Dialectal variation in the rising accents of American English
Gina Garding & Amalia Arvaniti
University of California, San Diego

In Pierrehumbert (1980) three rising accents are posited for English: H*, L+H* and L*+H. The need for three distinct accents has been disputed, however, most notably by Ladd (1983) who argued that they are all realizations of the same underlying accent under differing degrees of emphasis. Although all three accents have been investigated experimentally, such studies have tended to focus either on the scaling of the H under emphasis (e.g. Pierrehumbert, 1980; Ladd & Morton, 1997) or on the alignment of the tones in non-emphatic renditions (e.g. Pierrehumbert & Steele, 1989; Ladd & Schepman, 2003). Furthermore, in all of these experiments the dialect of the speakers was not controlled for.

The present experiment aimed to address these gaps. Our speakers belonged to two dialects, Midwestern and Southern Californian English. They read one-word utterances (consisting of the name ‘Raymona’) as part of two dialogues, one of which was designed to elicit L+H* accents and the other L*+H accents (cf. Hirschberg & Ward, 1992). The dialogues and our instructions prompted the speakers to use four levels of emphasis. If Pierrehumbert’s analysis is correct, then the following results would be expected: (i) L+H* should show earlier alignment of both tones; (ii) the L tone of L*+H should get lower with added emphasis, while the L tone of L+H* should get higher under the same conditions. On the other hand, if Ladd (1983) is right, then non-emphatic renditions of our L+H* context should be realized as plain H* accents. Finally, experience with the two dialects at hand lead us to expect that any differences between the accents would be more pronounced in Midwestern than in Southern Californian English.

Our results so far confirm the general observation that peaks align later under emphasis (e.g. O’Connor & Arnold, 1973; Ladd & Morton, 1997). In all other respects, however, our results show two distinct patterns for the two dialects under investigation. Southern Californian speakers used H* in the non-emphatic tokens and L+H* in the emphatic tokens of both dialogues. Midwestern speakers, on the other hand, clearly differentiated L*+H from L+H*, and in both contexts showed evidence of a L tone at all levels of emphasis. In the Midwestern data, L*+H showed later alignment of both the L and the H tones. In addition, although the scaling of the H increased with emphasis in both accents, it was consistently lower in L*+H than in L+H*. The scaling of the L, on the other hand, was raised under emphasis only in L+H*; in contrast, in L*+H the L tone was consistently lower than in L+H* and remained relatively stable. Further, Midwestern speakers significantly lengthened the accented syllable when using L*+H, an effect not observed in the Southern Californian data.

These results suggest that Pierrehumbert’s distinction between L*+H and L+H* is essentially correct, though it clearly does not apply to American English in general but only to some of its dialects. In addition, our results suggest that the distinction between H* and the L+H accents should be re-evaluated for some dialects, possibly along the lines advocated by Ladd & Schepman (2003) (and contra Ladd 1983). More generally, the behavior of L tones under emphasis corroborated Pierrehumbert’s (1980) intuition (also supported in part by the perceptual evidence of Gussenhoven & Rietveld, 1997) that leading Ls are raised by subsequent Hs, but starred Ls are not. In this respect, our results show that with the right type of control, emphasis (which is often seen as paralinguistic and therefore outside the scope of linguistic description) can be a useful tool in the study of intonational phonology. Finally, the dialectal variation
uncovered by our study is strong evidence to the case that in order to fully understand the tonal makeup and role of accents in an intonational system, it is essential that experimental work does not overlook the dialect variable.

References