THE LEXICAL AND METRICAL PHONOLOGY OF ENGLISH

This is the first full-scale discussion of English phonology since Chomsky and Halle's seminal *The Sound Pattern of English (SPE)*. The book emphasizes the analysis using ordered rules and builds on *SPE* by incorporating lexical, metrical, and prosodic analysis and the insights afforded by Lexical Phonology. It provides clear explanations and logical development throughout, introducing rules individually and then illustrating their interactions. These features make this influential theory accessible to students from a variety of backgrounds in linguistics and phonology. Rule-ordering diagrams summarize the crucial ordering of approximately eighty-five rules. Many of the interactions result in phonological opacity, where the output either does not provide evidence of the effect of the rule or does not contain the necessary conditions for its application. This demonstrates the superiority of a rule-based account over output-oriented approaches such as Optimality Theory or pre-Generative structuralist phonology.

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THE LEXICAL AND METRICAL PHONOLOGY OF ENGLISH

The Legacy of *The Sound Pattern of English*

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Preface

My goal in this book is to give an internally consistent, coherent, and complete analysis of the phonology (and morphology) of English as developed in *The Sound Pattern of English* (Chomsky & Halle 1968; *SPE*) and subsequent modifications using metrical, prosodic, and lexical approaches. It will be instructive for students in terms of theoretical argumentation and the application of a well-worked-out model for the detailed analysis of a single language, while introducing theoretical issues to explore. The book is intended for students who have had at least one previous introductory course in general phonology, or indeed for anyone interested in this subject. The concept of the prosodic hierarchy lends an overall unity to the work and in addition suggests some revisions to certain assumptions about syllable structure and stress that have been made in the literature. In the main, I follow the major authors on the various proposals, while adding my own interpretation or changes where I find it necessary. For example, I largely follow Hayes (1982) on stress, including his use of metrical trees, rejecting his later (Hayes 1995) use of metrical grids, for reasons which I believe I have amply justified. The use of trees allows the stress system to fit better into the prosodic hierarchy, thus keeping the approach internally consistent. There are empirical arguments also, in that trees give more accurate results for the Rhythm Rule. As another example, I include the onset in the first mora of the syllable, even though most authors attach the onset directly to the syllable node, without explicit justification. This again fits better with the prosodic hierarchy, since it avoids a gratuitous violation of the strict layer hypothesis. It is important for students to understand the nature of linguistic argumentation, and how certain commonly accepted ideas may be wrong or inadequate.

Other Approaches

There are several book-length works dealing with the phonology of English and its relation to theoretical issues, each in its way an important

contribution. None seeks to attain the scope of coverage of the present work. Giegerich (1992) focuses on a phonemic study of three 'reference accents': Southern British Received Pronunciation, General American, and Standard Scottish English. He includes some discussion of syllabification, stress, and several theoretical issues that go beyond phonemic theory. John Harris (1994) discusses a number of phenomena within a principles-and-parameters approach, but regards such phenomena as velar softening, vowel shift, and spirantization as outside the scope of this approach. He concentrates on phenomena where there is dialect variation, while I am primarily concerned with things that are common across dialects. Hammond (1999) discusses certain aspects of English phonology from the perspective of Optimality Theory. Due to the limitations of this theory, his discussion is limited to "distributional regularities in monomorphemic English words" (vii). Thus he has nothing to say about alternations or rules such as Spirantization, Palatalization, Vowel Shift, or Trisyllabic Laxing. Although he discusses stress, he does not discuss stress alternations such as the Rhythm Rule. Burzio (1994) discusses English stress, but with only limited discussion of the interaction of stress with segmental rules. He makes a number of theoretical assumptions that are quite different from most other discussions of this topic. For example, he denies that the final syllable of words like *satire* is stressed, claiming that there is no evidence for stress in this position (1994: 3). But, if we consider the interaction of stress with segmental rules, there is indeed such evidence, since the /t/ of *satire* is aspirated, indicating that it is initial in a foot, and the underlying /i/ in the final syllable undergoes Vowel Shift, indicating that it is stressed. Conversely, Halle and Mohanan (1985) offer a discussion of the major segmental processes of English, but have only a single undifferentiated category of 'stress rules' in their list of ordered rules. This is yet another indication of the need to view the whole picture and not to examine partial subsystems in isolation. In short, due to various limitations, none of these discussions is able to integrate a large variety of data and theory into a unified whole.

Rationale

This work constitutes a significantly updated version of my earlier *English Phonology* (Jensen 1993). The overall organization of the first seven chapters remains as in the earlier book, although each chapter has been entirely rewritten and there has been some reorganization of the material. The major substantive changes have been in the analysis of the stress system.

I have dispensed with Hayes's (1982) rule of Long Vowel Stressing. By not marking word-final syllables containing a long vowel as extrametrical, those syllables are stressed by the normal operation of the English Stress Rule. The English Stress Rule is simplified to be quantity sensitive throughout rather than just at right edges. The examples that appear to require quantity-insensitive retraction are treated by Arab Destressing (as in Kager 1989). Most other changes involve discussing a greater range of rules and expanding the discussion of others.

The argument in favour of trees over grids is entirely new, in general and with respect to Jensen (1993), and something that needs to be expressed in view of the widespread acceptance of the grid framework for stress. I discuss a total of eighty-five rules, nearly twice as many as the forty-eight examined in Jensen (1993), together with their ordering. The clarification of the cyclic operation of stress rules toward the end of Section 4.5 is also a novel contribution. In Section 4.7 I offer an account for the shift in stress in words like *résident* (from *resíde*), as opposed to the retention of the stress pattern of *cohérent* (from *cohére*) in terms of a minor (lexically marked) rule to shift the stress. Other cases of stress preservation in derivatives such as *óxygenàte* and *hóspitalìze* are ascribed to the ability of *+ate* or *-ize* to support a foot by itself; this is contrasted with suffixes like *+ic*, *+ity*, and *+ify*, which need material from their bases to become fully metrified, and so consequently tend to shift the stress. I propose that cyclic stress assignment overrides the previously assigned stress only to the extent necessary to incorporate newly added morphological material. This treatment removes some of the criticisms of Lexical Phonology that have assumed too close a correspondence between stress shifting and stratal assignment of affixes.

While adopting aspects of post-*SPE* developments, primarily metrical, lexical, and prosodic phonology, I express many of the rules in the *SPE* rewrite-rule framework. This is in line with my conviction that the purpose of phonology is to express phonological patterns and generalizations, and that it cannot be restricted to processes that appear to be natural in some representational terms, such as autosegmental spreading. As Hale and Reiss (2000: 165) put it, "grammars do contain arbitrary processes."

Chapter 8 is wholly new. It contains three sections. The first is a much-expanded discussion of umlaut and ablaut, arguing for considering these as *morphological* rules that affect the meaning of items, rather than as phonological rules that spell out prespecified categories, as assumed in much of the previous work on Lexical Phonology and Morphology. The second section discusses apparent problems with affix order and subcategorization and offers possible solutions. The third section discusses Optimality

Theory and the problems it faces in describing some of the salient processes of English phonology. Generative phonology was developed in part to deal with opaque interactions, which constituted a major problem for the earlier taxonomic approaches to phonology, with their surface orientation. It is not surprising that Optimality Theory, which is also surface oriented, has difficulty with opaque interactions, which abound in English phonology. I conclude that Optimality Theory has little to offer by way of explanation in English phonology and that the lexical theory including ordered rules is preferable.

Transcriptions

The phonetic symbols used are those of the International Phonetic Alphabet (IPA), with two additions. One is the symbol [ɤ] for the lax [–ATR] high back unround vowel, for which the IPA does not provide a symbol. The distinction between tense [+ATR] and lax [–ATR] vowels is important for an adequate treatment of English vowels, and we need to have symbols for both values of [ATR] for all vowel articulations. For nonlow vowels there is a different symbol for each member of the pair. The IPA does not distinguish this feature systematically, but rather employs symbols that differ in height. For example, IPA classifies [e] as 'close-mid' and [ɛ] as 'open-mid'; we take both to be mid ([–high, –low]) and [e] as tense ([+ATR]) and [ɛ] as lax ([–ATR]). For the low vowels I employ the IPA left-tack diacritic (˕) to indicate the tense variety; thus [ɒ̟] is the [+ATR] counterpart of [–ATR] [ɒ]. Another is [n̆] for the postalveolar nasal, which the IPA does not distinguish from [n]. In some cases where I quote other authors, I retain their transcriptions if no confusion can arise; these instances are noted where they occur. My use of the symbol [ə] differs somewhat from what might be expected. *SPE* used [ə] only for a reduced vowel and excluded it from underlying representations. This creates a problem for vowels that are always realized as [ə], as in the final vowel of *sofa* or the initial vowel in *above. SPE* would need to make an arbitrary choice of some unreduced vowel to represent these. I use [ə] for the stressed vowel of *but* as well as for the unstressed vowel of *sofa*, for three reasons. First, vowel quality and stress are independent variables; there is no reason to have a special symbol for an unstressed vowel in one case only. Second, [ə] is not the only vowel that appears in unstressed syllables in English – in many dialects [ɪ] and [ʊ] occur is such positions also. Finally, there is need for a symbol for the tense ([+ATR]) counterpart of [ə] for an adequate description of English vowel shift – I employ [ʌ] for

this purpose, restricting [ə] to use as a lax ([–ATR]) version of this vowel quality, whether stressed or unstressed.

Since my focus is not on English dialects, I have tried to make transcriptions as dialect neutral as possible, providing both NA (North American) and RP (Standard Southern British) where appropriate, unless the discussion specifically involves a phenomenon peculiar to a particular dialect.

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