

Mercedes Cabrera Abreu 2000: *A Phonological Model for Intonation without Low Tone*.  
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Since the publication of Pierrehumbert's 1980 doctoral thesis, there have been numerous followers of her proposed model of English intonation, with refinements, variations and adaptations to individual languages. So much so that analyses along the lines of Pierrehumbert are the most favoured nowadays, together with the rapidly emerging ToBI descriptions (Silverman, et al. 1992). In this scenario, Cabrera-Abreu's work, which is a considerably revised and abridged version of the author's doctoral dissertation (University College London 1996), constitutes a highly innovative account of English intonation and a very interesting break from general trends.

The author's main purpose is to achieve a high degree of restrictiveness while maintaining descriptive and explanatory adequacy of intonational phenomena. This is done following Government Phonology principles, which have been deployed mainly for segmental phenomena, and adapting them for their application to intonational description. Cabrera-Abreu breaks away from Pierrehumbert-like accounts based on inventories of pitch accents with two tonal primes (high [H] and low [L] tones) (Pierrehumbert 1980, Beckman and Pierrehumbert 1986) and proposes a system of one tonal prime only (T), which stands for the former H tone. This reduction of the tonal inventory is only the tip of the iceberg, and is backed by a full phonological model of intonation, as the title claims. The new model is strongly substantiated on well-founded theories, particularly on Government Phonology (Harris 1994), which is explained in the development of the argument, so that the reader has access to the relevant information.

The exposition and organization are extremely clear and easy to follow. Each chapter and section starts and finishes with a recapitulation of what has been shown and a preview of the main ideas to be introduced in what follows. There are also brief summaries of how the theory has been developed and presented up to that particular point and what is left to prove. Additionally, constant references are made to where each particular issue has been presented before in the volume and/or where it will be further pursued. The author takes the reader step by step through all the evidence, reasonings and consequences of each of the decisions taken, as the building blocks of the model are gradually presented. The typical pattern followed for the argumentation of each of the issues raised starts with a careful examination and discussion of the evidence and of other models' views on each issue, highlighting strong and problematic points. Subsequently, Cabrera-Abreu demonstrates how her model can explain the point in question and finally, what alternative accounts might have explanatory potential and why they are rejected. A minor flaw found in the layout is the accidental inclusion of a spurious extra page 13 (which other could it have been!) preceding the real one, and which may momentarily mystify the reader.

The book is organized into six chapters plus a brief conclusions chapter which summarizes the work. The appendixes to chapters 2, 4 and 5 include examples with pitch contour representations, fundamental frequency graphs, and phonological descriptions, as required. The volume would have benefited from more laryngograph pitch traces to accompany each of the examples presented and from the segmental labelling of traces for readers' convenience.

Chapter 1 is an introduction in which the reader is presented with a clear statement of intentions, acknowledgment of influences, and adoption of positions. In the process of so doing, brief but interesting reviews of the main tenets of Generative Phonology and Generative non-linear treatments of intonation are presented.

In chapter 2, the most striking innovation of the model is put forward. Examining data from tone languages as well as from English, Cabrera concludes that a single-tone is sufficient for intonation description (as seen before for tone languages by Pulleyblank 1986, for example), the evidence pointing to the low tone being redundant. By making tones always and only associated with domain boundaries rather than accented syllables, contour movements can be adequately described by a single-tone model. This chapter offers a preview of the whole model, which is continued in the following sections as a gradual development which emerges from the analysis of evidence. Thus in chapter 3, she looks at phonetic and phonological analyses of tone spreading and stylized contours in tone languages and in intonation languages respectively. Previous accounts are found to mix phonetic and phonological explanations, or to use *ad hoc* features for these phenomena which increase the risk of overgeneration. Pursuing an interpretation within the framework of Government Phonology, she proves that spreading can be treated as phonetic interpolation between toneless units, interpolation which may be seen as a physical effect: Gravitation. The Gravitation Effect, defined as a general tendency for pitch to fall to the baseline, is another key element of Cabrera-Abreu's postulates, since it will contribute essentially to her explanations of tone spreading, downstep as well as contour realization.

Chapter 4 lays out the core of the model in a progressive and gradual manner, drawing constant parallels with other well-known models such as O'Connor and Arnold (1973) and Pierrehumbert (1980), which make the presentation very didactic. Intonation domains are investigated, looking at evidence and previous accounts. After rejecting Pierrehumbert-like views on this point, she borrows notions on constituents from the British school, and makes them—surprisingly but plausibly—compatible with Government Phonology. Thus, intonation groups are divided into onset (*head*) and nuclear domains, which can be governed by the same principles applying to these constituents at other levels, as is demonstrated by abundant examples. Domain boundaries stand as landing sites for tones. These can be associated with such boundaries following licensing principles, which constrain her model, preventing the generation of unattested contours. Through the chapter, the author demonstrates how her model can describe the relevant contrasts which have been recognized for English intonation at the nuclear and pre-nuclear level and concludes that licensing principles at the phonological level, and Gravitation Effect allow for the mapping of phonological structure onto phonetic interpretations within a highly restrictive model.

In chapter 5, the model is put further to the test and the exposition enriched as one of the classic stumbling blocks in intonational studies—downstep—is addressed. The author deconstructs well-known proposals (Pierrehumbert 1980; Beckman and Pierrehumbert 1986; Ladd 1993; Grice 1995) and puts forward her model's account, which relies essentially on the presence of toneless boundaries belonging to empty domains.

Chapter 6 is devoted to these toneless domains, their status as empty nuclei, and the licensing principles and restrictions necessary to constrain the model. All toneless

boundaries are interpreted phonetically as having Gravitation Effect, but those belonging to empty domains increase this effect and pull down the interpretation of certain neighbouring tones. Toneless boundaries are seen as the manifestation of a pragmatically added emphasis, which is coherent with the meaning ascribed to downstepped tones and stepping contours in the literature. This chapter also addresses the issues of empty nuclei and inter-domain licensing relations, continuing with a strong grounding on parallel instances attested in Government Phonology, as before and throughout the model.

To conclude, the interest of this volume lies on the one hand in the discovery of an alternative and promising account of intonation, and on the other hand in its highly informative and critical review of other models, in which both deep knowledge and a process of long reflection are manifest. This is an important and valuable piece of work that will undoubtedly be appreciated by academics and students of intonation, phonology and linguistics.

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