ANTONIO MANGIA LA ZUPPA INGLESE
PHONETIC AND PHONEMOLOGICAL ASPECTS OF ITALIAN SENTENCE INTONATION

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ABSTRACT
Within the framework of a phonosyntactic model of Italian sentence intonation, pitch movements of stressed syllables can be predicted from the syntactic structure (if congruence is assumed between syntax and prosody). New intriguing data seems to contradict some theoretical predictions. It is shown here that the observed facts can be better understood using the principle of eurhythmics.

INTRODUCTION
The description of sentence intonation, as shown by the already existing area of literature in the domain, has been the aim of many theoretical approaches. In the present paper we will be dealing with the phonosyntactic model of sentence intonation which operates on the specific relations of dependency existing between the syntactic and the prosodic structure of the sentence.

The model [1],[2] is based on the fact that stressed syllables are perceptually the most prominent. This reduces the contrasts of Fo, intensity and duration to sequences of prosodic contours located only on stressed syllables. It is important to notice that the model deals with pitch changes and not differences in pitch levels.

Each prosodic contour can be described phonologically by means of specific phonological features, which have been postulated as follows [3]:

{ [Extremes] : the contour attains an extremely low (in the case of statements) or an extremely high (in questions) frequency level as compared to the other contours.

{ [Rising] : when the fundamental frequency rises.

{ [Falling] : when the melodic variation is large (or restrained) as compared to the variation of similarly rising or falling contours.

The phonosyntactic model of sentence intonation has also been applied to Italian [4], and two rules are used to determine the prosodic structure.

\[ \text{Rule A:} \quad \text{If the contour located to the left of Cl is Rising, then Cl is Falling.} \]

\[ \text{Rule B:} \quad \text{If the contour located to the left of Cl is Falling, then Cl is Rising.} \]

For example, in the sentence "La casa di Antonio non ci place" the rightmost contour (Cl) is defined as Falling, the leftmost contour (C3) is defined as Rising, and C1 has a falling contour.

Within the framework of the phonosyntactic model of intonation, pitch movements of stressed syllables can be predicted from the syntactic structure of the sentence. In accordance, if the leftmost contour is rising, the rightmost contour is falling.

\[ \text{In other words, in a sentence such as:} \]

\[ \text{La casa di Antonio non ci place} \]

\[ \text{with the constraint of congruence released, the number of syllables of the prosodic words at the first level in the structure can be balanced by choosing a different prosodic structure (6-5 syllable difference).} \]

\[ \text{If the constraint of congruence is released and the principle of eurhythmics is applied, the number of syllables of the prosodic words at the first level in the structure can be balanced by choosing a different prosodic structure (6-5 syllable difference).} \]

\[ \text{In order to test the principle of eurhythmics, we have examined another sentence with a longer work phrase.} \]

\[ \text{In this case, the strikingly unbalanced structure was maintained.} \]

\[ \text{We have observed that in the case of this sentence congruence between the syntactic structure and the prosodic structure is not easily maintained. This might be due to the strikingly unbalanced structure.} \]
rhythmical effect (10–3–7 syllables difference):
Antonio ha pregato Carlo di scrivergli
\[\begin{array}{ccc}
\text{8 cs} & \text{14 cs} & \text{17 cs} \\
+41 \text{ Hz} & -19 \text{ Hz} & -20 \text{ Hz} \\
319 \text{ Hz} & 220 \text{ Hz} & 174 \text{ Hz}
\end{array}\]

The most eurhythmic prosodic structure of the above sentence would be the following (7–6–1 syllable difference):

\[\begin{array}{ccc}
\text{3} & \text{7} & \text{13} \\
\text{2} & \text{6} & \text{10}
\end{array}\]

However, as the asterisk shows, this is not possible in Italian. As it also occurs in French [6] some prosodic structures are unacceptable, because they contradict the syntactic structure of the sentence at the lowest level of the syntactic division. In such cases a lowest level syntactic clash (LLSC) appears. When a LLSC occurs a eurhythmic prosodic structure cannot be chosen, because it contradicts the syntactic structure to such a degree that the intonation pattern becomes unacceptable.

We have noticed that speakers tend to choose the following eurhythmic prosodic structure (9–4–5 syllables difference):

\[\begin{array}{ccc}
\text{10 cs} & \text{14 cs} & \text{9 cs} \\
-23 \text{ Hz} & +26 \text{ Hz} & -4 \text{ Hz} \\
112 \text{ Hz} & 99 \text{ Hz} & 85 \text{ Hz}
\end{array}\]

This rhythmic division is more balanced than the one used when congruence between the syntactic structure and the prosodic structure is maintained.

Our observations show that the prosodic structures of Italian sentences can be independent from syntax, provided that their choice is based on a principle of eurhythmicity that divides the sentence in a rhythmically balanced number of syllables. However, eurhythmic prosodic structures generate acceptable prosodic contours only when the LLSC condition is not violated.

REFERENCES


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