

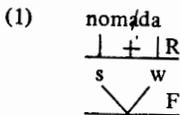
Extrametricity and Italian Stress

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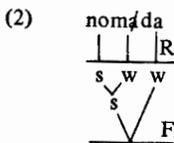
Utrecht, the Netherlands

In standard generative phonology stress was regarded as a property of single vowels. Liberman and Prince (1977) proposed another way to look at stress. According to them stress must be seen, not as an absolute property, but as a relative prominence between syllables, represented in a hierarchical, prosodic structure. It is the result of a) the way in which elements are grouped in binary branching trees and b) the relation strong-weak which is attached to pairs of sister-nodes.

This new 'metric' theory, which was based on English, induced Harris (1980) to reinvestigate the Spanish stress system. In his description of the stress system of Spanish nouns, adjectives and adverbs, Harris used the theoretical notion of 'Extrametricity'. Extrametrical elements are elements which are temporarily skipped over when the prosodic trees are formed. Harris gives as an example the stress assignment in *nomada* 'wandering'; according to Harris the first 'a' is extrametrical and the following structure is formed, where '/' marks extrametricality on the segmental level and '-' extrametricality on the rhyme level:



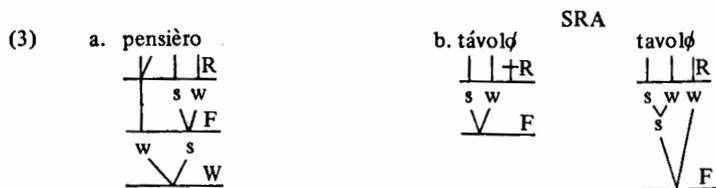
The extrametrical element must be incorporated in the prosodic structure. This is accomplished by 'Stray Rhyme Adjunction' (SRA) which adjoins a skipped element as a weak node (w) to the adjacent foot:



I have used Harris' paper as a starting point for the analysis of Italian stress. Describing stress assignment in Italian nouns, adjectives and adverbs I start from the following principles:

- a. All suffixes are attached to words and not to derivational stems, e.g. *gatto* + *ino* and not *gatt* + *ino*. A phonological rule, $V \rightarrow \emptyset / __ + V$, takes care of vowel deletion: *gatto* + *ino* → *gattino* 'kitten'. Besides this phonological rule a morphological rule is needed for the deletion of the 'e' in e.g. *formale* + *mente* → *formalmente* 'formally'. This is a morphological rule since it is a deletion before the specific suffix, *mente*.
- b. Rules for the segmental structure (in this case vowel deletion) work before the stress rules.
- c. Stress is assigned cyclically. This is necessary given e.g. the words *impossibilità* 'impossibility' (from *impossibile*) and *irrazionalità* 'irrazionalità' (from *irrazionale*). In these words the relative prominence relations of the inner cycle are maintained.
- d. In the lexicon segments can idiosyncratically be marked as extrametrical. These extrametrical segments must be peripheral in the word. Hayes (1981) remarks that it is a universal characteristic of extrametrical elements that they are peripheral in the stress domain, which in Italian is the word. Thus, the Italian word *tavolo* 'table' has an extrametrical 'o' which is peripheral in the stress domain.
- e. Primary stress is assigned from right to left and is determined by language specific rules for foot and wordtree structure. In Italian these rules are 1) Foottrees are left branching, labelled s w; Non-branching nodes are labelled at word level, because in metric theory there must be at least two elements, since stress is expressed as 'relative' prominence. 2) The maximal footform is s w w and the rightmost foot with this form is only possible when there is an extrametrical final segment. 3) The Branching Condition, which says that footnotes labelled w may not branch, is applicable. 4) Word trees are right branching, labelled w s.

In the following words, the first one has no extrametrical final segment, the second one has:



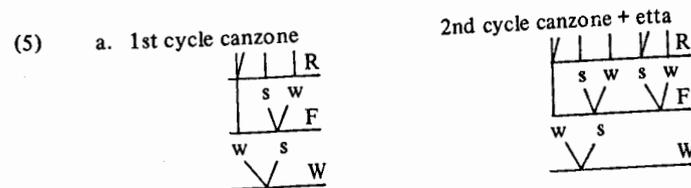
In *pensiero* 'thought' the Branching Condition is not violated, since the branching rhyme is labelled at word level and not at foot level. In *tavolo* 'table' Stray Rhyme Adjunction (SRA) takes care that the last 'o' is attached to the preceding foot as a weak node; SRA is structure preserving: the branching direction and the labelling of the foot in Italian are not violated. Words which end with a consonant can also have an extrametrical final segment. In the following words, the first one has no extrametrical segment, the second one has:



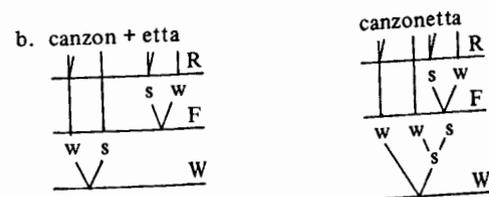
In *bazar* the last syllable must get the label s(trong), since it has a branching rhyme. In *lapis* 'pencil' the last syllable can have the label w without violating the Branching Condition: the final segment is temporarily invisible. This segment is incorporated in the structure by Stray Coda Adjunction (SCA), since it is not a whole rhyme that is involved here.

There are a few Italian words whose stress pattern cannot be explained by this theory. These words have branching rhymes in the penultimate or final syllable and primary stress on the antepenultimate syllable, e.g. *mandorla* 'almond', *festiva*l. Since so few words are involved, I do not want to consider these words as counterexamples.

Italian has three wellformedness conditions in relation to stress: 1) There are no stress clashes 2) Words begin with a stressed syllable and 3) There are no successions of more than two unstressed syllables (see Vogel and Scalise, 1982). When we regard the forming of *canzonetta* 'little song' (from *canzone* 'song'), we see that the first wellformedness condition is automatically fulfilled by the rules for foot and wordtree structure. However, the second wellformedness condition is violated:



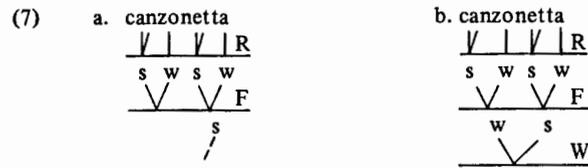
First, vowel deletion takes place, because this rule works before the stress rules. After vowel deletion a word tree is formed:



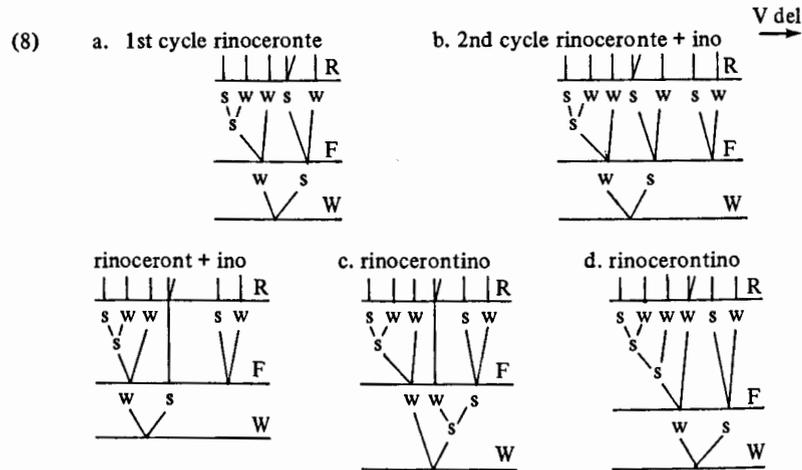
The stress clash is removed; a rule is needed for stress on the first syllable:

- (6) Initial Stress Rule
 $W [w X_\alpha \rightarrow W [F [s w \dots] F \quad \alpha \neq \text{primary stress}$

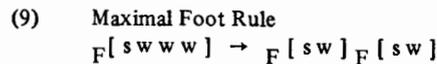
This rule says that the first w at word level is formed together with at least one syllable following the foot s w. The Initial Stress Rule gives in the case of *canzonetta* structure (7a); now the right word tree can be formed (7b):



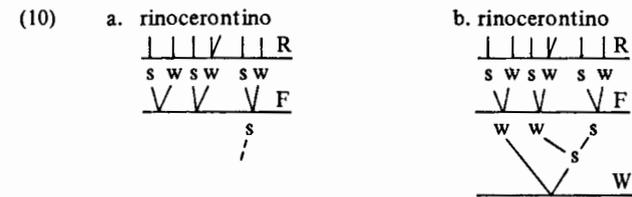
The prosodic structure of *rinocerontino* 'little rhinoceros' looks like (8d) after primary stress assignment in both cycles, after vowel deletion, after word-treeforming and after the 'elegance' principle which says that a w at word level, which is not labelled at foot level, is attached to the preceding foot as a weak element of that foot:



Now a foot with the form s w w w is formed. This is not allowed because the wellformedness condition which says that there are not more than two successive unstressed syllables in Italian, is violated. We need a rule which transforms this big foot into two feet with the form s w:



In the case of *rinocerontino* this rule gives the form (10a); the new right wordtree is formed (10b):



We see that the Branching Condition is violated: 'on' is a branching rhyme with the label w. I want to conclude from this that it is more important in Italian that stress clashes which arise when two morphemes are put together, are avoided than that the Branching Condition is maintained.

Acknowledgement

Irene Vogel's help is gratefully acknowledged.

References

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