REVIEWS

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This book provides an extensive overview of practical issues in phonetics and phonology, with special emphasis on the English language. As part of the Routledge English Language Introductions series, the book is a suitable textbook for students taking English language subjects, or any other subjects where an understanding of the sound patterns of English is required. Given its self-contained nature and reader-friendliness, it will interest unaffiliated students too. In this review, I give first a brief description of the book's contents, followed by a critical evaluation.

In accordance with the standard book series layout, the book includes four sections, where the first three introduce and progressively build up key concepts and issues, and the last one provides a choice of readings from scholarly literature. The book contains a thirteen-page glossary with definitions of terms as used in the text, a Further Reading section divided into books, journals and websites, the full IPA chart, a subject index and an audio CD. There is also a companion website, providing a key to the exercises in the book, including transcription exercises.

Section A, 'Introduction', states the purpose of helping native as well as non-native users of English 'learn more about language and English in particular'. Specifically for non-natives, the purpose is also to 'assist in improving pronunciation and listening abilities' (p. 2). The section starts with a concise discussion of varieties of English, to argue for the variety taken as core of the description in the book. This is the NRP (Modern non-regional pronunciation) a 'neutral type of modern English' which 'lacks obvious local accent features' (p. 4) and reflects educated British usage across generations. Collins & Mees (C&M) then give a preliminary survey of the book's topics, introducing descriptive concepts (phoneme, allophone, vowel, consonant) as well as issues in articulatory phonetics and phonetic transcription, including transcription of connected speech.

In section B, 'Development', C&M detail the articulation of consonants and vowels and their phonotactic patterns, and discuss syllabic structure based on intrinsic segment sonority. This section also covers patterns found in connected speech (assimilation, elision, liaison), and physiological and acoustic correlates of suprasegmental features of speech (stress, rhythm, intonation). It includes a very informative overview of uses and meanings of intonation in English.

Section C, 'Exploration', starts with a broad comparison of the two major accents of English, British vs. American, and moves on to detailed exemplification of over twenty different accents of English worldwide. The audio samples of colloquial, spontaneous speech are spoken by natives of each accent and represent the British Isles, the North American continent and the Caribbean, Australia, New Zealand, Africa, India and Singapore. The book gives a script of each sample, together with detailed annotations highlighting segmental and suprasegmental features that uniquely characterise each accent. The next subsections address variation across time instead, with spoken samples from Old English through to the early 19th century, and give an overview of language change in English. The final subsections deal with practical issues in teaching and learning foreign languages. Related material includes a

description of the three most popular European languages studied in Britain, Spanish, French and German, with audio files on their consonant and vowel inventories.

Section D, 'Extension', is a set of nine readings meant to expand on various issues that are left open or broached in passing elsewhere in the book. Excerpts are taken from David Abercrombie on the factors behind the (changing) status of RP; Daniel Jones on prescriptive vs. descriptive attitudes to socially-marked accents; David Crystal on everyman's concerns about pronunciation issues (as reported to the BBC); Dennis Fry on the role of phonetics in the early diagnosis of infant deafness; Peter Ladefoged on 'text to speech' systems and the challenges faced by phoneticians and computer scientists for the production of synthetic speech from written texts; Steven Pinker (mostly) on sound symbolism associated with English-bound vocal tract configurations; Maurice Varney on forensic phonetics and the use of voiceprints in criminal investigations; Barbara Bradford on the features, spread and pragmatic functions of 'upspeak', the use of a rising tone at the end of declarative utterances, among British speakers; and David Crystal on Alan Cruttenden's (1974) finding that children's acquisition of adult intonation patterns is a laborious, lengthy one. Each reading is followed by a section with questions and suggestions that offer food for thought.

A striking characteristic of this book is its user-friendliness. Navigation of technical terminology and of, at times, quite intricate issues like the functions of intonation in English, or the aptly termed 'surprises' of connected speech (p. 101), is facilitated by C&M's clear and engaging style, aided by the liberal use of tables, diagrams and figures that neatly illustrate each point. C&M also regularly cross-refer to previous and coming issues, thus helping systematise observations and conclusions and effectively preparing the reader for what is to come.

But with respect to this sort of overview, I found that smooth navigation of the book would require a fully detailed table of contents rather than the sectional one that is standard in the book series. Cross-references among the major sections in the book, even numbered as they are in the text, give no hint about where to look for the relevant information among the many subsections and subheadings in each section. If this is required by the publisher, it calls for re-thinking.

C&M obviously recollect what it means to be a beginning student of phonetics, struggling with cryptic symbols and terminology. Less straightforward technical terms, all duly defined, are introduced not only with overt indication of their grammatical uses (e.g. noun: basilect, 'adjective: basilectal', p. 3), but also with phonetic transcription (e.g. for the word 'bronchial', p. 25). Instructions for writing phonetic symbols by hand are also included (p. 22). There is recurrent recourse to analogies that facilitate understanding, for example the distinction between phonetics and phonology as providing ingredients vs. a recipe (p. 76), or the tip for identification of rising and falling tones by means of comparison with an engine noise revving up or coming to a halt (p. 118).

User-friendliness is also patent in the Further Reading section, where each bibliographical item is annotated with a brief comment about its topic(s) and its relevance for the present book. My only quibble with C&M's choice of literature in this section concerns their recommendation of Pinker (1994) as a viable introduction to modern linguistics, without the required Sampson (1997) antidote. Material is apportioned along the book in sensible 'bite-size' chunks, consolidated by several practical activities. Importantly, the book provides plenty of opportunities to practise phonetic transcription, from printed excerpts and from audio files. This is a skill the mastery of which cannot be overrated among aspiring as well as practising phoneticians. Listening skills are furthered by the extensive material included in the CD (73 tracks in all), not least by a thrilling set of 'detective work' files, where the listener's task is to identify different accents of English. The quality of the recordings is excellent, including that of speech sampled in natural settings, and the companion website's interface is unproblematic.

I should nevertheless mention a number of typos, and less clear formulations, in case this may help improve a reprint or re-edition of the book. Examples are the statement attributing to

the vocal folds the protective job of the epiglottis on p. 27, where the epiglottis is not mentioned although its index entry refers to this page; a few of the figures, diagrams and/or tables appear to be misplaced for no reason of page-layout convenience, interrupting discussion of issues that either precede or follow the issue that they illustrate, e.g. pp. 42, 47, 96; or the gender of the French word spelt 'intelligent' (p. 105), which is both spelt and transcribed in the masculine form where the feminine is required (the word is *intelligente*, with a stress mark). Other examples are (page numbers on the left, underlining added):

17. It is unclear why 'our' is classified as a pronoun.
23. (point 1 of heading 5), 'In stressed syllables you will generally find /ʌ/ or /ɜː/', when what is meant here is that these two vowels are the stressed homorganic equivalents of unstressed /ə/.
23. (point 5 of heading 5), /d/ is given as fortis.
34. The adjectival form of the Latin noun *labia* is 'labial', not 'bilabial' as given.
44. 'voiceless nasals <u>acting</u> as phonemes'.
55. 'In English, and <u>many</u> other languages, vowels preceding nasals are regularly nasalised', a statement that appears to apply to vowels preceding nasal codas only.
70. 'The opposition between /m/ and /n/ has undergone <u>phoneme</u> neutralisation', where 'phoneme' should be removed, since it is the opposition which undergoes neutralisation.
70. 'the energy and aspiration which characterise <u>the</u> other allophones of /p t k/', where 'the' should be removed, since not all allophones of /p t k/ have these features whenever not following syllable-initial /s/, the issue under discussion.
115. 'demonstratives' are said to be function words that 'frequently receive stress', where this statement applies to demonstrative pronouns, not determiners.
137. It is unclear which vowel the keyword 'LOT' refers to, whether /ɑ/, as given in this page, or /ɒ/ from pp. 13, 134 (perhaps point 7 on p. 138 was meant to come before this point 4?).
215. 'There are <u>literary</u> hundreds of children', for 'literally' (perhaps a typo in Fry's original text?).

A few of the given definitions appear vague, or perfunctory. Two examples are the definition of 'syllable' as 'a unit potentially larger than the phoneme but smaller than the word' (p. 14) – this is not an easy term to define, but perhaps a prosodic definition as a 'beat', or a unit of rhythm, might be more intuitive than the segmental definition that is offered; and the definition of 'stricture' as 'a narrowing of the vocal tract which affects the airstream' (p. 42) appears too similar to the narrowing of the vocal tract in the articulation of close vowels (pp. 57ff.). I also have one suggestion concerning terminology. The word 'nucleus' is used both for the obligatory segment in a syllable (p. 14) and for the 'most prominent of the stressed syllables' in an intonation group (p. 121), with the added warning 'not to confuse' this intonational nucleus with the syllabic one. Where this is avoidable, e.g. by using the equally widespread term 'peak' for the most sonorous segment in a syllable, there is no reason to have the same word do different technical jobs.

C&M do not dwell on linguistic analysis where they consider it unnecessary. For example, they refer to the Further Reading section for details on syllabification theory (p. 77), and the recurrent role played by the 'syllable' in C&M's descriptions relies on an intuitive interpretation of syllable boundaries. In other words, as far as syllables are concerned, analytical problems do not arise because the absence of a stated framework pre-empts their emergence. The same is not true of the proposed analyses for the sounds represented by /j/ and /w/, whose treatment is at best ambiguous, because the analytical framework is left unacknowledged. This framework is mostly conservative, following the terminology and notational conventions of the IPA. This is understandable, in that the book clearly aims at acquainting students not only with phonetics and phonology, but also with one well-established way of approaching the study of linguistic sounds. However, nowhere in the book is the second

aim made explicit. Clarification of this issue makes sense first, on deontological grounds, in that neophytes should routinely be made aware of the choices that are being made for them, and second, on strictly analytical grounds, particularly in a book with the level of detail that this book offers. The /j w/ sounds are labelled 'approximants' (*passim*), and variously treated as either English sounds in themselves or as secondary articulations imposed on other sounds and as either vowels or consonants. Examples are (page numbers on the left):

87. 'Clear *l* occurs . . . before /j/, as in *value*', where /j/ is treated as an independent sound.
54. Words like *dune*, *new*, *beautiful*, *putrid*, are said to 'involve palatalised consonants' transcribed [dʲ nʲ bʲ pʲ], where /j/ is a secondary articulation (though not in the word *news*, p. 98).
92. The point about secondary articulations is repeated: 'Before /j/ and /ɪə/, the nasals /m n/ are strongly palatalised, e.g. *mute*, *near* [mʲuːt nʲɪə]', where the first transcribed word includes no /j/ and the second preserves the close front vowel of the diphthong. And, immediately after: 'Consonants preceding /w/ are strongly labialised, e.g. *switch* [sʷwɪtʃ], *language* ['læŋgʷwɪdʒ]', where /w/ is preserved in both transcriptions.
77. C&M simply note that it 'is usual' to provide a consonant grid like the one given on p. 78. This the standard IPA consonant chart, which therefore includes /j w/.
89–90. Both /j/ and /w/ are described as brief vowel glides, and represented in a vowel quadrilateral.
241. The glossary cross-refers the definition of 'glide' to the 'diphthong' entry, where the term 'vowel glide' is found as a synonym of 'diphthong', referring to its 'change in tongue and/or lip shape' (p. 241). The same definition of 'glide' appears on p. 64.
47. A hint for non-native learners of English whose languages lack /j w/ is that 'English /j/ and /w/ are like very short vowels – similar to brief versions of /iː/ and /uː/'. C&M note that both sounds were once labelled 'semi-vowels'. On p. 65, the duration of vowels, combined with differences in vowel quality, is said to characterise e.g. English /ɪ/ as opposed to /iː/. There is no explanation of how /ɪ/ and /j/ can both count as short versions of /iː/.

I am not of course suggesting that C&M should have offered a solution for the perennially ambiguous status of /j w/ in a strict IPA framework (see Martínez-Celdrán (2004) for recent discussion). But for the beginner, unaware that the double standards in analyses of these sounds are a matter of assumptions and notation rather than phonetics, a brief mention of why the confusion arises would be reassuring.

These problems do not detract from the scholarship evident in the book or the impressive amount and variety of material that it covers. C&M focus, as they promise, on those issues 'that most people seem to find interesting' (p. v) and motivate readers to find out more on their own. The readings in section D afford plenty of suggestions for self-study, ranging from timeless delicate issues like the stigmatisation of individuals because of their accents to current technological advances in speech synthesis, all backed up by references in the Further Readings. I have two comments on the selection of these readings. The clear relevance of Fry's 'Phonetics applied to teaching the deaf' calls for the inclusion of more on the role of phonetics in speech pathology and therapy, beyond deafness. The choice of Pinker is questionable, as his command of phonetics is not impressive. Speaking for my own research interests, I was very pleased to find intonation and the suprasegmentals of speech dealt with in detail, including discussion of articulatory settings (pp. 55f.). The topic is often left out of textbook accounts of phonetics, despite the central role played by adequate setting in fluent articulation of any language. Its inclusion in a book that (also) targets learners of English as a foreign language is therefore all the more welcome.

Among academic language subjects, phonetics and phonology top the list of those that are shunned by undergraduates beyond compulsory basic introductions, at least in my experience. This is probably true of the broader public as well. C&M's refreshing and entertaining approach to the two disciplines will certainly contribute to changing this state of affairs.

References

CRUTTENDEN, A. (1974). An experiment involving comprehension of intonation in children from 7 to 10. *Journal of Child Language* **1**, 221–231.

MARTÍNEZ-CELDRÁN, E. (2004). Problems in the classification of approximants. *Journal of the International Phonetic Association* **34**(2), 201–210.

PINKER, S. (1994). *The Language Instinct: How the Mind Creates Language*. Harmondsworth: Penguin.

SAMPSON, G. R. (1997). *Educating Eve: The 'Language Instinct' Debate*. London: Cassell. [Revised and enlarged edition: SAMPSON, G. R. (2005). *The 'Language Instinct' Debate*. London & New York: Continuum.]

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Although CD-ROMs for teaching English pronunciation have recently appeared, there are not many which address a fundamental issue: making teachers aware of what is important to teach. Fraser's CD-ROM *Teaching Pronunciation* fills this gap. Aimed specifically at native English speaking teachers, it is not a traditional course in English phonetics and phonology, but rather 'offers experiences to give [teachers] insight into the problems learners face with English pronunciation' (initial page). It is divided into seven modules, which guide the teacher through various concepts intended to help them understand how patterns in languages differ, and what problems learners are likely to encounter when trying to pronounce English.

The guide starts with a module on teaching pronunciation using the communicative approach. Four questions are addressed here: What is pronunciation? Why is pronunciation important? Why is it often considered difficult to teach? What does it mean to teach pronunciation communicatively? In answering each, Fraser helps the teacher to understand that pronunciation includes all a learner needs to do to be clearly intelligible when speaking English, not just the pronunciation of individual sounds; that learning pronunciation is more a cognitive issue than one of physiology, i.e., not so much about articulation of sounds as teachers might think; and that one needs to be able to make good used of metalinguistic communication in order to communicate to a learner what is needed, and fit the metalanguage to the context. She presents the four teaching principles of the communicative method: practice meaningful speech; work on important things first; help learners think of speech as communication; and use effective metalinguistic communication.

At each stage, the user is able to listen to recordings, or record him/herself, in order to carry out various tasks. This is not an unusual feature on CD-ROMs, but is no less useful. In module two, for example, the teacher is given an exercise to do in English which involves repeating a phrase, and then a similar one in a language unlikely to be known (Nama, spoken in Papua New Guinea), to demonstrate that it is much easier to remember and analyse speech in one's own language than in a completely unknown one. This may sound like common sense,

but the exercise is cleverly executed, encouraging teachers to really listen and understand that languages work differently in what is perceived to be salient in a stream of speech, and that familiarity with a language helps one to interpret it. Coming from a language background different from that of a native English speaker will mean a learner interprets sounds differently, and this exercise helps teacher to appreciate that fact.

The next module uses colour as an analogy to phonology. Using colour charts, it is demonstrated that different cultures view colour in different ways; what most native English speakers will think of as blue and green are one colour for speakers of the African language Ejaghham, for example. The main point is that not all languages have the same number of colour categories, and even two or more languages with the same number of colour categories can divide them differently. (For example, both English and Japanese have words for blue and green, but to a Japanese the traffic light is displaying blue when cars are permitted to go, even though it is the same colour as the one commonly viewed by English speakers.) The idea of colour categories is presented in a manner which is easy to understand, and leads on to module four, in which the teacher's notion of the phoneme is challenged. Through a selection of phrases and words accompanied by waveform images, Fraser guides the teacher to the understanding that, much like colours, phonemes are categories we impose on speech once we have heard and understood it – cognitive percepts – and that words are not collections of static phonemes. In order to impose these categories, Fraser tells the user, we have to be familiar with the way a language works.

Module five starts by pointing out that people focus on words rather than sounds in listening and speaking, and that people notice what is significant or meaningful in their language, and ignore other information. Fraser uses a demo in which a minimal set with initial /b/ and final /t/ (*bat*, *bought*, *bit*, etc.), with one instance of *back*, are compared with productions of the word *bat* with various allophones of /t/ in final position. This is used to demonstrate that some sounds are meaningful in languages, and others are just variants of the same sound – meaning does not change. Fraser brings us to her most important points: firstly, that being able to distinguish sounds in languages is not a physical difference, but just a matter of what one is used to doing when paying attention for meaning: 'the moral of the story is: we don't notice differences that are not significant clues to words in our language' (module 5 page 9). This leads on to the second point: 'What matters in pronunciation is how the person categorises the sounds they are producing' (module 5 page 10). This is the most important point Fraser wishes to make and, as she has done the groundwork, it will not be lost on teachers.

Module five then moves on to talking about effective metalinguistic communication, i.e., how to explain effectively to a learner what is going on when they produce sounds. To show how this works for English speakers learning foreign languages, Fraser gives the teacher a number of 'tricks' as examples, together with the reasons why they work, such as spelling the Japanese food *sushi* with an *sh* in English, which would be nonsensical to a Japanese, who thinks he/she is simply producing a Japanese /s/ in both syllables. However, Fraser points out, useful as these tricks are, ultimately it is necessary to help someone pay attention in general to sound patterns.

The next job is, then, to help teachers understand how this information can be used in teaching. Fraser lists again the four principles of the communicative method of language teaching, and takes the teacher through each of them. I will focus on how she treats the second and fourth principles here.

The second principle, 'work on important things first', is approached by telling teachers what the important clues in English pronunciation are. Stating that research has shown 'clues to larger units of language are more important', she lists eight clues in the following order (module 6 page 7): general communication skills; sentence stress; word stress; vowel length; other vowel differences; consonant distinctions like 's' and 'sh', 'f' and 'p'; other consonant distinctions like 'r' and 'l', 'th' and 't', etc.; schwa. Fraser goes on to say that, of course, teachers can choose to correct items at any level of this list, but that work on sentence stress

need not involve work on sounds. I will admit that I find the two sets of consonant distinctions rather baffling, and would like more information as to why they are divided as they are. This brings me to the fourth principle, 'use effective metalinguistic communication'. Fraser points out that learners may think they are imitating English pronunciation correctly, but are in fact failing to categorise sounds in an English way, and therefore making mistakes because they are not hearing things in an English way (module 6 page 11). What this means is that teachers need to find a way of effectively communicating information to learners about what is important in English. Fraser suggests keeping 'technical linguistic knowledge in the background' (module 6 page 13). Showing learners as well as telling them is important, she says (module 6 page 15), and asking them to describe the pronunciation of an utterance will help you to understand how they are hearing it (module 6 page 16). Towards the end of this module, Fraser emphasises the importance of listening in pronunciation work, chunking (i.e., speaking an utterance in meaningful units), and helping learners with poor rhythm or a tendency to add or delete sounds. Something Fraser does not advocate in teaching is technical descriptions of how sounds are made. This is a point with which I fully agree; without the necessary background knowledge, technical descriptions can be baffling for learners.

The CD-ROM materials end with a module using examples of real learners' speech to demonstrate problems and discuss how to help learners. Audio and video recordings are used. Teachers are asked to type the nature of the problem into a space on the page, and then Fraser's comments and suggestions follow. The teacher's own comments remain so that he/she can review them having read what Fraser has to say. There is a clear focus on working on items which are important for meaning, and work on phrases rather than on individual sounds. On some occasions Fraser comments that the speaker in a given example needs no work unless he/she wishes to 'lose their accent' (see module 7 page 7); this is important, as pronunciation should be about speaking clearly, and not necessarily about having an accent identical to that of a native speaker. The communicative, task-based nature of the language used in some of the video tasks is obvious, with one learner giving instructions on how to operate a drinks vending machine, for example.

This is a very easy programme to use and navigate around. I do have one criticism, which is that I occasionally pressed the 'menu' button by mistake and then had to go back through all the slides until I reached the one I had been on. When there are so many pages, a button on the menu returning you to the page you were previously looking at, or a page at the start which offered a selection of pages, would be a good idea. This is insignificant compared to the benefit I believe this CD-ROM will bring to teachers of English. Descriptions are clear, examples are informative, graphics are attractive, and the materials deal with the tricky business of phoneme theory without one even realising it has taken place. Fraser's work presents concepts in an unthreatening manner, which will, in my opinion, raise teachers' awareness of issues in this often neglected area of English language teaching, and help them to be better teachers through having used it.

Teaching Pronunciation often refers to a sister disk for learners, *Learn to Speak Clearly in English* (*LTSCIE*). This latter disk also focuses on communication, telling the user in no uncertain terms in a recorded message on programme start-up that communication will be discussed before looking at pronunciation. Again, it is not a course in phonology, but identifies key areas for work, all of which focus on making messages clear. This is achieved without resorting to technical descriptions.

LTSCIE has four sections: communication; sentence stress; pronouncing words; and critical listening. In the first, the learner is invited to think about what is important in communicating: thinking about the hearer and what he/she needs to understand your message, and making sure important clues are sent to the hearer when you are speaking. There are a series of questions and tasks leading to this, and the user is gently reprimanded if he/she attempts to skip a task. The learner is then guided through work on sentence stress, showing how content words need to be clearer than function words in English. There are some exercises in tonicity, with samples from learners.

Claiming that correct use of sentence stress 'makes it much easier for English hearers to understand you' (section 2 page1), the second section starts with listening exercises to help the learner hear sentence stress as used by native speakers. The learner is first asked to think about which words are important in the sentence, and think about how he/she would say the sentence. Then, the learner can click on each sentence to hear it spoken by a native speaker, the stressed words turning red as the speaker reaches them. In the next exercise, learners are invited to click on the important words, and receive feedback on whether the word they chose is important or not. The user then gets the chance to listen to learners producing sentences, and judge whether they stressed the correct words. Finally, there is a sentence to read, with the stressed words marked in red, and a native speaker to listen to and imitate. Learners are encouraged to make stressed words louder in these exercises; pitch and length differences are not practiced. As some successful materials choose to work on the importance of syllable length in stress and rhythm (see e.g. Gilbert 1984, Chela-Flores 1998), one asks why loudness was singled out as the parameter on which to focus.

Section three looks at what Fraser calls 'clues to words' (section 3 page 1), and starts by looking at syllable patterns in English. By this, Fraser means the patterns of stresses within a polysyllabic word, not syllable structure and phonotactics. Fraser tells the learner that 'syllable pattern is an extremely important clue' (section 3 page 3), and that the learner must put the stress on the correct syllable and have the right number of unstressed syllables. Again, this is done by attention to loudness, with unstressed syllables described as being produced 'more quietly' (section 3 page 3), and moves on to an exercise in which the learner can listen to a native speaker and then record him/herself to see if the pattern matches. Learners are told to learn the rhythm of a word when they first come across it, or to use a dictionary when they are unsure of the main stress.

The section then moves on to sounds. Learners are given three essential facts: length is important in pronouncing English vowels (section 3 page 10); consonants at the ends of words should be attended to (section 3 page 11); and adding extra vowels can add extra syllables, which makes the word difficult to understand (section 3 page 12). The learner is then moved on to the final section on critical listening. Using the sequence 1. play learner – 2. play native speaker – 3. record yourself – 4. listen to yourself, the user is invited to think about how he/she would say a phrase, to comment on a learner's production of it, and then to compare his/her own version to that of a native speaker. This is about as interactive as CD-ROMs can be, and in fact uses the same learner sound files as are used in *Teaching Pronunciation* without the video files.

The approach used in these CD-ROMs is straightforward, with easy instructions and clear graphics. Both programmes work on essential features of English pronunciation without using technical jargon, and in my opinion will bring the target groups to a better understanding of what is important in order to communicate clearly in English. Teachers and learners alike rarely get the opportunity to listen to themselves speaking, an activity which can be a real eye-opener or, in this case, an ear-opener. Other pronunciation CD-ROMs do offer this capability, and to me this is one of the great advantages of this format.

I particularly applaud *Teaching Pronunciation*, which is innovative, interesting and clever in its approach, and desperately needed, as materials aimed at teachers which make sense about pronunciation without being too technical are few and far between. *LTSCIE*, while attractive, and using its interactive capabilities superbly, could go much further, in my opinion. For example, the issue of sounds is glossed over at the end of section three; surely it would be possible to give interactive exercises specifically about the highly salient points selected for mention before moving on to the exercises in section four, which involve listening to a speaker other than oneself. Also, it is not clear whether 'vowel length' refers to the long/short vowel distinction, or to the length of a vowel before voiced/voiceless consonants. Both clearly need to be covered. However, as the focus is on getting learners to understand what is essential in communication, *LTSCIE* is certainly a good place for a learner to start, and will most definitely make any learner more intelligible if its aims are met.

References

CHELA-FLORES, B. (1998). *Teaching English Rhythm: From Theory to Practice.* Caracas, Venezuela: Fondos Editorial Tropykos.

GILBERT, J. (1984). *Clear Speech: Pronunciation and Listening Comprehension in North American English.* Cambridge: Cambridge University Press.

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This book in honour of John Laver contains fifteen papers in four separate sections that mirror much of his work from a long and illustrious career in phonetics. The three papers in the first section discuss evidence from instrumental research and how it affects our understanding of phonetic representation. In section two, the three papers deal with cognitive aspects of phonetic processing. Section three is the longest, with five papers that report on the sounds in various languages around the world, particularly how they are affected by social context. And the four papers in the final section deal with the topic that is perhaps most closely associated with John Laver, voice quality.

In the first paper, Peter Ladefoged considers whether the underlying targets for consonants, vowels and stress should be represented in articulatory, auditory or acoustic terms, and he concludes that no one kind of representation is appropriate for all types of phonological unit. While consonants may be represented well in terms of articulatory gestures, vowels seem to exhibit considerable variation in the articulation of different speakers, which suggests that vowels are better modeled by auditory targets, and a combination of different acoustic parameters seems to capture stress patterns best.

Next, John Ohala argues that although phonetic models may be necessary to explain some speech phenomena, such as epenthesis of [p] in the [mθ] sequence and the labial or velar nature of [w], they cannot represent all of our knowledge, because speakers do not know physics, and he concludes that there should be no requirement of phonetic naturalness for phonological grammars.

The final paper in section one, by W. J. Hardcastle & F. Gibbon, provides an overview of electropalatography (EPG) as a tool for research and for clinical assessment and therapy. Examples of EPG output are given to illustrate the articulation by normal speakers of the nasal in *ban cuts*, and it is reported that of ten speakers, two never assimilated the [n], four exhibited complete assimilation and produced [ŋ] with no residual alveolar gesture, and the remaining four exhibited substantial variation in their behaviour. Further illustrative EPG outputs are provided to demonstrate its use as a diagnostic clinical tool, for example how it can reveal that a [t] and a [k] produced by a patient with a cleft palate may differ even when they sound the same.

The second section includes three papers on how the brain processes sounds. In the first, Anne Cutler & Mirjam Broersma report on priming and reaction time experiments with English and Dutch subjects which show that a phonetic category boundary such as that

between /s/ and /f/ can be shifted by the exposure to just twenty tokens. In addition they report that the absence of a contrast between /ɛ/ and /æ/ in Dutch means that the imaginary word *chass* primes *chess* for Dutch listeners but not for English listeners.

The next paper, by Helen Fraser, considers the representation of speech from the perspective of phenomenology, showing that it is essential always to consider the needs of the user when selecting a suitable representation. Fraser argues that phoneme-based transcription, especially using the IPA, is not the most appropriate means of representing speech for some purposes.

In the last paper in section two, Peter MacNeilage & Barbara Davis argue that Frame and Content Theory, with syllables as the frame and consonants and vowels as the content, provides a suitable model for explaining the evolution of speech production and also the rhythmic speech output of many severely brain-damaged patients.

The five papers in section three report on the effects of social context on the sounds of various languages. In the first, R. E. Asher and E. L. Keane compare /ai/ in formal and colloquial Tamil, particularly the suggestion that this vowel is a monophthong in the colloquial variety. However, the data from only one of their three speakers confirm this claim, and they conclude that it was not possible to elicit true colloquial Tamil from the other two speakers, as the inherently formal nature of making recordings tends to be incompatible with the production of the colloquial variety of the language.

The second paper in section three, by Gerry J. Docherty & Paul Foulkes, investigates glottal variants of /t/ in Tyneside English and concludes that canonical glottal stops with a period of complete silence are very rare, but that a voiced or partially voiced sound with no sustained occlusion is most common, especially among young working-class speakers. Furthermore, there is often evidence of F2 transitions, suggesting there is a residual gesture for an alveolar consonant.

In the third paper, Janet Fletcher studies the distribution of vowels in three Australian indigenous languages, Mayali, Dalabon and Kayardild, all of which are characterised by a small number of vowels, and she concludes that the vowels exhibit sufficient contrast rather than maximal dispersion, and that their vowel spaces are anchored around the open [a] vowel. In addition, she investigates the use of prosodic cues to signal reported speech in two of the languages, and she reports that pitch range is greater and pitch is generally higher for reported speech, especially when the quotative marker does not occur.

The paper by Jonathan Harrington, Sallyanne Palethorpe & Catherine Watson builds on their earlier work which compared the formants of the vowels in the Queen's Christmas broadcasts in the 1950s and 1980s. This time, they measured the four diphthongs, /eɪ/, /aɪ/, /oʊ/ and /aʊ/, and they report that by the 1980s the Queen was making a greater distinction between the two front diphthongs and also between the two back ones than she did thirty years earlier, and this confirms their earlier findings that the Queen is now making wider use of her vowel space than in the past. However, it is still true that she makes a smaller distinction between /aɪ/ and /aʊ/ than most speakers of Standard Southern British, which confirms the caricature of her pronunciation of *house* as 'hice'.

And finally in section three, John Local investigates collaborative completions and reports that when one speaker tries to finish the utterance begun by another, the completion tends to be quieter, faster, and on a similar pitch but with less pitch range than the speech that is being completed.

In the first of the four papers on voice quality, Janet Mackenzie Beck gives an overview of how Voice Profile Analysis (VPA) can provide a way of characterizing the voices of individuals, not just their phonation but all aspects of speech that are subject to long-term settings, and she reports on the ways it can contribute to such things as interaction analysis and clinical applications.

The second paper in section four, by Ailbhe Ní Chasaide & Christer Gobl, reports on how manipulation of various acoustic parameters can affect the perceived attributes of speech, for example making it sound stressed, angry, hostile or happy. In particular, they consider the

tense-lax dimension of voice quality, and they find that it is gradient rather than categorical, and they further report that manipulating fundamental frequency in isolation with no adjustment to other acoustic parameters yields small shifts for the affects investigated.

In the third chapter on voice quality, John Esling & Jimmy Harris provide an overview of states of the glottis in phonation, using laryngoscope photographs to provide one clear picture to illustrate each of the settings, such as modal voice, falsetto, whisper, breathy voice, creaky voice and harsh voice.

And in the final chapter of the book, Francis Nolan discusses why forensic speaker identification has not made greater use of Laver's framework for the description of voice quality, considering potential reasons such as lack of expertise, lack of time, and poor quality recordings. He concludes that it cannot simply be because of lack of knowledge, for despite his own familiarity with the framework, he himself has not made much use of it in the thirty cases he has dealt with, so a more important factor is likely to be the poor quality of many of the recordings that have to be used, especially those derived from the telephone.

Overall, this book represents a rich tapestry of papers with a wide range of goals and styles produced by eminent scholars from around the world. While a few of the papers report on rather small-scale studies, most of them offer valuable insights that not only enrich our knowledge of the pronunciation of various languages but also contribute to our overall understanding of phonetics. For example, in the paper by Asher & Keane, one might question whether three speakers is enough to draw reliable conclusions about the nature of diphthongs in Tamil, but in fact not only does the paper raise interesting issues about the problems of obtaining good-quality recordings of genuine colloquial speech, it also provides valuable evidence about what happens to diphthongs under different conditions, suggesting that for polysyllabic words the middle part of a monosyllabic /ai/ is retained, but in those cases where a diphthongal /ai/ is found in colloquial speech, it is the initial rather than the middle section of the formal version of the vowel that occurs.

The paper which is based on data from the fewest subjects is of course that by Harrington et al., with their analysis of the speech of just one person, the Queen. While some might question the wisdom of investigating a single speaker in such depth, especially someone with such idiosyncratic speech habits, the analysis does provide fascinating evidence about how the pronunciation of one very well-known person can vary over time and it also clearly shows that public figures do not always speak the most clearly or offer the most appropriate model for learners around the world.

The study of the Queen's speech uses public broadcasts, but it is not clear how easily available these recordings are for others to use. In fact, it is a little unfortunate that most of the papers in this book make almost no use of data from publicly-available corpora, and furthermore that none of the data is made available for us to listen to, perhaps on a CD-ROM or a dedicated website, to enrich our appreciation of the findings and to allow us build on the results that are reported. While the study by Docherty & Foulkes of glottal variants of /t/ in Tyneside is based on the meticulous measurement and detailed analysis of a substantial corpus of data, and the study by Local of collaborative completions provides interesting and valuable results from 180 instances of such completions extracted from 18 hours of recorded interactions, it appears that neither of these corpora are available to other researchers. Finally, while Fletcher is to be commended for her careful and interesting work on the vowels and intonation of indigenous languages of Australia (and in fact hers is the only paper in the book that provides analysis of endangered languages), making the data publicly available would seem to provide an even more valuable resource in helping to ensure that these languages are not irretrievably lost.

Of course, we have to accept that making data available to others is not always an option. For example, it may be that Fletcher's speakers of indigenous Australian languages would not agree to their conversational recordings becoming part of a widely distributed corpus, and this certainly should not interfere with the valuable descriptive work she has done on the recordings. Furthermore it is hardly surprising if the data cannot be made available from

some studies, such as Nolan's thoughtful and interesting introspection of methods adopted in forensic cases of speaker identification. However, there are plenty of speech corpora available today which are appropriate for many kinds of study, and one hopes for example that Local's detailed and insightful study of collaborative completions might be extended to instances where the data are publicly available, so that we can get the chance to listen to the examples and build on his findings.

In experimental work which involves the reactions of subjects to speech samples, the key is not so much to make the data available but instead to ensure the results are presented comprehensively and are thus replicable, and Cutler & Broersma do an excellent job in presenting their results for the bilingual perception of vowels and fricatives in a concise but clear fashion. But while Ní Chasaide & Gobl provide an interesting summary of some detailed work on the affective reactions of listeners to various acoustic manipulations of speech, to gain a proper understanding of this work one would really need to access the 'fuller account' (p. 327) published elsewhere. For example we are told to consult the text for a definition of 'RK' (p. 330), but this definition is never actually given. (Perhaps RK is really one of the LF parameters listed on page 332 as 'EE, RA, RG, and RG'?)

Three of the papers provide valuable overviews of techniques that are adopted in phonetic investigation. Hardcastle & Gibbon present clear examples accompanied by detailed computer printouts of how EPGs can be used in research and clinical assessment, and they also give some interesting data showing how speakers vary in their patterns of assimilation. Similarly, Mackenzie Beck offers a thorough overview of the use of the VPA scheme for different kinds of investigation, though the exact details of how a 'neutral voice' is determined are never quite explained, in particular how the scheme can overcome the problems of identifying a 'normal' voice that she indicates is a shortcoming of other voice profiling systems (p. 311). And Esling & Harris provide exceptionally clear photographic evidence to illustrate the states of the glottis for various kinds of phonation, though many readers may struggle a little to understand statements such as 'The vestibule is delineated anteriorly by the epiglottis, posteriorly by the apices of the arytenoid cartilages, and laterally by the aryepiglottic folds' (p. 358). A diagram or two showing the physiology of the laryngeal region of the throat might have been valuable at this point.

Finally, there are four papers which present little in the way of new speech data but offer important insights into theoretical issues. The concise but carefully-argued contribution by Ladefoged provides exceptionally clear evidence to show that articulatory targets may not be appropriate for all kinds of speech units, providing a useful antidote to the claim by some scholars that all of speech can be modeled effectively in terms of articulatory gestures. The paper by MacNeilage & Davis presents a cogent case for syllabic frames and segmental content forming the underlying structure of speech, and it also collates interesting evidence from a range of previous studies to show how Frame and Content Theory can allow a representation of the basic rhythmic output of severely brain-damaged patients. However, the other two theoretical papers seem to be missing something. While Ohala raises some important questions about the requirement for phonetic explanations in representing sound patterns, he states (p. 34) that full coverage would require more space than he is allocated, which is a bit mysterious as his is actually one of the shortest papers in the book (16 pages, compared with the average of 26 pages). And even though Fraser's paper is one of the longest (35 pages), while she makes an eloquent case against the use of the IPA for all purposes, she never really indicates what a suitable phonetic representation for use in dictionaries or in second language teaching should look like, especially as she argues that use of ordinary spelling as exemplified by 'Oxford diacritics' is not suitable (p. 107).

Overall, the book contains a rich mixture of practical and theoretical papers which add to our knowledge of a range of languages, demonstrate the use of various research techniques, and enhance our understanding of theoretical issues in phonetics. One imagines that John Laver will be rather pleased with this book prepared in his honour.