

De Lacy (1999) and Selkirk (1984) have noted that a high tone can attract stress and that stress can likewise attract a high tone. De Lacy's analysis proposes an approach to analyzing the interactions between tone and stress using a family of specific constraints which demonstrate the preference for syllables with higher tone to be stressed. Syllable weight has also been shown to attract stress (Mester 1992, Jacobs 1989). This paper presents an Optimality Theoretic account of stress assignment in Choapan Zapotec (CZ) which depends on a ranking of de Lacy's tone constraints, weight constraints and alignment constraints. This analysis predicts a typology of the possible interactions between tone, weight and stress which can be seen in other languages, whether tonal or non-tonal.

CZ has a default penultimate stress system observed in certain classes of words, but certain exceptions are found which do not stress the penultimate syllable (Lyman & Lyman 1977):

- a) wa³tse³sám³ - 'he/she (informal) is going to leave (it)'
 - b) re²zi²la³dji³ - 'he/she (informal) rests'
 - c) ré[?] n³ka¹bi[?] - 'they (informal) want'
- (3=low tone, 2=mid tone, 1=high tone)

The default stress assignment aligns to the right hand trochee, or penultimate syllable. One type of exception is seen in a), which has stress assigned to the ultimate syllable, which is heavy. Example b) assigns stress to the antepenultimate, which has a higher tone. Example c) has both a high toned syllable and a heavy syllable, and the stress is assigned according to weight, not tone. Therefore, the following stylized constraint ranking applies:

Weight >> Tone >> Alignment

In other languages, these rankings will be switched, producing a different result. The possible rankings produce a factorial typology for the analysis of tone-weight interaction in stress assignment. Because weight constraints outrank tone and alignment in CZ, the importance of tone constraints will surface only when each syllable has the same weight. This is because the environment would not exist for a constraint that targets the heaviest syllable. Other languages show the opposite result in which tone constraints outrank the others, therefore when all tones are the same, weight constraints come into play. Alignment constraints, however, only require the presence of prosodic material to apply, so when an alignment constraint outranks weight and tone constraints, there will be no case in which it won't apply, and therefore blocks the others.

The interaction of these three constraint types produces a typology consisting of 6 different possible stress assignment systems. This typology should classify every language, including those that do not have tone distinction, and the stress assignment of languages such as Kinande and Yucatec Maya will be categorized according to this typology. This analysis provides a constraint-based explanation of how tone and weight interact in Choapan Zapotec stress assignment, which can then be extended to describe the possible ways in which they can interact cross-linguistically.

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