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guiding principles. The book is structured into eight chapters: 1) language use as part of linguistic theory; 2) a usage-based model for phonology and morphology; 3) the nature of lexical representation; 4) phonological processes, phonological patterns; 5) the interaction of phonology with morphology; 6) the units of storage and access: morphemes words and phrases; 7) constructions as processing units: the rise and fall of French Liaison; 8) universals, synchrony and diachrony. Each chapter is separated into numbered sub-sections, which is necessary because arguments presented elsewhere in the book are frequently referred to by the author. As a reader I found that I needed to jump around from section to section in order to follow the argument and this was hard going at times. The inductive style of the book in many ways is an appropriate way to deliver the functionalist argument, however, I would have preferred the questions or position to be more explicitly stated at the beginning of sections as I think this would have reduced the amount of cross-referencing that seemed necessary and increased my understanding of the central points. Given the underlying principles of the theory presented here I thought it would have been appropriate for Bybee to develop her themes through reference to the relevant literature from clinical linguistics/speech and language pathology (i.e. phonological representation in the case of profound hearing impairment, visual impairment and motor speech impairments). This omission did not render the book weaker in a critical way, but reviewing this literature would have exposed a broader context in which the source and substance of phonological structure could have been discussed.

As a result of reading this book my understanding of the nature of phonological representations has been challenged, my interest in articulatory phonetics has been aroused and my preference towards an emergent view of language has been strengthened. I predict that colleagues who hold a wholly different view of language are not likely to be convinced by Bybee's arguments, but those who can adopt a functionalist perspective (however fleeting) will find it refreshing and enlightening. Perhaps with this book more than most, your approach to it will determine your learning outcome from it. I look forward to returning to *Phonology and Language Use* often for clarification, explanation and inspiration.

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This book provides a succinct but detailed description of the processes which take place in spoken English and which serve to merge individual sounds into the continuous stream of speech that actually occurs.

After a brief theoretical introduction, there are three main chapters, covering in turn: processes such as assimilation and deletion that are found in conversational English; the ways that various phonological models attempt to represent these processes; and the contributions of experimental studies to our knowledge and understanding of what actually happens in connected speech. Finally there is a short chapter discussing the implications for fields such as first and second language acquisition and speech recognition.

The chapter that introduces the processes describes and illustrates phenomena such as schwa absorption by a neighbouring consonant, plosives being weakened into fricatives, tapping of [t], glottalling of final [t], voicing and devoicing of consonants, [ð] reduction by assimilation to a neighbouring consonant, [h] dropping, and palatalization, as well as the conditioning factors that affect the incidence of these processes. It may be noticed that nearly all of the processes involve consonants, and there is very little discussion of influences on the pronunciation of vowels. This may be partly because consonantal processes are relatively discrete and so lend themselves better to phonetic description than the more gradual nature of influences on vowels, but the lack of discussion of vowels is still perhaps a little surprising.

The coverage of these processes is both authoritative and concise, so researchers working on the description of spoken language will find it exceptionally valuable. Shockey mentions in the preface that the book is not intended for beginners, so those with little background in phonetics may find it rather too terse, as there is little attempt to provide an explanation of some non-basic phonetic concepts. For example: when it is stated that a final velarized [l] results in the lowering of the higher formants (p. 47), it is assumed that readers will already know what a formant is and why formants might be lowered under some circumstances; and the notion of the mora is invoked to account for the long consonant at the start of *the door* pronounced as [dːɔɹ] in northern England (p. 26) with no further elaboration. While this brevity would constitute a barrier for novice readers, the detailed information that is densely packed into this quite short text will be appreciated by many phoneticians, who will find it an exceptionally useful summary of the processes that affect conversational speech and the contexts under which they are most likely to occur.

All the processes are illustrated with plenty of examples, from the careful transcriptions of a range of accents of English reported by others, especially Lodge (1984), and also from Shockey's own research on many varieties of English (with lots of additional downloadable examples available from the website mentioned on the back cover). One problem in comparing data from various sources is that it is hard to tell if some of the contrasts that are shown arise because of the different transcribers or represent genuine variation in the speech. For example, from Shockey's own research on American English, we find *a new* transcribed as [n̩ˈu] (p. 23), and on the same page for the Norwich accent reported by Lodge (1984) we find *another* pronounced as [n̩ˈnʌðə], but it is hard to be certain if the extra [n] represents a real contrast at the start of the two pronunciations or if it just arises out of the conventions of the two transcribers. Unfortunately, this problem is exacerbated by some errors in the phonetic script. For a speaker from Peasmarsh in the south of England *policemen* is shown as [pʰɬsmən] (p. 26), but Lodge (1984: 66) actually transcribes this as [pʰɬɹismən], and *bottom* is shown with [a] in the first syllable (pp. 23, 30), but in fact Lodge (1984: 66, 70) transcribes this word with [ɑ] or with [ɒ] but never with [a]. And finally for speech from East London discussed by Wells (1982), the pronunciation of *forgot* is given as [fɡɑʔ] (p. 25), but Wells (1982: 321) in fact shows the vowel in the word as [ɒ]. However, although these flaws in the phonetic script are a pity, they do not seriously undermine the presentation, and anyone not afflicted with a reviewer's pedantically critical eye will probably not be too bothered by them, as the plentiful examples do provide effective and appropriate illustrations for all the processes that are described.

The chapter on phonological explanation compares how connected speech processes are handled in various models such as Generative Phonology, Natural Phonology, Autosegmental Phonology, Firthian Prosodics, Optimality Theory and Trace/Event Theory. As the ability to describe the incidence of such processes must surely be crucial to the success of any model, this chapter in effect provides a brief but thoughtful potted history of phonology. Consistent with the tone of the rest of the book, anybody with no background in the field will probably find some of the material a little tough, as for example there are no examples to demonstrate the application of rules in Generative Phonology, and the grid modified slightly from standard Optimality Theory to illustrate how this model can deal with the alternative

pronunciation of *seven times*, *butter* and *cat* in different British accents (p. 65) is likely to be incomprehensible to anyone not already familiar with such grids. However, for those who do have basic knowledge in these areas, the chapter provides an admirable overview of the advantages and disadvantages of the various approaches.

Much of the chapter on experimental research focuses on the contribution of electropalatogram (EPG) data, and in contrast there is just a single page on the use of spectrography with no example spectrograms shown. This is a little surprising as Shockey herself reports that use of spectrograms to check phonetic transcription is 'a sobering and enlightening experience' (p. 74). While it is certainly true that EPGs can provide far more detailed data than spectrograms for the comprehensive description of consonantal processes, other research for which the main focus is EPG data has found that spectrograms may be useful for the investigation and illustration of certain points (e.g. Nolan et al. 1996). One might also note that spectrograms can provide valuable data on processes affecting vowels, for which EPGs are not so helpful, but, as mentioned above, vowels are not the main focus of this book.

In contrast to the lack of spectrograms, substantially more space is accorded to the use of EPGs, including one complete example EPG output, and the summary of this research is thoughtful and informative. As before, the coverage is quite brief, so there are no figures that plot any quantitative results, but it does constitute a knowledgeable and valuable overview of experimental research on fast speech processes.

This chapter on research also incorporates discussion of some of Shockey's own experiments that use gated speech samples to investigate the perception of fast speech processes, including the assimilation of a nasal in a sequence such as *screen play* and the deletion of the [t] in *didn't resemble*. Some of this appears to constitute work in progress, and a full evaluation would require rather more details of the experimental conditions. However, certainly the research is both interesting and pertinent to the contents of the book, providing an excellent illustration of the kind of investigation that can contribute to our understanding of fast speech processes, so it does add substantially to the text, even if its inclusion contrasts quite sharply with the succinct presentation of the fruits of other research.

In conclusion, the book is packed with a wealth of detailed information about the pronunciation of consonants in conversational English, and the summary of accumulated knowledge in this area is presented with great authority. The dedication inside the front cover is to 'fellow sound anoraks and to others interested in spoken language', and people who have a reasonable background in phonetics and so can pass muster as 'speech anoraks' will find the book both fascinating and incredibly valuable as an overview of current knowledge about connected speech processes. Moreover they will probably appreciate the brevity of the presentation, as, for them, this may actually serve to enhance the clarity of the text.

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