
Powering up your lungs	20
Buzzing with the vocal folds in the larynx	22
Shaping the airflow	24
Producing Consonants	26
Getting to the right place	26
Nosing around when you need to	29
Minding your manners	30
Producing Vowels	31
To the front	31
To the back	32
In the middle: Mid-central vowels	32
Embarrassing 'phthongs'?	33
Putting sounds together (suprasegmentals)	33
Emphasizing a syllable: Linguistic stress	34
Changing how low or high the sound is	35

Chapter 3: Meeting the IPA: Your New Secret Code 37

Eyeballing the Symbols.....	38
Latin alphabet symbols.....	38
Greek alphabet symbols	40
Made-up symbols.....	40
Tuning In to the IPA	40
Featuring the consonants	40
Accounting for clicks.....	41
Going round the vowel chart.....	41
Marking details with diacritics.....	42
Stressing and breaking up with suprasegmentals	42
Touching on tone languages	43
Sounding Out English in the IPA.....	43
Cruising the English consonants	43
Acing the alveolar symbols	45
Pulling back to the palate: Alveolars and palatals.....	46
Reaching way back to the velars and the glottis	47
Visualizing the GAE vowels	47
Why the IPA Trumps Spelling	50

Chapter 4: Producing Speech: The How-To 51

Focusing on the Source: The Vocal Folds	51
Identifying the attributes of folds	53
Pulsating: Vocal folds at work.....	53
Recognizing the Fixed Articulators	58
Chomping at the bit: The teeth	59
Making consonants: The alveolar ridge.....	60
Aiding eating and talking: The hard palate.....	61
Eyering the Movable Articulators	62
Wagging: The tongue	62
More than just for licking: The lips.....	64
Clenching and releasing: The jaw	65
Eyeing the soft palate and uvula: The velum	66
Going for the grapes: The uvula.....	67
Pondering Speech Production with Models.....	67
Ordering sounds, from mind to mouth.....	68
Controlling degrees of freedom	69
Feeding forward, feeding back.....	70
Coming Up with Solutions and Explanations.....	71
Keeping a gestural score.....	71
Connecting with a DIVA	72

**Chapter 5: Classifying Speech Sounds:
Your Gateway to Phonology 73**

Focusing on Features	73
Binary: You're in or out!.....	74
Graded: All levels can apply	76

Articulatory: What your body does	77
Acoustic: The sounds themselves	78
Marking Strange Sounds	79
Introducing the Big Three	80
Moving to the Middle, Moving to the Sides.....	82
Sounding Out Vowels and Keeping Things Cardinal.....	83
Tackling Phonemes	84
Defining phonemes	85
Complementary distribution: Eyeing allophones	85
Sleuthing Some Test Cases.....	87
Comparing English with Thai and Spanish	87
Eyeing the Papago-Pima language	88

Part II: Speculating about English Speech Sounds..... 91

Chapter 6: Sounding Out English Consonants..... 93

Stopping Your Airflow.....	93
Huffing and puffing: Aspiration when you need it	94
Declaring victory with voicing	95
Glottal stopping on a dime	97
Doing the funky plosion: Nasal.....	98
Doing the funky plosion: Lateral	99
Tongue tapping, tongue flapping	99
Having a Hissy Fit	100
Going in Half and Half.....	101
Shaping Your Approximants	102
Exploring Coarticulation.....	104
Tackling some coarticulation basics	104
Anticipating: Anticipatory coarticulation	105
Preserving: Perseveratory coarticulation.....	105

Chapter 7: Sounding Out English Vowels107

Cruising through the Vowel Quadrilateral	107
Sounding out front and back	108
Stressing out when needed.....	110
Coloring with an “r”	111
Neutralizing in the right places	112
Tensing up, laxing out	113
Sorting the Yanks from the Brits	115
Differentiating vowel sounds.....	115
Dropping your “r”s and finding them again.....	117
Noticing offglides and onglides	118
Doubling Down on Diphthongs	119
Lengthening and Shortening: The Rules	120

Chapter 8: Getting Narrow with Phonology123

Distinguishing Types of Transcription	124
Impressionistic versus systematic	124
Broad versus narrow	124
Capturing Universal Processes	125
Getting More Alike: Assimilation	125
Getting More Different: Dissimilation	127
Putting Stuff In and Out.....	127
Moving Things Around: Metathesis	128
Putting the Rules Together	129

Chapter 9: Perusing the Phonological Rules of English131

Rule No. 1: Stop Consonant Aspiration.....	132
Rule No. 2: Aspiration Blocked by /s/.....	134
Rule No. 3: Approximant Partial Devoicing.....	134
Rule No. 4: Stops Are Unreleased before Stops	136
Rule No. 5: Glottal Stopping at Word Beginning.....	137
Rule No. 6: Glottal Stopping at Word End.....	137
Rule No. 7: Glottal Stopping before Nasals.....	138
Rule No. 8: Tapping Your Alveolars	139
Rule No. 9: Nasals Becoming Syllabic	139
Rule No. 10: Liquids Become Syllabic	140
Rule No. 11: Alveolars Become Dentalized before Dentals	141
Rule No. 12: Laterals Become Velarized	141
Rule No. 13: Vowels Become Nasalized before Nasals	142
Applying the Rules	143

Chapter 10: Grasping the Melody of Language145

Joining Words with Juncture	145
Knowing what affects juncture.....	145
Transcribing juncture	147
Emphasizing Your Syllables	148
Stressing Stress.....	150
Eyeing the predictable cases.....	151
Identifying the shifty cases	152
Sticking to the Rhythm	152
Tuning Up with Intonation	153
Making simple declaratives	153
Answering yes-no questions.....	154
Focusing on “Wh” questions	154
Showing Your Emotion in Speech	154
Fine-Tuning Speech Melodies	155
Sonority: A general measure of sound	155
Prominence: Sticking out in unexpected ways	156

Chapter 11: Marking Melody in Your Transcription157

Focusing on Stress	157
Recognizing factors that make connected speech hard to transcribe.....	158
Finding intonational phrases.....	159
Zeroing in on the tonic syllable	160
Seeing how phoneticians have reached these conclusions	160
Applying Intonational Phrase Analysis to Your Transcriptions.....	161
Tracing Contours: Continuation Rises and Tag Questions	164
Continuing phrases with a rise	164
Tagging along	165

***Part III: Having a Blast: Sound, Waveforms,
and Speech Movement 169*****Chapter 12: Making Waves: An Overview of Sound171**

Defining Sound.....	171
Cruising with Waves.....	172
Sine waves.....	173
Complex waves	174
Measuring Waves.....	175
Frequency	175
Amplitude	176
Duration	177
Phase	178
Relating the physical to the psychological.....	179
Harmonizing with harmonics	181
Resonating (Ommmm)	183
Formalizing formants	184
Relating Sound to Mouth.....	187
The F1 rule: Tongue height.....	188
The F2 rule: Tongue fronting.....	188
The F3 rule: R-coloring	188
The F1–F3 lowering rule: Lip protrusion.....	189

Chapter 13: Reading a Sound Spectrogram.191

Grasping How a Spectrogram Is Made.....	191
Reading a Basic Spectrogram	193
Visualizing Vowels and Diphthongs.....	196
Checking Clues for Consonants	199
Stops (plosives)	199
Fricative findings.....	201
Affricates	202
Approximants	203
Nasals	204
Formant frequency transitions	205



Spotting the Harder Sounds	207
Aspirates, glottal stops, and taps	207
Cluing In on the Clinical: Displaying Key Patterns in Spectrograms.....	209
Working With the Tough Cases	212
Women and children	213
Speech in a noisy environment	214
Lombard effect	216
Cocktail party effect	216

**Chapter 14: Confirming That You Just Said
What I Thought You Said219**

Staging Speech Perception Processes	219
Fixing the “lack of invariance”	220
Sizing up other changes	221
Taking Some Cues from Acoustics	222
Timing the onset of voicing	222
Bursting with excitement	223
Being redundant and trading	224
Categorizing Perception	225
Setting boundaries with graded perception.....	226
Understanding (sound) discrimination	228
Examining characteristics of categorical perception	230
Balancing Phonetic Forces	233
Examining ease of articulation.....	233
Focusing on perceptual distinctiveness	234

Part IV: Going Global with Phonetics 235

Chapter 15: Exploring Different Speech Sources.237

Figuring Out Language Families.....	237
Eyeing the World’s Airstreams	239
Going pulmonic: Lung business as usual.....	240
Considering ingressives: Yes or no?	240
Talking with Different Sources.....	241
Pushing and pulling with the glottis: Egressives and ingressives.....	241
Clicking with velarics	243
Putting Your Larynx in a State.....	245
Breathless in Seattle, breathy in Gujarat	245
Croaking and creaking.....	245
Toning It Up, Toning It Down	246
Register tones.....	247
Contour tones.....	247
Tracking Voice Onset Time	249
Long lag: /p/, /t/, and /k/.....	250
Short lag: /b/, /d/, and /g/.....	250
Pre-voicing: Russian, anyone?	252

Chapter 16: Visiting Other Places, Other Manners253

Twinning Your Phonemes	253
Visualizing vowel length	254
Tracking World Sounds: From the Lips to the Ridge (Alveolar, That Is).....	255
Looking at the lips	255
Dusting up on your dentals	256
Assaying the alveolars	257
Flexing the Indian Way	258
Passing the Ridge and Cruising toward the Velum	259
Studying post — alveolars.....	260
Populating the palatals	260
(Re)Visiting the velars.....	261
Heading Way Back into the Throat	262
Uvulars: Up, up, and away	262
Pharyngeals: Sound from the back of the throat	264
Going toward the epiglottals	265
Working with Your Tongue	266
Going for Trills and Thrills	267
Prenasalizing your stops or prestopping your nasals	269
Rapping, tapping, and flapping	270
Classifying syllable-versus stress-timed languages	273
Making pairs (the PVI).....	274

Chapter 17: Coming from the Mouths of Babies.277

Following the Stages of a Healthy Child's Speech Development	277
Focusing on early sounds — 6 months	277
Babbling — 1 year	278
Forming early words — 18 months	279
Toddling and talking — 2 years	280
Knowing What to Expect	281
Eyeing the common phonological errors	282
Examining patterns more typical of children with phonological disorders.....	283
Transcribing Infants and Children: Tips of the Trade	285
Delving into diacritics	285
Study No. 1: Transcribing a child's beginning words.....	288
Study No. 2: A child with a cochlear implant (CI).....	288

Chapter 18: Accentuating Accents291

Viewing Dialectology	291
Mapping Regional Vocabulary Differences	292
Transcribing North American	294
The West Coast: Dude, where's my ride?	294
The South: Fixin' to take y'all's car.....	295
The Northeast: Yinzers and Swamp Yankees.....	298

The Midlands: Nobody home	299
Black English (AAVE)	300
Canadian: Vowel raising and cross-border shopping	301
Transcribing English of the United Kingdom and Ireland	302
England: Looking closer at Estuary	302
Talking Cockney.....	304
Wales: Wenglish for fun and profit	305
Scotland: From Aberdeen to Yell	307
Ireland: Hibernia or bust!	308
Transcribing Other Varieties	309
Australia: We aren't British	309
New Zealand: Kiwis aren't Australian.....	311
South Africa: Vowels on safari	312
West Indies: No weak vowels need apply	313

Chapter 19: Working with Broken Speech315

Transcribing Aphasia.....	315
Broca's: Dysfluent speech output.....	317
Wernicke's: Fluent speech output	318
Dealing with phonemic misperception	318
Using Special IPA to Describe Disordered Speech	320
Referencing the VoQS: Voice Quality Symbols	322
Transcribing Apraxia of Speech (AOS)	323
Transcribing Dysarthria	325
Cerebral palsy	325
Parkinson's disease	326
Ataxic dysarthria	328
Introducing Child Speech Disorders	329
Noting functional speech disorders	330
Examining childhood apraxia of speech.....	330

Part V: The Part of Tens 333

Chapter 20: Ten Common Mistakes That Beginning Phoneticians Make and How to Avoid Them.335

Distinguishing between /a/ and /ɔ/	335
Getting Used to /ɪ/ for -ing spelled words.....	336
Staying Consistent When Marking /ɪ/ and /i/ in Unstressed Syllables.....	336
Knowing Your R-Coloring	337
Using Upside-Down /ɹ/ Instead of the Trilled /r/	337
Handling the Stressed and Unstressed Mid-Central Vowels	337
Forming Correct Stop-Glide Combinations	338
Remembering When to Use Light-l and Dark-l	338
Transcribing the English Tense Vowels as Single Phonemes or	
Diphthongs	339
Differentiating between Glottal-Stop and Tap.....	339

**Chapter 21: Debunking Ten Myths
about Various English Accents 341**

Some People Have Unaccented English.....	341
Yankees Are Fast-Talkin' and Southerners Are Slow Paced.....	342
British English Is More Sophisticated Than American English	343
Minnesotans Have Their Own Weird Accent	343
American English Is Taking Over Other English Accents around the World	344
People from the New York Area Pronounce New Jersey "New Joysey"	344
British English Is Older Than American English.....	344
The Strong Sun, Pollen, and Bugs Affected Australian English's Start ...	345
Canadians Pronounce "Out" and "About" Weirdly	345
Everyone Can Speak a Standard American English	346

***Index* 347**

Introduction

Welcome to the world of phonetics — the few, the bold, the chosen. You're about to embark on a journey that will enable you to make sounds you never thought possible and to scribble characters in a secret language so that only fellow phoneticians can understand what you're doing. This code, the International Phonetic Alphabet (IPA), is a standard among phoneticians, linguists, teachers, and clinicians worldwide.

Phonetics is the scientific study of the sounds of language. Phonetics includes how speech sounds are produced (*articulatory phonetics*), the physical nature of the sounds themselves (*acoustic phonetics*), and how speech is heard by listeners (*perceptual/linguistic phonetics*).

The information you can gain in an introductory college course on phonetics is essential if you're interested in language learning or teaching. Understanding *phonetic transcription* (that special code language) is critical to anyone pursuing a career in speech language pathology or audiology.

Others can also benefit from studying phonetics. Actors and actresses can greatly improve the convincingness of the characters they portray by adding a basic knowledge of phonetic principles to their background and training. Doing so can make a portrayed accent much more consistent and believable. And if you're a secret drama queen, you can enjoy the fun of trying very different language sounds by using principles of articulatory and acoustic phonetics. No matter what your final career, a basic phonetics class will help you understand how spoken languages work, letting you see the world of speech and language in a whole new light.

About This Book

Phonetics For Dummies gives you an introduction to the scientific study of speech sounds, which includes material from articulatory, acoustic, and perceptual phonetics.

I introduce the field of *phonology* (systems of sound rules in language) and explain how to classify speech sounds using the IPA. I provide examples from foreign accents, dialectology, communication disorders, and children's speech.

I present all the material in a modular format, just like all the other *For Dummies* books, which means you can flip to any chapter or section and read just what you need without having to read anything else. You just need to adhere to some basic ground rules when reading this book and studying phonetics in your class. Here are the big three:

- ✓ **Study the facts and theory.** Phonetics covers a broad range of topics, including physiology, acoustics, and perception, which means you need to familiarize yourself with a lot of new terminology. The more you study, the better you'll become.
- ✓ **Practice speaking and listening.** An equally important part of being successful is ear training and oral practice (like learning to speak a second language). To get really good at the practical part of the trade, focus on the speaking and listening exercises that I provide throughout the book.
- ✓ **Stay persistent and don't give up.** Some principles of phonetics are dead easy, whereas others are trickier. Also, many language sounds can be mastered on the first try, whereas others can even take expert phoneticians (such as Peter Ladefoged) up to 20 years to achieve. Keep at it and the payoff will be worth it!

You can only pack so much into a book nowadays, so I have also recommended many Internet websites that contain more information. These links can be especially helpful for phonetics because multimedia (sound and video) is a powerful tool for mastering speech.

Conventions Used in This Book

This book uses several symbols commonly employed by phoneticians worldwide. If they're new to you, don't worry. They were foreign to even the most expert phoneticians once. Check out these conventions to help you navigate your way through this book (and also in your application of phonetics):

- ✓ **/ /:** Angle brackets (or slash marks) denote broad, *phonemic* (indicating only sounds that are meaningful in a language) transcription.
- ✓ **[]:** Square brackets mark narrow, phonetic transcription. This more detailed representation captures language-particular rules that are part of a language's phonology.

- ✓ **/kæt/ or “cat”**: This transcription is the International Phonetic Alphabet (IPA) in action. The IPA is a system of notation designed to represent the sounds of the spoken languages of the world. I use the IPA in slash marks (*broad transcription*) for more general description of language sounds (/kæt/), and the IPA in square brackets (*narrow transcription*) to capture greater detail ([k^hæt]). I use quotation marks for spelled examples so you don’t mistake the letters for IPA symbols.

I use these additional conventions throughout this book. Some are consistent with other *For Dummies* books:

- ✓ All Web addresses appear in `monofont`. If you’ve reading an ebook version, the URLs are live links.
 - ✓ Some academics seem to feel superior if they use big words that would leave a normal person with a throbbing headache. For example, *anticipatory labial coarticulation* or *intra-oral articulatory undershoot*. Maybe academics just don’t get enough love as young children? At any rate, this shouldn’t be *your* problem! To spare you the worst of this verbiage, I use *italics* when I clearly define many terms to help you decipher concepts. I also use italics to emphasize stressed syllables or sounds in words, such as “*big*” or “*pillow*”.
- I use quotation marks around words that I discuss in different situations, such as when I transcribe them or when I consider sounds. For example, “pillow” /ˈpɪlo/.
- ✓ **Bold** is used to highlight the action parts of numbered steps and to emphasize keywords.

Foolish Assumptions

When writing this book, I assume that you’re like many of the phonetic students I’ve worked with for the past 20 years, and share the following traits:

- ✓ You’re fascinated by language.
- ✓ You look forward to discovering more about the speech sounds of the world, but perhaps you have a feeling of chilling dread upon hearing the word *phonetics*.
- ✓ You want to be able to describe speech for professional reasons.
- ✓ You enjoy hearing different versions of English and telling an Aussie from a Kiwi.
- ✓ You’re taking an entry-level phonetics class and are completely new to the subject.

If so, then this book is for you. More than likely, you want an introduction to the world of phonetics in an easily accessible fashion that gives you just what you need to know.

What You're Not to Read

Like all *For Dummies* books, this one is organized so that you can find the information that matters to you and ignore the stuff you don't care about. You don't even have to read the chapters in any particular order; each chapter contains the information you need for that chapter's topic, and I provide cross-references if you want to read more about a specific subject. You don't even have to read the entire book — but gosh, don't you want to?

Occasionally, you'll see sidebars, which are shaded boxes of text that go into detail on a particular topic. You don't have to read them unless you're interested; skipping them won't hamper you in understanding the rest of the text. (But I think you'll find them fascinating!)

You can also skip paragraphs marked with the Technical Stuff icon. This information is a tad more technical than what you really need to know to grasp the concept at hand.

How This Book Is Organized

This book is divided into five parts. Here is a rundown of these parts.

Part I: Getting Started with Phonetics

Part I starts with the source-filter model of speech production, describing how individual consonants and vowels are produced. You get to practice, feeling about in your mouth as you do so. I then show how speech sounds are classified using the IPA. This part of the book includes an introduction to phonology, the rules of how speech sounds combine.

Part II: Speculating about English Speech Sounds

Part II shows you further details of English sound production, including processes relevant to narrow transcription. This part focuses on concepts

such as feature theory, phonemes, and allophones — all essential to understanding the relationship between phonetics and phonology. This part also includes information about melody in language, allowing you to analyze languages that sound very different than English and to include prosodic information in your transcriptions.

Part III: Having a Blast: Sound, Waveforms, and Speech Movement

Part III provides grounding in acoustic phonetics, the study of speech sounds themselves. In this part, I begin with sound itself, examining wave theory, sound properties of the vibrating vocal folds, and sound shaping by the lips, jaw, tongue, and velum. I also cover the practical skill of spectrogram reading. You can uncover ways in which speech sounds affect perception (such as voice onset time and formant frequency transitions).

Part IV: Going Global with Phonetics

Part IV branches out with information on languages other than English. These languages have different airstream mechanisms (such as sucking air in to make speech), different states of the voice box (such as making a creaking sound like a toad), and use *phonemic tone* (making high and low sounds to change word meaning). This part also has transcribing examples drawn from children's speech, different varieties of English and productions by individuals with aphasia, dysarthria, and apraxia of speech. The goal is to provide you with a variety of real-world situations for a range of transcribing experiences.

Part V: The Part of Tens

This part seeks to set you straight with some standard lists of ten things. Here I include ten common mistakes that beginning transcribers often make and what you can do to avoid those mishaps. This part also seeks to dispel urban legends circulating among the phonetically non-initiated. You can also find a bonus chapter online at www.dummies.com/extras/phonetics for a look at phonetics of the *phuture*.

Icons Used in This Book



Every *For Dummies* book uses icons, which are small pictures in the margins, to help you enjoy your reading experience. Here are the icons that I use:

When I present helpful information that can make your life a bit easier when studying phonetics, I use this icon.



This icon highlights important pieces of information that I suggest you store away because you'll probably use them on a regular basis.



The study of phonetics is very hands-on. This icon points out different steps and exercises you can do to see (and hear) firsthand phonetics in action. These exercises are fun and show you what your anatomy (your tongue, jaw, lips, and so on) does when making sounds and how you can produce different sounds.



Although everything I write is interesting, not all of it is essential to your understanding the ins and outs of phonetics. If something is nonessential, I use this icon.



This icon alerts you of a potential pitfall or danger.

Where to Go from Here

You don't have to read this book in order — feel free to just flip around and focus in on whatever catches your interest. If you're using this book as a way of catching up on a regular college course in phonetics, go to the table of contents or index, search for a topic that interests you, and start reading.

If you'd rather read from the beginning to the end, go for it. Just start with Chapter 1 and start reading. If you want a refresher on the IPA, start with Chapter 3, or if you need to strengthen your knowledge of phonological rules, Chapters 8 and 9 are a good place to begin. No matter where you start, you can find a plethora of valuable information to help with your future phonetic endeavors.

If you want more hands-on practice with your transcriptions, check out some extra multimedia material (located at www.dummies.com/go/phoneticsfd) that gives you some exercises and quizzes.

Part I

Getting Started with Phonetics

The 5th Wave

By Rich Tennant



Visit www.dummies.com for more great Dummies content online.

In this part . . .

- ✓ Get the complete lowdown on what phonetics is and why so many different fields study it.
- ✓ Familiarize yourself with all the human anatomy that play important role in phonetics, including the lips, tongue, larynx, and vocal folds.
- ✓ Understand how the different parts of anatomy work together to produce individual consonants, vowels, syllables, and words.
- ✓ Examine the different parts of the *International Phonetic Alphabet (IPA)* to see how phoneticians use it to transcribe spoken speech and begin to make your own transcriptions.
- ✓ Identify how different speech sounds are classified and the importance of *voicing* (whether the vocal folds are buzzing), *places of articulation* (the location in your mouth where consonants are formed), and *manner of articulation* (how consonants are formed).
- ✓ See how sounds are broken down to the most basic level (phonemes) and how they work together to form words.

Chapter 1

Understanding the A-B-Cs of Phonetics

In This Chapter

- ▶ Nurturing your inner phonetician
 - ▶ Embracing phonetics, not fearing it
 - ▶ Deciding to prescribe or describe
-

people talk all day long and never think about it until something goes wrong. For example, a person may suddenly say something completely pointless or embarrassing. A slip of the tongue can cause words or a phrase to come out wrong. Phonetics helps you appreciate many things about how speech is produced and how speech breaks down.

This chapter serves as a jumping-off point into the world of phonetics. Here you can see that phonetics can do the following:

- ✓ Provide a systematic means for transcribing speech sounds by using the International Phonetic Alphabet (IPA).
- ✓ Explain how healthy speech is produced, which is especially important for understanding the problems of people with neurological disorders, such as stroke, brain tumors, or head injury, who may end up with far more involved speech difficulties.
- ✓ Help language learners and teachers, particularly instructors of English as a second language, better understand the sounds of foreign languages so they can be understood.
- ✓ Give actors needing to portray different varieties of English (such as American, Australian, British, Caribbean, or New Zealand) the principles of how sounds are produced and how different English accents are characterized.

This chapter serves as a quick overview to your phonetics course. Use it to get your feet wet in phonetics and *phonology*, the way that sounds pattern systematically in language.

Speaking the Truth about Phonetics

“The history of phonetics — going back some 2.5 millennia — makes it perhaps the oldest of the behavioral sciences and, given the longevity and applicability of some of the early findings from these times, one of the most successful”

— Professor John Ohala, University of California, Berkeley

When I tell people that I’m a phonetician, they sometimes respond by saying *a what?* Once in a rare while, they know what phonetics is and tell me how much they enjoyed studying it in college. These people are typically language lovers — folks who enjoy studying foreign tongues, travelling, and experiencing different cultures.

Unfortunately, some people react negatively and share their horror stories of having taken a phonetics course during college. Despite its astounding success among the behavioral sciences, phonetics has received disdain from some students because of these reasons:

- ✔ **A lot of specialized jargon and technical terminology:** In phonetics, you need to know some biology, including names for body parts and the physiology of speech. You also need to know some physics, such as the basics of acoustics and speech waveforms. In addition, phonetics involves many social and psychological words, for example when discussing *speech perception* (the study of how language sounds are heard and understood) and *dialectology* (the study of language regional differences). Having to master all this jargon can cause some students to feel that phonetics is hard and quickly become discouraged.
- ✔ **Speaking and ear training skills:** When studying phonetics, you must practice speaking and listening to new sounds. For anyone who already experienced second language learning (or enjoys music or singing), doing so isn’t a big deal. However, if you’re caught off guard by this expectation from the get-go, you may underestimate the amount and type of work involved.
- ✔ **The stigma of being a phonetician:** Phoneticians and linguists are often unfairly viewed as nit-picking types who enjoy bossing people around by telling them how to talk. With this kind of role model, working on phonetics can sometimes seem about as exciting as ironing or watching water boil.

I beg to differ with these reasons. Yes, phonetics does have a lot of technical terms, but hang in there and take the time to figure out what they mean because it will be worth your time. With phonetics, consider listening and speaking the different sounds as a fun activity. Working in the field of phonetics is actually an enjoyable and exciting one. Refer to the later section, “Finding Phonetic Solutions to the Problems of the World” and see what impact phonetics has in everyday speech.

Prescribing and Describing: A Modern Balance

This idea that *linguists* (those who study language) and *phoneticians* (those who work with speech sounds) are out to change your language comes from a tradition called *prescriptivism*, which means judging what is correct. Many of the founders of the field of modern phonetics, including Daniel Jones and Henry Sweet, have relied on this tradition. You may be familiar with phoneticians taking this position, for example, the character of Henry Higgins, in the play *Pygmalion* and the musical *My Fair Lady*, or Lionel Logue, as portrayed in the more recent film, *The King's Speech*. At this time and place (England in early 1900s) phoneticians earned their keep mainly by teaching people how to speak “properly.”

However, much has changed since then. In general, *linguistics* (the study of language) has broadened to include not only studies close to literature and the humanities (called *philology*, or love of language), but also to disciplines within the cognitive sciences. Thus, linguistics is often taught not only in literature departments, but also in psychology and neural science groups.

These changes have also affected the field of phonetics. Overall, phoneticians have learned to listen more and correct less. Current phonetics is largely *descriptive* (observing how different languages and accents sound), instead of being prescriptive. Descriptive phoneticians are content to identify the factors responsible for spoken language variation (such as social or geographic differences) and to not necessarily translate this knowledge into scolding others as to how they *should* sound.

You can see evidence of this descriptive attitude in the term *General American English* (GAE), used throughout this book, when talking about American norms. (GAE basically means a major accent of American English, most similar to a generalized Midwestern accent; check out Chapter 18 for more information about it.) Although the difference may seem subtle, GAE has a very different flavor than a label such as *Standard American English* (SAE), used by some authors to refer to the same accent. After all, if someone is *standard*, what might that make you or me? Substandard? You can see how the idea of an accent standard carries the sense of prescription, making some folks uneasy.

Scientifically, descriptivism is the way to go. This viewpoint permits phoneticians to study language and speech without the baggage of having to tell people how they should sound. Other spokespeople in society may take a prescriptivist position and recommend that certain words, pronunciations, or usages be promoted over others. This prescriptivism is generally based on the idea that language values should be preserved and that nobody wants to speak a language that doesn't have correct forms.

Finding Phonetic Solutions to the Problems of the World

Phonetics can help a lot of problems related to speech. You may be surprised at how omnipresent phonetics is in everyday speech. If you're taking a phonetics course or you're reading to discover more about language and you come across a perplexing problem, the following can refer you to the chapter in this book where I address the solutions.

- ✓ How does my body produce speech? Check out Chapter 2.
- ✓ I have seen these symbols: /ʒ/, /ʃ/, /ə/, /θ/, /ð/, /æ/, /ŋ/, /ʌ/, and /ʊ/. What are they? Refer to Chapter 3.
- ✓ Why do Chinese and Vietnamese people sound like their voices are going up and down when they speak? Head to Chapter 3.
- ✓ What happens in my throat when I speak, whisper, or sing? Flip to Chapter 4.
- ✓ How are speech sounds classified? Check out Chapter 5.
- ✓ I have taken a phonetics course, but I *still* don't understand the ideas of *phoneme* and *allophone*. What are they? Refer to Chapter 5.
- ✓ What exactly is a glottal stop? Go to Chapter 6.
- ✓ What is coarticulation? Does it always occur? Flip to Chapter 6.
- ✓ How are vowels produced differently in British and American English? Check out Chapter 7.
- ✓ Is it okay to drop my "R"s? Head to Chapter 7.
- ✓ What exactly is phonology? Go to Chapter 8.
- ✓ Do all people in the world have the same kind of sound changes in their languages? Check out Chapter 8.
- ✓ How do I apply diacritics in transcription? Chapter 9 can help.
- ✓ I need to know how to narrowly transcribe English. What do I do? Look in Chapter 9.
- ✓ How do I transcribe speech that is all run together? Head to Chapter 10.
- ✓ What role does melody play in speech? Go to Chapter 10.
- ✓ How do I mark speech melody in my transcriptions? Check out Chapter 11.

- ✓ How is speech described at the level of sound? Refer to Chapter 12.
- ✓ How can I use computer programs to analyze speech? Look in Chapter 12.
- ✓ My teacher asked me to decode a sound spectrogram, and I am stuck. What do I do? Chapter 13 can help.
- ✓ How do people perceive speech? Refer to Chapter 14.
- ✓ Why do speakers of different languages make those odd creaky and breathy sounds? Go to Chapter 15.
- ✓ What is voice onset time (VOT)? Chapter 15 has what you need.
- ✓ How do speakers of other languages make those peculiar r-like sounds? What about guttural sounds at the backs of their throats and clicks? Look in Chapter 16.
- ✓ Are some consonants held longer than others? What about some vowels? Refer to Chapter 16.
- ✓ How do I transcribe child language? Check out Chapter 17.
- ✓ How can you tell normal child speech from child speech that is delayed or disordered? Go to Chapter 17.
- ✓ What exactly are the differences between British, Australian, and New Zealand English? I just opened my mouth and inserted my foot. Chapter 18 can help ease your problems.
- ✓ Can you show me some examples of aphasia, apraxia, and dysarthria transcribed? Head to Chapter 19.
- ✓ I make mistakes when I transcribe. What can I do to improve? Chapter 20 discusses ten of the most common mistakes that people make when transcribing, and what you can do to avoid them.
- ✓ How can I know when someone is telling an urban myth about English accents? Zip to Chapter 21.

