

Matthew Y. Chen (2000) *Tone sandhi: patterns across Chinese dialects*. (Cambridge Studies in Linguistics 92.) Cambridge: Cambridge University Press. Pp. xx + 554.
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Tone sandhi refers to changes in lexical tone when words occur in combination*. Nowhere is it more abundant than in Chinese dialects. This book offers unparalleled coverage of Chinese tone sandhi. It is descriptively extensive and theoretically well informed. Although it does not discuss all Chinese dialects, it covers all the major cases that have been studied in the literature.

The book contains a list of notational conventions, 11 chapters, a concluding section, a bibliography on Chinese dialects, references, a subject index, and an author index. Chapter 1, 'Setting the stage', introduces the background of Chinese, its dialects, and a list of terms and concepts. Chapter 2 is 'Tonal representation and tonal processes'. A distinction is made between tonal register (upper or lower) and tonal contour, where tonal contour is represented with two features, H and L (Yip 1980, Bao 1990). In addition, a syllable can also be toneless. It is argued that this parsimonious system is sufficient for representing all tonal contrasts as well as analyzing tone sandhi. Now most primary sources on Chinese tone are descriptive and use the five-scale system of Chao (1930), where 5 is the highest pitch and 1 the lowest. The first step in a tonal analysis, therefore, is to translate the Chao system into the new system. The step is necessary but offers a lot of flexibility. For example, 11 in the Chao system is a low tone. It can be interpreted as L in the low register or simply toneless. Similarly, 31 can be interpreted as HL in the low register, or low if the syllable is final (assuming a final pitch drop), or toneless. Which interpretation to choose, therefore, often depends on the overall analysis of a given dialect. Chapters 3 and 4 are 'Directionality and interacting sandhi processes' part I and II. They deal with the direction in which an iterative tone rule applies, and how two (or more) rules interact with each other. Chen argues that, for dialects like Tianjin and Changting, a rule-based derivational analysis does not yield satisfactory results, nor does an analysis in Optimality Theory (OT) that only focuses on surface constraints. Instead, a proper analysis should be a combination of the two, i.e. with constraints on derivational steps. Chapter 5, 'From base tones to sandhi forms', discusses disyllabic units in New Chongming, where disyllabic tone patterns (sandhi forms) do not seem to relate to the base tones of the individual syllables in a systematic way (i.e. in terms of familiar operations such as deletion and spreading). Chen offers an OT analysis that uses the notion of 'tonal saliency', according to which even (level) tones are more salient than oblique (contour) tones, high register tones are more salient than low register tones, and a tone on the right is more salient than one on the left. In chapter 6, 'From tone to accent', Chen argues that New Chongming is changing from a tone language to an accent language, in that each multi-syllabic domain has one accent, to which a H tone is linked. The location of the accent is determined by various factors, including tonal saliency, mora count, and syllable count. Chen also suggests that the same process occurred in Shanghai, although it has been aborted. Chapters 7 and 8, 'Stress-foot as sandhi domains' part I and II, discuss Shanghai, Wuxi, Danyang, and Nantong (all in the Wu dialect family), where the metrical foot serves as tonal domain. Chapter 9, 'Minimal rhythmic unit as obligatory sandhi domain', discusses what is arguably the best-known case of tone sandhi: Tone 3 Sandhi (T3S) in Mandarin. A central proposal is that the domain of T3S is

a new prosodic category called the minimal rhythmic unit (MRU). Chen argues that the MRU is not a syllabic foot, as it was previously called (Shih 1986), because every full Mandarin syllable is already a moraic foot (assuming that each language only has one kind of foot). In addition, in the prosodic hierarchy theory a foot is a constituent of the phonological word, but in Mandarin a MRU can be a phonological phrase, such as [mai ma] ‘buy horse’ and [ni hau] ‘you good (how are you?)’. Another new proposal is that T3S must apply in two steps, first at the word and compound level, and then at the phrase level. Chapter 10, ‘Phonological phrase as a sandhi domain’, discusses another well-known dialect, Xiamen, where sandhi domains are determined by marking the right end of each syntactic phrase (XP). Other factors affecting phonological phrases include whether an XP is an adjunct, the c-command relation in the constituents, and effects of rhythm. Chapter 11, ‘From tone to intonation’, discusses Wenzhou, which Chen suggests is changing from a tone language to an intonation language. The data is in part based on ‘full sentences in connected speech’. Each ‘phonological word’ (p-word) is made of a lexical word plus ‘proclitics’ and ‘enclitics’ and has a ‘tonic nucleus’. When two or more p-words occur together, all but one may lose their tonic nucleus. A set of p-words with one **tonic** nucleus is called an intonational phrase. Which p-words lose their tonic nucleus is determined by ‘tonal prominence’, which is based on syntax (adjunct, argument, or head), syllable count, and the position (right or left) of the p-words.

The book offers a careful description of the problems and their best analyses to date. Most of the dialects, such as Mandarin, Tianjin, New Chongming, Xiamen, and Wenzhou, have been topics of long-term research by Chen and his students. However, it is unrealistic to expect that all the problems are fully solved. Some dialects, such as Mandarin and Xiamen, are quite well understood, thanks largely to Chen and his students. Others are less so. For example, Tianjin first caught the attention of theoretical phonologists in the mid 1980s, and Chen has worked on it probably more than anyone else. But I have the feeling that it is still not fully understood.

Rather than a collection of unrelated problems, the book intends to show themes that connect them. For example, chapters 7-11 suggest that sandhi domains in different dialects are determined by different levels of the prosodic hierarchy (Selkirk 1980, 1981): it is the foot in Shanghai, the MRU in Mandarin, the phonological word in Wenzhou (careful speech), the phonological phrase in Xiamen, and the intonational phrase in Wenzhou (connected speech). In addition, the author suggests a possible direction of change: from a tone language (Mandarin) to an accent language (New Chongming) and then to an intonational language (Wenzhou).

Theoretically, the book focuses more on parametric differences (or different constraint rankings in the OT framework) among the dialects, rather than on universal properties that all dialects share, if any. For example, the stress foot plays a role in Shanghai but not in Mandarin. The p-word plays a role in Xiamen but not in Wenzhou. The MRU is found in Mandarin but not in Xiamen. And so on. It should be noted that, in generative grammar, once language differences are attributed to parameters, no more explanation is required. On the other hand, the reader might still wonder why the dialects differ the way they do and whether more insight is possible.

The book is clearly written. The notational conventions, dialectal bibliography, references, and indices are very useful. The book can be used as a textbook for a course on Chinese tone at the graduate level. It is also a good reference book for phonologists in

general. The book represents a lifetime's work of a distinguished phonologist. I am delighted it has come out.

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Reference

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