The Sounds of German. By Charles V. J. Russ. Cambridge: Cambridge University Press. 2010. Pp. xxii, 269. Paperback + audio CD. US \$37.99

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This book provides the student of German with an introduction to the sound system of Standard German, while supplying information about historical developments, dialectal differences, and spelling conventions. The book contains twelve chapters with a set of exercises at the end of each, references, and an index. It was written for students with little to no background in linguistics, but basic knowledge of German is helpful. The accompanying audio CD provides the pronunciation of examples from the book.

In chapter 1, Russ takes up the issues of pronunciation standards and crosslinguistic and individual differences in pronunciation. Russ discusses the notion of New High German and orthographic standards. He provides a brief summary of the field of phonetics and the IPA. The chapter concludes with a discussion of the history of pronunciation standards.

Chapter 2 is a basic introduction to articulatory phonetics and to each of the speech segments of German. Topics taken up include organs of speech, air stream mechanisms, types of sounds, and vocal fold behavior. Russ provides the reader with a number of figures depicting, for example, the organs of speech, parts of the tongue, and positions of the vocal folds. He presents basic terminology from the field of acoustic phonetics along with sample waveforms of vowels.

The topic of chapter 3 is vowels. Russ begins the chapter with a discussion of manner and place of articulation as well as one of qualitative and quantitative differences between tense and lax vowels. His presentation of the primary and secondary cardinal vowels—each of which is assigned a number—relies upon two separate vowel trapezoids. He includes two <a> vowels for German: a front open /a/ and a back /a/. Russ also presents the diphthongs of German, schwa, and dark schwa. The rest of the chapter includes a detailed discussion of each of the vowels: articulation, spelling, distributional information, similarities to British English vowels, and dialectal variants. In addition, a figure indicating tongue position is provided for each vowel.

Russ continues in chapter 4 with a presentation of the consonants of German, providing information about the articulation of each. Manner and place of articulation are discussed, and Russ presents the notions of obstruent and sonorant early in the chapter. The chapter concludes with a detailed discussion of each consonant similar to that provided for each of the vowels.

The topic taken up in chapter 5 is "Sounds in contrast." Here Russ presents the reader with the notions of allophones and phonemes and provides a thorough range of oppositions between various pairs and sets of phonemes based on features. Russ himself notes in the preface that the lists of oppositions provided in this chapter are intended as a reference.

In chapter 6, Russ provides a more detailed discussion of spelling and orthographic standards. It is here for the first time that Russ discusses the correspondence between a) vowel length and orthography and b) final devoicing. Each phoneme is again discussed in terms of the variety of spellings possible to represent it. The chapter concludes with a detailed history of spelling reforms.

In chapter 7, "Distribution of vowels and consonants," Russ presents an overview of the syllable and syllable structure changes that occurred in the history of the German language. Sonority and phonotactics are covered at the outset of the chapter. Russ discusses permissible clusters based upon the location in the word in which they appear. He provides a hierarchical representation of German syllable structure and discusses general rules for determining syllable boundaries in German. The chapter concludes with a discussion of syncope, epenthesis, and apocope, all of which are presented as changes affecting syllable structure.

Chapter 8 takes up the issue of foreign sounds. Russ discusses individual phonemes and consonant clusters that entered German, and he then discusses the dispute surrounding the uvular [R] in NHG. The chapter continues with the historical development of the German phoneme inventory, most importantly the Second Sound Shift and the reduction of unstressed final vowels. English as a source language is also taken up. The chapter ends with a discussion of attitudes toward foreign words.

Alternations are the focus of chapter 9, and the examples provided in the first section include final devoicing and umlaut, which Russ classifies as automatic and morphophonemic, respectively. The notion of distinctive features is taken up before Russ briefly mentions underlying forms and phonological rules. In terms of automatic alternations, schwa deletion and assimilation are treated together in one brief section, and the realization of dark schwa is then briefly discussed. Morphophonological alternations include, on the one hand, reflexes of both the First and Second Sound Shifts and ablaut, and on the other, umlaut, which he terms a productive alternation.

The focus of chapter 10 is suprasegmentals, and Russ concentrates most on word and sentence stress. Stress is discussed in terms of prominence. He discusses suffixes and prefixes, and stress in compounds is also described. Sentence stress—in terms of emphasis—and weak forms are covered briefly in one section. The chapter ends with a treatment of intonation. He then goes on to discuss five basic types of intonation patterns through a brief description (for example, rising versus risingfalling) and the use of dots and dashes (for example, Armstrong & Ward 1931) to indicate pitch movement and stressed versus unstressed syllables.

Russ provides the reader with an overview of German in Austria and Switzerland and with a more detailed discussion of the dialects of German spoken within Germany in chapter 11. The chapter begins with a treatment of the Second Sound Shift, concentrating on variation in the production of vowels and consonants. He takes up the ambiguity of the term "German" and then goes on to discuss the pronunciation of German in Austria and Switzerland, focusing specifically on vowels, consonants, and stress.

The book concludes in chapter 12 with a diachronic overview of sound changes. The chapter begins with a brief history of the German language. Maps and texts of a number of varieties are provided. Phonological (including diphthongization, monophthongization, umlaut, and the Second Sound Shift) and grammatical features that distinguished the dialects over time are briefly outlined with examples.

This textbook provides an introduction to the sound system of German that is in some ways similar to other textbooks on the topic (for instance, Hall 2003, Wiese 2011). Unlike these books, however, it works toward a balance between a book that focuses on pronunciation (like Hall) and one that is highly theoretical (like Wiese). Russ focuses on historical developments and regional variation as well as oppositions of sounds. His primary emphasis in the description of the production of segments is on a comparison with varieties of British English. The book contains a number of maps and figures, and, like Hall 2003, Russ

provides terms in both English and German. References pointing readers to sources of additional information are provided throughout the chapters.

The organization of Russ differs from the organization of Wiese 2011 in that there is less of a clear distinction between phonetics and phonology. In his presentation of vowels, Russ differs from a number of other treatments (for example, Hall 2003; Wiese 2000, 2011) in his inclusion of two <a> vowels, which, he argues, differ both in quality and place of articulation. He does little to clarify how one distinguishes between the vowels as well as the long and short variants of the other vowels based on spelling or consonantal context. A greater reliance on minimal pairs might illustrate differences more clearly to the reader. The figures provided to describe the tongue movement in the production of diphthongs may prove difficult to interpret. The addition of arrows to indicate the movement of the tongue in the diagrams may make this clearer.

As is the case in the chapter on vowels, the presentation of each of the German consonants in chapter 4 is detailed. For each consonant presented Russ provides an overview of the various spellings. Because he has not yet presented the syllable or final devoicing as concepts, the presentation of voiceless consonants is rather detailed. The issue of final devoicing remains the skeleton in the closet in chapters 5 and 6. Hall (2003) presents the notion of final devoicing before dealing with consonants. While the discussion of the <r> sounds in the chapter focusing on consonants is quite thorough, it could have benefited from recordings of the allophones on the audio CD.

In his treatment of the syllable, the discussion of syllable structure might be a bit clearer if the concepts of sonority and phonotactics were more tightly interwoven at the outset of the chapter. More difficult to understand is Russ's discussion of medial consonant clusters in words such as *Scherbe*, *winden*, which are not truly clusters if one takes the syllable as the unit of analysis. It is somewhat surprising that syllable-related processes such as final devoicing and glottal stop insertion are not taken up in greater detail in this chapter.

It is in the ninth chapter, which deals with alternations, that Russ presents the concept of final devoicing. Whereas this is often treated as a syllable-final phenomenon (for instance, Wiese 2000, 2011), Russ treats it as a process that occurs word-finally. His description of the process

that affects voiced consonants is that "they become voiceless" (p. 178), thereby ignoring more recent treatments of the phenomenon as final fortition (see, for example, Iverson & Salmons 2007). Like many other introductory works on the topic (Hall 2003; Wiese 2011), Russ's discussion of rules is cursory, and he does not mention Optimality Theory.

Russ, like Hall (2003) and Wiese (2000, 2011) devotes some time to suprasegmental phenomena. At the outset of the chapter 10, he notes that he will focus primarily on stress in words and sentences and on basic intonational patterns, much like Hall (2003) and Wiese (2011). The presentation of intonational patterns could be made a bit clearer, for example, through the use of notation to more clearly indicate pitch movement (for instance, Hall 2003).

The progression of the book might prove a bit difficult in practice, especially for instructors who are interested in distinguishing between the fields of phonetics and phonology. Given recent research on the effectiveness of pronunciation training, especially in the context of a course that focuses specifically on phonetics and phonology (for example, Lord 2008), it is unfortunate that Russ only provides a basic overview of the pronunciation of the various segments.

The questions at the end of each chapter often require students to apply the concepts they have learned in the chapter. Answers are not provided to these exercises. The sound files provided on the CD have been read as lists without reference to page numbers or specific examples from each chapter. Moreover, additional examples, especially representing dialectal speech, would be quite helpful.

The book is a detailed introduction to German phonetics and phonology that does not focus a great deal on the distinction between the two fields. It would be appropriate for an undergraduate introduction for nonlinguists taught in English, and it could be supplemented with more rigorous treatments of various topics for more advanced students. Given that the English standard of pronunciation is a British standard, it would be best utilized in universities in which the students speak a British variety of English.

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