INTONATION PATTERNS IN GREEK

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ABSTRACT

Prosodic contours are constant according to the syntactic function of the prosodic words; the two essential contours (affirmative and interrogative modalities) are dependent of the stressed syllable and the place of the stress in the inner constituent elements.

1. INTRODUCTION

The aim of this work is to present the relationships existing between intonation and syntax in Greek. Except for the three interrogative pronouns: [τι] "what, which", [κανόνα] "who", [κανόνα, τι "how much, how many" (introducing a kind of wh-questions), Greek does not possess any particular morphological form for interrogative modality. In addition to that, the syntactic form of a statement remains unchanged in all modality transformations. Thus, only intonation can account for the modality of the statement.

Ph. Martin [1] proposes the features of the contours for French as follows:

[± Long ] : the length of the contour
[± Rising ] : the direction of the fundamental frequency.
[± Amp] or [± Restrained ]: the amplitude of the melodic variation (large or restrained).

Three different kinds of contours can be found in Greek: final contour in a declarative sentence, final contour in an interrogative sentence, and prefinal intermediate contours, denoted C0a, C0i and C (C1, C2, C3 etc) respectively. But, as was discovered [2], the final interrogative contour is to be sub-divided according to the place of the stressed syllable (oxytones and paroxytones words).

2. PROCEDURE

It has been proved that prosodic and syntactic structures are two autonomous systems but linked to each other. Semantics could also be added to them since it is not considered as an organized system with hierarchies and structures.

The corpus contains assertions and yes-no questions. Declarative sentences are completed with expansions on the right (e.g. SV → SVO etc.). The questions have the same syntactic structure as the associated declarative sentences. The place of the stress and the number of syllables of each word had been taken into account as well.

The words chosen for the analysis, had the following acoustic structures:

oxytones : C1 V1 C2 V1
paroxytones : C1 V2 C2 V2
proparoxytones : V1 C1 V2 C3 V3

C1, C2 : unvoiced consonants
C3 : /r/

The sentences were read by Athenian speakers, in order to avoid regional varieties. F0, intensity and duration were measured on the oscillograms and computer processing permitted us to extract the pattern features.
3. RESULTS

Some preliminary results [1] shows that in Greek the final contours have the following features:

- Rising
  - Long

C0a
  + Amplitude

C01 paroxytones words
  - Rising
  - Amplitude
  - Long

C01 enclitomes words
  - Rising
  + Amplitude
  + Long

The same corpus was used in this analysis, enriched with some supplementary sentences.

Two remarks could be made:

a/ There are two rules governing the contours slopes, and
b/ The penultimate stressed word plays a particular part in the questions.

a/ The contour slope rules.

Just like in Italian (which is also a mobile stress language), the prosodic structure of an utterance is influenced by the final contour.

Rule 1 (for prosodic words belonging to the same level in the prosodic structure): if the final contour is [− Rising], then the preceding contour is [+ Rising] and vice versa.

Example:

"the coat has fallen down"

[a sma tira]

C1 C0a

Rule 2 (for prosodic words located on different levels): if the final contour is [− Rising] and the preceding contour (C1) is [− Rising], then the contour on the left of C1 has to be [+ Rising] but [− Amplitude].

Example:

"the coat has fallen from his shoulders unto the grass"

4. CONCLUSION

The goal of this paper was to present the intonation patterns of the two main modalities (affirmative and interrogative).

The results of the analysis provided evidence that the final contour exerts a strong influence on the preceding contours.

The case of the penultimate stressed words in a yes-no question is very interesting: as the C01 falls, the C1 keeps a relative rising (according to the rule 1); the latter does not start from the same low frequency level, although it attains the same high level, without being as inclined as the other C1 contours. This particular form of the final contour illustrates the interaction between the prosodic and the acoustic structure.

REFERENCES
