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Abstracts

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 "Metrical Theory of Stress: Some Australian Cases"

Recent work in the theory of stress, done alongside general "autosegmental phonology", departs from previous work in generative phonology in several ways (v. Liberman (1975), Liberman & Prince (1977)): (1) "degree of stress" is recognized as a syntagmatic property - a syllable (or other phonological or morphological unit) is stressed in relation to another unit, not absolutely. Representation of stress with a binary or n-ary segmental feature (as in SPE) does not recognize this distinction; (2) hence, "degree of stress" reflects 'a hierarchical rhythmic structuring that organizes syllables, words and syntactic phrases of a sentence' (Liberman & Prince (1977:1)). At the lowest level, this means that a stressed syllable and adjacent unstressed ones are seen as making up a unit, called a foot, and at higher levels, these feet are organized into a metrical tree: a tree with only binary branches, each labelled for relative prominence with S (strong) or W (weak). (Hence the connexion with metrics, through the idea of an alignment between a string of syllables and an abstract metrical pattern - v. Halle & Keyser (1971).) (3) "Action-at-a-distance" in the phonological string (previously described through the use of essential variables in stress (and other) rules, the stress subordination convention (of SPE), and some kinds of disjunctive ordering) can be accounted for solely in terms of local properties at various levels of the metrical tree; (4) Systematic similarities, if they exist, between word-level and phrase-level stress are naturally accounted for by means of a phrase-level metrical tree that mirrors constituent structure (e.g., in English, the connexion between the Compound Stress Rule and the word-level Detail Rule follows from the strong/weak labelling convention of the metrical theory).

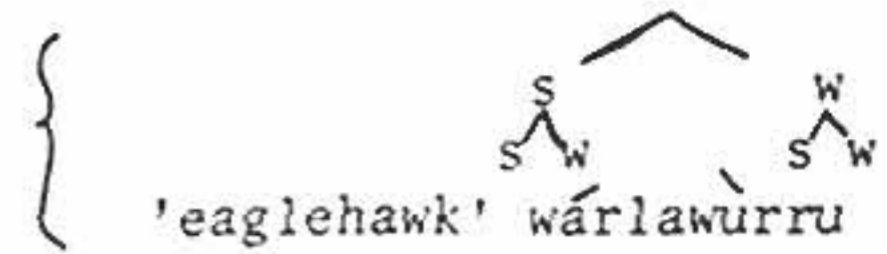
In this paper, the metrical theory is applied to the known stress phenomena of several Australian languages: several properties of the theory are exemplified in order of increasing complexity, and several curious facts of stress placement are accounted for.

First, in Walbiri, we find that every morpheme of more than one syllable bears a  $\hat{s}w$  foot on its first two syllables. Other  $\hat{s}w$  feet are then assigned from right to left in the word, and lastly stray syllables are attached to adjacent feet. Primary vs. secondary stress is described by assigning relative prominence at higher levels, than the foot - in fact, the metrical tree which groups the feet already set up is labelled everywhere  $\hat{s}w$  so that the first syllable always bears primary stress.

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For example:

Crucial evidence for this analysis is that:



- (i) five-syllabled monomorphemic words may have the stress pattern SWWSW (and not the SWSWS or SWSWW that would be expected from an alternating rule);  
 (ii) monosyllabic prefixes cause adjacent stresses, but monosyllabic suffixes never do:

wily-paka-rni 'beat severely'; but máliki-rna, máliki-rná-rla,  
 máliki-rli-rná-ngku.

Second, Dyirbal stress patterns as described by Dixon (1972:274-6) can be accounted for by placing a  $\hat{s}w$  after every word - or morpheme-boundary (except for the reflexive / -yirriy/) from left-to-right through the word (and not only on polysyllabic morphemes as in Walbiri). This accords with Dixon (1972:274)'s claim that 'The lack of stress on the final syllable of a word can be explained in terms of the obligatory stress on the first syllable: to have two consecutive syllables stressed would be counter to the stress preferences of Dyirbal.' Then stray syllables are adjoined as in Walbiri, in an iterative fashion if necessary, producing feet like . For Dyirbal as Walbiri

the natural higher-level organization would be on the same principle of relative prominence as in feet, i.e.  $\hat{s}w$  everywhere, and from this it would follow that if there were observable differences between degrees of stress then the first syllable would bear primary stress. 'However, there is no evidence that speakers of Dyirbal do phonetically distinguish two degrees of stress' (Dixon(1972:275)), although such a difference could be involved in the rule of allomorphy for the transitive verbalizer /-mal<sup>~</sup>-(m)bal/.

Note that the information in the metrical tree is available for the structural description of rules involving rhythmic phenomena other than stress. For example, vowel length, the alternating pattern of which in Gidabal has received some attention: (Kenstowicz & Kisseberth (1972, 1977:189-193), Anderson (1974:247-250).) These accounts do not mention the close connexion between vowel length and stress described by Geytenbeek & Geytenbeek (1971:2), and once stress rules are formulated within the metrical theory, we see that vowel-shortening in Gidabal occurs just in w syllables.

If time permits, a metrical account of the stress and vowel-length alternations in Yidin<sup>y</sup> will be given, in which the vowel to be lengthened is chosen by the metrical tree, and syllable-counting is removed from the structural description of Dixon (1977:6,15)'s rules of lengthening and final-syllable deletion, to leave rules meeting the formal constraints of current generative phonology theory.

The extra devices required by Liberman & Prince to describe English stress: the cyclic assignment of (+/- stress) and a more complex labelling principle, will be ignored.

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