CLINICAL PHONETICS

SIXTH EDITION

Lawrence D. Shriberg, PhD
Raymond D. Kent, PhD
Tara McAllister, PhD, CCC-SLP
Jonathan L. Preston, PhD, CCC-SLP
Marisha L. Speights, PhD, CCC-SLP

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Preface to the Sixth Edition

Phonetics is both a science and an art. The mutual goals of art and science are to represent and interpret natural phenomena. The focus of phonetics is on speech, specifically the sound elements produced by individuals or groups of individuals. The scientific component involves description and analysis of the biology and physics of sound production, including observations of anatomy, physiology, and acoustics. The artistic component is akin to music in that the goal is to represent sounds with a printed notation. Sheet music is a printed form of notation that uses symbols to indicate pitches, rhythms, or chords of a song or instrumental musical piece. Similarly, phonetic transcription is a printed form of notation that represents speech sounds. Phonetic transcription is a skill acquired through dedicated listening experience. It differs from ordinary text composed of alphabet characters. In English, alphabetic representations can be misleading for pronunciation because a single character can represent different sounds (for example, the *c* in the words *city*, *cough*, and *ocean*). Phonetic symbols represent sounds without such confusion and are applicable to the sounds in all natural languages.

This text guides you through both the scientific and artistic sides of phonetics. Here we highlight several ways in which the new edition differs from previous editions.

Phonetic Variation and Clinical Practice

The field of speech-language pathology has been a driving force in advancing evidence-based clinical practice, particularly through its advocacy for responsible assessment and treatment that recognize the rich diversity of language backgrounds and communication styles across the human population.

In revising this text, we aimed to take a more integrative approach—highlighting the intersection of language backgrounds, community contexts, and clinical decision-making throughout the chapters, rather than limiting the discussion to a single chapter. As instructors, we have long believed that weaving these insights into lectures throughout a course offered greater impact than presenting them in a final chapter that may feel rushed at the end of the term. We were excited to have taken on the challenge of presenting this information earlier in the current edition to align more with our teaching practices.

One of the most significant changes is a foundational discussion at the beginning of the text on how linguistic characteristics vary among speakers and why these differences matter in clinical practice—a topic students consistently find both engaging and relevant. These concepts are revisited across multiple chapters to support integrated learning and to emphasize key considerations for applying phonetics in clinical settings.

We also rerecorded the textbook's audio materials using voices that reflect a range of ages, genders, and racial and cultural backgrounds, ensuring that the speech samples used for transcription practice better represent the populations students and professionals are likely to encounter in clinical work.

Our goal with this edition is to equip students with the knowledge, skills, and awareness needed to become effective, responsive clinicians—professionals who can confidently and accurately transcribe speech in all its rich and meaningful variation.

Sound Files for Learning Phonetic Transcription

Phonetic transcription is a skill that requires attentive listening and selection of symbols that represent

the sounds that are heard. This new edition presents ample opportunities to transcribe speech from a variety of speakers, including children and adults, individuals with typical or disordered speech, and people from different regional or cultural backgrounds. The sound files for transcription have been considerably expanded from previous editions and can be accessed easily with a key press, so that students can readily hear an item as often as they like.

What's New in the Sixth Edition

Since we teach from our own textbook, we made note of strengths and challenges as our students worked with the fifth edition of *Clinical Phonetics*. This led to the following changes, among others:

- The specialized font used in previous editions, PEPPER, has a number of strengths, but students reported confusion when they encountered outside sources that followed different conventions for transcription. For a streamlined student experience, we have retired the PEPPER font and converted our transcription conventions to align with the International Phonetic Alphabet. This includes modifications to some core symbols (for instance, /ɹ/ instead of /**r**/), diacritics, and conventions for marking stress.
- To help students better understand natural classes that underlie phonological patterns, the chapter on consonant transcription (Chapter 5) has been reorganized by manner rather than place of articulation.
- Many students struggle with narrow transcription using diacritics. For more effective learning, we have divided the chapter on narrow transcription into two—Chapter 7 is focused on typical allophonic variation, and Chapter 8 on clinical deviations. In addition, the clinical speech transcription exercises in Chapter 8 have been reorganized to start with changes that are easier to transcribe, like stop substitutions, and progress to more challenging deviations like vowel distortions.
- Almost all illustrations in this edition are new or revised from previous editions. The illustrations accompany the text to depict the important features of individual speech sounds. This edition offers many new illustrations that are designed to aid the learning process.

Ready-to-Use Materials for Online or In-Person Instruction

Phonetic transcription is a skill that requires extensive practice. The sound files for transcription have been considerably expanded from previous editions and can be accessed easily with a key press, so students can easily hear an item as many times as they like. Students can choose between a printed textbook or an e-text, and either version offers access to a website with a number of supplementary materials. In addition, the sixth edition provides the following ancillary materials:

- Premade lecture slides to accompany each chapter
- "Check your understanding" exercises
- Flashcards to review key concepts

Honoring the Legacy of Larry Shriberg

The first author of previous editions of this textbook, Lawrence D. Shriberg, passed away in 2024, and we dedicate this edition to his memory. He made a profound impact on the field of speech-language pathology, both through his research and his passion for teaching students how to use phonetic transcription effectively in real-life clinical practice. In this tradition, we hope that the sixth edition of *Clinical Phonetics* serves as both a practical guide and a thought-provoking reflection of the evolving landscape of our field.

This edition continues the tradition of integrating insights from multiple authors with complementary perspectives. The authors of this new edition are Raymond Kent, Tara McAllister, Jonathan Preston, and a new author, Marisha Speights, all of whom bring deep expertise to the subject of phonetics and its clinical applications. The authors are jointly committed to continuing the legacy of previous editions while rising to meet the challenges and opportunities presented by emerging technologies and new generations of learners.

About the Authors

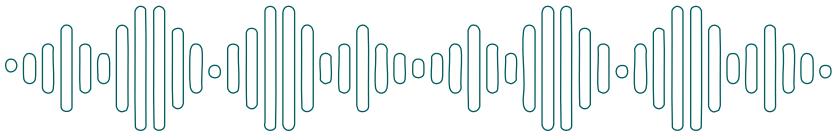
Lawrence D. Shriberg, PhD, (1939–2024) was Professor Emeritus of Communicative Sciences and Disorders, University of Wisconsin-Madison. He was Principal Investigator of the Phonology Project, Waisman Center, University of Wisconsin-Madison and conducted research centered on genetic and other bases of pediatric speech sound disorders of known and unknown origin. Goals of the research, using a framework termed the Speech Disorders Classification System, were to develop behavioral markers that can identify biomarkers and explicate the causal pathways of pediatric speech sound disorders. Among the many awards he received were Honors of the American Speech-Language-Hearing Association, Alfred K. Kawana Council of Editors Award, and the Distinguished Alumni Award from the University of Kansas Medical Center.

Raymond D. Kent, PhD, is Professor Emeritus of Communicative Sciences and Disorders at the University of Wisconsin-Madison. His research interests include speech development, motor speech disorders, and instrumental methods of speech assessment. He has authored or edited 19 books, including: *The Acoustic Analysis of Speech* (with Charles Read), *Reference Manual for Communicative Sciences and Disorders: Handbook of Voice Quality Measurement* (with Martin J. Ball), *The MIT Encyclopedia of Communication Disorders*, and *Handbook on Children's Speech*. He served as editor of the *Journal of Speech and Hearing Research*, associate founding editor of *Clinical Linguistics and Phonetics*, and associate editor of *Folia Phoniatrica et Logopaedica*.

Tara McAllister, PhD, is an Associate Professor of Communicative Sciences and Disorders at New York University. She has published over 70 peer-reviewed papers spanning the disciplines of linguistics and speech-language pathology. Her research aims to understand how speech skills are acquired in both typical and clinical populations, and why developmental speech patterns resolve in some individuals but persist in others. She also directs the BITS (Biofeedback Intervention Technology for Speech) Lab at NYU, which develops and tests tools to provide visual biofeedback for persistent speech sound errors in children.

Jonathan L. Preston, PhD, is a Professor of Communication Sciences and Disorders at Syracuse University and is a Fellow of the American Speech-Language-Hearing Association. He has coauthored numerous publications focusing on phonetic, phonological, and neurobiological characteristics of children with speech sound disorders. In his current position, he teaches coursework on phonetics and speech sound disorders, and he conducts clinical research on assessment and treatment of speech sound disorders, including residual speech errors and childhood apraxia of speech.

Marisha L. Speights, PhD, is an Assistant Professor of Communication Sciences and Disorders at Northwestern University. A speech-language pathologist and pediatric speech scientist, her research focuses on articulatory and acoustic phonetics, child speech production, and early detection of speech disorders. She directs the Pediatric Speech Technologies and Acoustics Research Lab, which uses large-scale speech data, acoustic analysis, and artificial intelligence (AI) to develop scalable tools for automated screening and assessment. Her work bridges clinical practice and technology to improve access to speech and language services for young children. She has taught phonetics and pediatric speech sound disorders for over a decade, and her publications in journals such as *PLOS Digital Health*, *Journal of the Acoustical Society of America*, and *Clinical Linguistics and Phonetics* feature tools for phonetic transcription and automated analysis of child speech.



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Introduction to Phonetics and Phonetic Variation

Beginning a new course of study is always exciting, and many graduates of a program in communication sciences and disorders have particularly fond memories of the first time they studied phonetics and phonetic transcription, which form the focus of this textbook. In the study of phonetics, you will gain a new level of understanding of a skill that you most likely use on a daily basis—producing and perceiving the sounds of the English language. This text has a particular focus on information about speech sounds that is directly related to the clinical assessment and remediation of speech disorders. As we hope to convey throughout this text, a solid grounding of knowledge and skill in phonetics is essential for a clinician to be effective in the assessment and management of individuals with communication disorders. This first chapter is intended to help you get the "big picture" of what is involved in the study of phonetics. We will first describe the study of phonetics and then engage in a focused discussion of how the sounds of English can differ across speakers from different regions, social groups, or language backgrounds. We have two reasons for leading with this topic. First, most students find it inherently interesting to observe differences in pronunciation across individuals and reflect on how these differences in speech relate to different aspects of identity. Second, knowledge of phonetics from multicultural and multilinguistic perspectives has become an increasingly important component of clinical practice. This chapter will prepare you to think critically about your own speech patterns in relation to those of others and to recognize why understanding this variation is vital in the clinical context.

Phonetics and Phonetic Variation

Phonetics is the study of the production and perception of speech sounds. Subdisciplines within phonetics, such as articulatory phonetics and acoustic phonetics, date back several centuries. The discipline of phonetics fills an important need for a system of symbols that accurately and reliably represent the sounds of any language. In languages like English, the ordinary spelling of a word does not reliably indicate how the word is pronounced. A given letter of the alphabet can represent different sounds, such as the various sounds represented by the letter *a* in *cake, father, many*, and *had*. Likewise, a single sound can be represented by more than one letter or letter sequence; for instance, the words *seek, city,* and *psychologist* all start with the same sound, despite their different spellings. The symbols used in phonetics permit an unambiguous coding of speech sounds, not only for English but for any language.

Thanks to this universal application, phonetic symbols have become an essential tool for the study of spoken language. As you progress through this text, you will learn symbols for phonetic transcription that come primarily from the **International Phonetic Alphabet**, or IPA. You will be happy to learn that one symbol is always intended to represent just one sound.

This textbook focuses on teaching you to understand and transcribe the sounds of English as it is spoken in North America, with an emphasis on the context of clinical practice in speech-language pathology. But before we can teach you to transcribe American English, we must grapple with a challenging question: what *is* American English? While speakers with different backgrounds and identities from around the United States and Canada can generally understand each other's speech, the pronunciation patterns they use may vary considerably. The variety of American English that you speak will influence how you perceive and transcribe the speech of others. As a consequence, understanding this variation is important in the clinical context.

Examples of variation in pronunciation across different talkers are not hard to find. It is almost a rite of passage for students going away to college to compare their pronunciation to that of new classmates who grew up in different regions of the country or other countries. For example, students from different regions, such as the northeastern United States, the Deep South, and the Midwest, might find that they differ in their pronunciation of the words *Mary*, *merry*, and *marry*. While a student from New York City might give those words three distinct pronunciations, students from the Southern or Midwestern regions might pronounce and perceive all three words as identical. The Midwestern student might pronounce the vowel in *pen* like the vowel in *head* and the vowel in *pin* like the vowel in *hid*. A student who grew up in rural southwestern Georgia, however, might be more likely to produce *pen* with a vowel that sounds like the one in *pin*. And while the preceding examples all featured differences in the pronunciation of vowels, phonetic variation can also be found in consonant sounds. For example, consider the articulation of the words *straw* and *sock*. Many older speakers produce the same sound at the start of both words. (In phonetic notation, we will represent this sound as /**s**/.) However, among younger speakers, it is common to produce the initial consonant in the word *straw* with the tongue further back, yielding a pronunciation closer to *shtraw* than to *straw*.

An important goal of this chapter, which is carried forward throughout the text, is to discuss phonetic variation in the context of clinical practice in speech-language pathology. For example, consider two reasons why a child might produce *part* without an audible *r* sound (yielding something that sounds more like *pot*). The first is that the child was exposed to adults producing the word without an *r*, and these *r*-less pronunciations are the norm for the community of speakers the child interacts with. (This might be the case for children growing up in parts of New York City, New Jersey, or Massachusetts.) In that case, the child is successfully copying the adults they were exposed to during language acquisition. A second explanation is that the child was exposed to productions of *part* with the *r* present but is having difficulty with some aspect of perceiving or producing that sound. The second possibility may call for speech therapy, whereas the first does not. As discussed in more detail later, speech and language professionals must be familiar with the varieties of spoken English to help them differentiate between cases in which an individual's pronunciation reflects typical variation and cases in which there may be a communication disorder.

The Study of Language Variation

Picture yourself having a phone call with a person you've never met. As you listen to this person talk, your brain processes word meanings and grammatical structure so that you can understand the message the person is communicating to you. At the same time, the way that person produces their message gives you clues to many pieces of information about the speaker, such as their approximate age and gender and perhaps their cultural background or region of origin. **Sociolinguistics** is the study of how social factors such as region, race, and gender influence language use. Sociolinguistic research has demonstrated that language is more than just words; instead, the way we use language is deeply intertwined with our social networks and identities. Here, our focus is on **sociophonetics**, which investigates socially driven variation in how speakers pronounce the sounds of speech. Linguists use the term **indexical** to refer to the aspects of speech and language that give us information about social attributes of the talker (such as age, gender, etc.), as distinct from the linguistic message being transmitted.

The type of phonetic variation familiar to most people comes from the pronunciation patterns associated with geographic regions of the country. People often notice dif-

ferences in dialects across regions but may be less likely to focus on variations within the same region. Going back to a previous example, speakers in New York City may delete an *r* sound that comes after a vowel. For these speakers, words such as *core* and *heart* sound similar—although not identical—to *caw* and *hot*. However, not all speakers from New York City drop their *r* sounds, and research has revealed interesting effects of different social factors, such as age and socioeconomic status, on this pattern. In a classic study, William Labov (Labov, 1966) went to department stores around New York City and asked salespeople where he could find an item that he knew to be located on the fourth floor. He then covertly noted how often each salesperson pronounced or deleted the *r* sounds in *fourth* and *floor*. He conducted this experiment in department stores that targeted different income ranges: the bargain department S. Klein for customers with lower income, Macy's for middle-class consumers, and Saks for the biggest spenders. He observed that salespeople at department stores serving people from lower socioeconomic strata in the least expensive store were most likely to drop the *r* sound and salespeople in the most expensive store were least likely to do so, with Macy's falling in between the two. Over the years, a number of researchers have revisited this well-known study (Mather, 2012; Eberhardt & Downs, 2015) and have found that, while the overall rate of *r* dropping has declined over time, clerks in high-end department stores continue to pronounce more *r* sounds than their counterparts in inexpensive stores.

Sociophoneticians have identified differences in pronunciation patterns associated with a multitude of factors beyond region of origin and socioeconomic status. For instance, earlier we mentioned that age is important, with younger speakers more likely than older speakers to produce the /**s**/ in *straw* with the tongue further back in the mouth (*shtraw*). Other speech patterns have been found to vary based on speaker gender. In this case, we are not talking about phonetic variation arising from sex-based differences in the size and shape of the vocal tract—although such variation certainly exists—but learned differences in pronunciation linked to the social construct of gender. We can infer that these patterns are learned because phonetic differences can be detected between boys and girls as young as 2.5 to 3.5 years old, well before puberty causes their vocal tracts to diverge to a significant degree (Munson et al., 2022). In addition, the magnitude of phonetic differences between men and women has been found to vary across languages, further reinforcing that these patterns are socioculturally conditioned rather than purely biologically driven (Johnson, 2006). Still other studies have shown significant phonetic differences between speakers who identify as gay versus straight (Munson et al., 2006).

Sociolinguistic research has investigated how speech differs across individuals with different racial and cultural identities. This area of sociolinguistic research is particularly interesting because individuals making up any racial or cultural group vary widely in age, socioeconomic status, and region of origin, among other variables. Despite the heterogeneity within any group of speakers defined on the basis of race, studies in which listeners are asked to identify speakers by racial identities, such as African American and European American, report high levels of accuracy, typically 70% or greater (see review in Thomas & Reaser, 2004). This is an important topic because studies have documented the potential for racial or ethnic discrimination based on a person's speech patterns, as we discuss in more detail in Chapter 11.

When we talk about phonetic variation, it is important to recognize that many individuals speak more than one language (making them *bilingual* or *multilingual*). In fact, it is estimated that over half of the world's population uses more than one language in everyday life (Grosjean, 2021). When two or more languages or dialects are being learned or used by a speaker, the speech sounds within one can interact and influence the other. It may therefore be possible to identify instances of language transfer in the speech of multilingual individuals, where the sound system of one language influences production or perception in another language. For example, if a bilingual child acquiring English and Spanish uses the Spanish *r* sound (which we will describe phonetically as a trill) in place of the English *r* sound, we should classify this as an instance of transfer from one language to another rather than an error. Moreover, language transfer can operate at the level of a linguistic community as well as at the individual level. As a consequence, individuals who grow up in a community where many people speak Spanish may show influences of the Spanish language in their speech patterns, even if they themselves are monolingual speakers of English. (See Chapter 11 for additional detail on this topic.)

In summary, sociolinguistic research has made it clear that variation in speech patterns goes well beyond regional accent. We all have our own unique form of spoken language that can be described as our **idiolect** (*idio-* meaning personal or distinct, and *-lect* as in *dialect*). Our idiolect

is the total of the numerous factors that influence our speech patterns, including regional and cultural background, educational history, and various other identities and experiences. While we will sometimes find it necessary in this text to characterize speakers in terms of different regional or social varieties (such as California English or African American English), these labels represent an oversimplification relative to the numerous influences that contribute to any given speaker's idiolect.

Sources of Phonetic Variation

Why do speech patterns differ so widely across individual speakers within a language community? We can open this discussion with one confirmed fact: language changes over time. The English you speak today is not the same as the English spoken by people your grandparents' age, and they differed from their own grandparents, and so on. The fact that language changes over time can be seen in word spellings that seem nonsensical relative to modern pronunciations; for instance, why is the word *knight* spelled with *k* and *gh* when it is pronounced like *nite*? The spelling reflects its pronunciation over 1000 years ago, when both the *k* and *n* sounds were pronounced at the start of the syllable and *gh* represented a sound that is no longer used in American English. The gradual evolution of language over time is a major reason why pronunciation patterns differ across geographic regions. Phonetic changes may begin in very small, localized contexts and gradually spread to neighboring speech communities. At the same time, distinct phonetic changes may be underway in other locations, and differing evolutionary paths may ultimately lead to speech patterns that are sufficiently distinct to be considered separate regional varieties. Language change can also arise in situations of contact between different languages, when speakers of one language interact extensively with a community of speakers who have a different first language. For example, most speakers of English in India are also fluent speakers of one or more other languages, and the varieties of English spoken in India reflect extensive influence from those languages.

Changes in pronunciation appear to spread in systematic ways, influenced by the characteristics of the speakers who are participating in the sound change and the structure of their social networks. Think back to the scenario of a person entering college and encountering pronunciation norms that differ from their previous experience. Whether the speaker preserves their home speech patterns or makes a shift in the direction of another variant is likely to be influenced by their attitudes about the speakers they encounter. If a speaker who moves from Boston to Chicago is teased for dropping the *r* in *car*, they might make a quick adjustment to match their peers' pronunciation. When returning to Boston, this speaker might resume their pattern of *r*-deletion as a way to show solidarity with other New Englanders.

Is There a "Standard" Variety?

The word **dialect** is widely used, both in technical studies of human communication and in popular culture, to refer to recognizable varieties of a language. In this textbook, we use dialect in the more technical sense to mean a distinctive pattern of usage shared by a subgroup of speakers of a particular language (in this case, English). Dialects may be based on factors such as geographic region (e.g., Southern dialect within the United States) or different aspects of social identity. Speakers of different dialects of a language are generally able to understand each other (that is, they are **mutually intelligible**) despite possible differences in pronunciation, word usage, or syntax.

The term dialect is also used colloquially in a way that characterizes the relative social prestige or prominence of different varieties of a language. In this case, some language varieties are described as dialects because they are considered subordinate to a **standard language** spoken in the same area. Some countries do have a nationally recognized standard language. For example, China has a standard language, Putonghua, that is used in national broadcast and print media and is taught in schools. Many other languages are spoken in China, including Cantonese and Hakka. Cantonese and Hakka are often referred to as dialects of Chinese because they are considered to have lower prestige than Putonghua, given that they are not used in official government communication or in education. However, they do not meet the technical definition of dialect introduced previously: Cantonese and Hakka are not mutually intelligible with one another or with Putonghua and other Mandarin dialects. In other countries, there may not be a legally codified standard language variety, but there may be recognition of pronunciation standards used in broadcasting. For example, in the United Kingdom, a variant termed Received Pronunciation (RP) serves as a quasi-standard variety and is used in a great deal of broadcast media, including by the British Broadcasting Corporation (BBC).

How would regional varieties of American English, such as those spoken in Texas or New York City, be clas-

sified under this sense of the word dialect? This question is difficult to answer because the United States has no standard language or **standard dialect**. However, there is an implicit standard in the United States that is reflected in the variety of English that is most widely used in national broadcast media and reinforced in schools. Usage patterns that differ noticeably from the variety used in national media may be called **vernacular forms**, **nonmainstream forms**, or nonstandard forms. In this text, we avoid the term *nonstandard* in light of the fact that North American English has no officially codified standard variety. In addition, the term "standard" conveys a value judgment that is at odds with the linguistic view that different language varieties are equally valid forms of communication that fulfill roles in both information exchange and social cohesion for the communities in which they are used. The term **Mainstream American English (MAE)** is sometimes used to describe the speech patterns you are likely to hear from newscasters and other media figures addressing a nationwide audience in the United States or Canada. Most individuals use some mainstream forms and some regional or cultural variants in their speech, and their choice of pronunciation variants is likely to differ based on the communicative context. Throughout this book, we will aim to present both MAE forms and variations to provide you with the skills needed to function flexibly in clinical settings. Specifically, MAE forms will represent a starting point for uniformly teaching the methods of phonetic transcription, then serve as a springboard to train you to listen for and transcribe the many variations used by different speakers of American English.

Considerations of Age and Gender

As noted above, phonetic variation is rooted not only in regional and cultural differences but also in differences relating to age and gender within and across dialects. The speech patterns of a given individual depend in part on biological and learned factors related to age and gender. Therefore, this text gives basic information on how speech changes with age from childhood to adulthood, and how speech differs among different gender groups. For example, children are not simply small versions of adults. Children differ from adults in the anatomy and physiology of the organs of speech production, as well as the motor skills that are essential for intelligible speech. Anatomy and physiology of the speech production system matures until early adulthood, and motor skills mature until at least the age of 12 years (Kent, 2024). In addition, you probably are aware that children's speech has a higher pitch than that of adults. These pitch differences can make it more difficult to transcribe children's speech, especially if audio recordings are not tailored to the characteristics of children. As discussed later in this book, pitch differences pertain not only to the voice signal produced in the larynx but also to the resonances that shape speech sounds. Many speech-language clinicians provide services for children, which makes it essential to have experience with children's speech when learning phonetic transcription.

Language Variation and Clinical Practice

As you talk with other people in your phonetics class, you will likely learn that they represent a rich variety of regional, cultural, and community backgrounds. You may also notice differences in which aspects of transcription you find most challenging. This is because the language variety you speak will inevitably act as a lens through which you approach the task of phonetic transcription. As a listener, you have knowledge of the speech sound system(s) that you were exposed to from infancy onward. When you transcribe others' speech, you will reflexively compare their speech against that referent. While this is natural and unavoidable, it also represents an intrinsic bias that we should strive to be aware of, particularly in the clinical setting.

Clinicians in speech-language pathology face a unique challenge when working with clients who speak a variety of English that differs from their own. The clinician's task is to identify deviations in the client's speech that are suggestive of the presence of a communication disorder. This is relatively straightforward when the client and clinician speak very similar varieties of English. But the task becomes more difficult when the client's English variety differs from the clinician's internal referent, especially if the clinician has not been exposed to many speakers of the variety in question. Research has shown that misdiagnosis is more likely when such a mismatch is present. Misdiagnosis can present as *overdiagnosis,* where the clinician misidentifies features that are typical in the client's language variety as evidence of a communication disorder. It can also present as *underdiagnosis*, where the clinician misidentifies speech patterns as typical of the speaker's dialect when they are in fact suggestive of a disorder (Robinson & Norton, 2019).

While it is impossible to eliminate the bias that every speaker brings to listening tasks, it is essential to understand that English exists in numerous varieties that are

equally valid. It is helpful to review a position statement issued by the American Speech-Language-Hearing Association, or ASHA, (2003) on this topic:

> … no dialectal variety of American English is a disorder or a pathological form of speech or language. Each dialect is adequate as a functional and effective variety of American English. Each serves a communicative function as well as a social-solidarity function. Each dialect maintains the communication network and the social construct of the community of speakers who use it. Furthermore, each is a symbolic representation of the geographic, historical, social, and cultural background of its speakers.

The terminology used to talk about how clinicians engage with speakers of English varieties that differ from their own has shifted in important ways in recent years. At the time ASHA released the position statement quoted above, it was common to talk about clinical assessment across language varieties in terms of "difference versus disorder." However, more recent work has pointed out that this framing tends to encourage a belief that dialect differences and communication disorders are mutually exclusive. For example, here are quotes from three hypothetical clinicians in a position paper by Oetting, Gregory, and Riviere (2016):

> Clinician 1: Teachers at my school refer children to me all the time, and I send the children back because they speak a nonmainstream dialect of English.
>
> Clinician 2: That happens to me too. Dialects are not disorders but teachers don't always understand this.
>
> . . .
>
> Clinician 3: Yes—the dialect vs. disorder conundrum—if the child's language reflects a dialect difference, we don't want to misdiagnose the child's language as disordered. (p. 28)

These quotes illustrate a pitfall of the "difference versus disorder" framing—the clinicians appear to be declining to evaluate children who speak an English variety that differs from their own on the assumption that no disorder is present. However, communication disorders affect speakers of all dialects, and it is the clinician's job to learn how to identify typical versus atypical speech and language in a client who speaks a different variety of English. The authors of the paper encouraged a shift toward a new framing, "disorder within dialect," that acknowledges the fact that disorder can be present in speakers of any English variety. Knowing how to provide appropriate assessment and treatment to clients who speak a wide range of varieties of English is a critical part of **culturally responsive practice** in speech-language pathology.

Even though ASHA's position statement was issued more than 20 years ago, it remains an unfortunate reality that some linguistic communities are less effectively served by speech-language pathologists than others. This can be attributed to a range of factors, including underrepresentation of those language varieties among individuals who receive clinical training, a lack of assessment materials targeting those varieties, or—relevant to this textbook—a lack of exposure to those varieties during clinical training. As noted above, this text includes speech examples reflecting different influences in an effort to attune students' ears to diverse English varieties. We also provide specific instruction on some of the most commonly represented varieties of English in the US context, including sidebars throughout subsequent chapters and detailed examples in Chapter 11 that you can return to as a reference in future practice. However, it will not be possible to prepare you for every possible influence on the speech of a potential client. To meet this challenge, clinicians may need to conduct their own research to determine what features would be considered typical and which might be regarded as indications of disorder in a dialect that is unfamiliar to them. We aim to support you in developing these skills throughout this book, and interested readers are referred to Kohnert et al. (2021) for an in-depth discussion.

The Importance of Sound Files

Phonetic transcription is a skill that depends on hearing differences among sounds, and some of these differences are subtle. Learning this skill requires experience with different sounds produced by different speakers (both adults and children), which is why this text is accompanied by a large set of sound files that provide diverse opportunities for phonetic transcription. You will learn phonetics from both reading the text and hearing speech samples. The sound files, which are matched to the content of the text, were derived from multiple speakers representing different genders, ages, and regional, racial, and cultural backgrounds. The opportunity to transcribe speech samples from a wide variety of speakers is an essential part of your training in phonetics.

Conclusion

This chapter gives you a first taste of the types of questions addressed in the study of phonetics, with a focus on variations in pronunciation both within and between communities of speakers. In the chapters that follow, our objective is to provide you with a firm knowledge of descriptive information about the phonetics of American English while supporting you in acquiring discrimination and transcription skills needed for the clinical management of communication disorders. As you build your knowledge and skills, keep in mind that variation is a normal feature of language; a phonetic *difference* should not necessarily be interpreted as evidence of a phonetic *disorder*. Thinking critically about your speech patterns and the speech patterns of others is an important ability that you will continue to refine throughout the course of a career in communication sciences and disorders.

Chapter Summary Exercises

1. How does phonetics contribute to the understanding and treatment of speech disorders in clinical practice?
2. Why is it important to have a standardized system like the IPA for phonetic transcription?
3. In what ways can regional and social variations in pronunciation impact the clinical assessment of speech disorders?
4. How do social factors such as age, gender, and cultural background influence phonetic variation?
5. What are some examples of phonetic variation in vowel and consonant sounds across different regions in the United States?
6. Why is it important for speech-language pathologists to be aware of their own biases when transcribing speech?
7. How does language change over time, and what are some factors that contribute to this change?
8. What is the significance of ASHA's position statement on dialects and communication disorders?

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