

Intonation of Sicilian among Southern Italo-romance dialects

Valentina De Iacovo, Antonio Romano

Laboratorio di Fonetica Sperimentale “A. Genre”, Univ. degli Studi di Torino, Italy

valentina.deiacovo@unito.it, antonio.romano@unito.it

ABSTRACT

Dialects of Italy are a good reference to show how prosody plays a specific role in terms of diatopic variation. Although previous experimental studies have contributed to classify a selection of some profiles on the basis of some Italian samples from this region and a detailed description is available for some dialects, a reference framework is still missing. In this paper a collection of Southern Italo-romance varieties is presented: based on a dialectometrical approach, we attempt to illustrate a more detailed classification which considers the prosodic proximity between Sicilian samples and other dialects belonging to the Upper Southern and Southern dialectal areas. The results, based on the analysis of various corpora, show the presence of different prosodic profiles regarding the Sicilian area and a distinction among the Upper Southern and Southern dialects.

Keywords: dialects of Italy, geoprosodic variation, dialectometry, cluster analysis.

1. INTRODUCTION

Dialects of Italy are autonomous linguistic systems characterised by specific prosodic patterns. In fact, as documented in various studies ([2] and [5] among others), the analysis of the suprasegmental features suggests a differentiation of dialectal varieties according to a geoprosodic representation. If we focus on the Southern area, except for some studies on regional Italian ([12], [14]) and specific dialects ([3], [4], [17]), we still do not have a reference framework providing a deep prosodic description. Moreover, in the wake of previous studies based on a dialectometrical approach ([8], [19]), we are now able to classify and represent data in terms of prosodic distances ([16], [15], [12]). Since the intonation system(s) of Sicily has/have not been exhaustively explored except for some regional varieties of Italian (see [7], [9], [10]), the present study aims at giving a first overview of the potential prosodic patterns found in this area (including Gallo-Italic alloglots such as Piana degli Albanesi - Palermo and San Fratello - Messina). We subsequently classify the data in terms of geolectal and sociolectal types. We apply a cluster analysis to observe how prosodic patterns are grouped together.

At a second stage, we select the most frequent pattern found in the data for each modality (also closest to the description provided by [10]) and compare it with other Southern Italo-romance varieties with the aim of verifying a potential similarity with other Southern and Upper Southern varieties.

2. METHODOLOGY

2.1. Materials and speakers

For the first experiment, data was part of a more extensive corpus available online (http://www.lfsag.unito.it/ark/trm_index.html, see also [4]). We select 31 out of 40 recordings representing 21 Sicilian dialects (9 of them were discarded because their intonation was considered either too close to Standard Italian or underspecified in terms of prosodic strength). In this corpus, speakers read a short text according to their specific dialectal lexicon. In most of the cases, a limited amount of dialectal differences was present in each text. Speakers were aged between 18 and 32 (9 men and 22 women). For the dialectometrical analysis, we retained a selection of the sentences with the same syllabic structure and stress positions. A second corpus for the interdomain comparison consisted of a series of sentences with a SVO structure, uttered in both declarative and interrogative modality, based on previous works [3, 18]. A complete set of utterances of a speaker from Pollina-Palermo has been chosen as the most representative of the dominant type and compared to similar sets from four speakers of the Upper Southern varieties (Salerno, Foggia, Bari, Taranto) and two other Southern speakers (Lecce). Speakers were aged between 25 and 53 and spoke their dialect since they were children but they speak Italian as well. None of the speakers reported any speech or hearing problems. Before measurements were performed, the recorded utterances were informally evaluated with the help of native speakers.

2.2. Procedures

Speech materials were recorded in a soundproof room by means of a TASCAM DR-40 digital recorder at a sampling rate of 44100 Hz. Speech files were subsequently resampled at 16000 Hz using Goldwave. For the first experiment, the speakers read the text twice to have a minimum choice while, for

the second one, sentences were repeated at least three times.

2.3. Annotation and measurements

The utterances were segmented and labelled at several annotation levels. Files were subsequently processed through a series of different scripts and the main prosodic cues (f0, duration, intensity) were extracted and organised in specific data files. In a second moment, we applied a correlation measurement to the normalised values and evaluated the prosodic distance on the basis of a confusion matrix. The formula behind the calculation (see [16], [18], [13]) took into account a sample of f0 values weighted with duration and the signal energy associated to the point where the measurements were taken (a particular importance has been accorded to the most perceptively pertinent segments, as suggested by [11] and [15]). Data were finally normalised.

3. RESULTS

3.1. How many prosodic patterns?

For the first experiment we analysed the prosodic contours of each sample and grouped them according to their final prosodic scheme. Four main contours were found: rising-falling, aligned with the nuclear vowel or delayed (Fig. 1 and 2), total falling (Fig. 3) or falling-rising (Fig. 4). Fig. 1 shows the profiles for the total question *ti piacìu stu cuntu?* (6 syllables) “did you like the story?” for 5 productions (light) of the following dialects: Agrigento, Palma di Montechiaro, and Trapani. The average pattern, which has been auditi-vely assessed and judged as a possible pattern, is shown in blue.

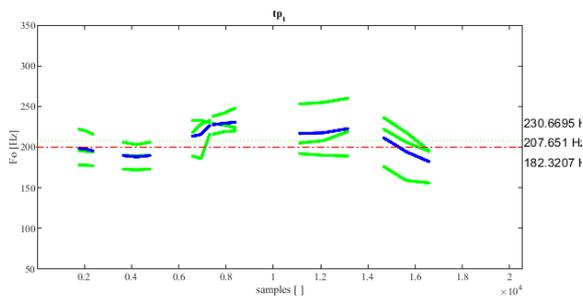


Figure 1: Pitch patterns for the same question in different dialects (Agrigento, Trapani, Palma di Montechiaro).

Fig. 2 presents an average profile similar to the previous one except for the alignment of the melodic pitch on the last and penultimate syllable of the question (This is not visible in the graph).

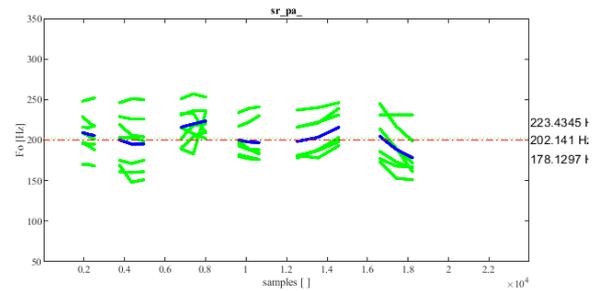


Figure 2: Pitch patterns for the same question in different dialects (Rosolini, Noto, Pachino, Alcamo, Agrigento, Trapani - 2 speakers-).

The type in Fig. 3 is distinguished for a mainly falling trend beginning from the pre-nuclear vowel.

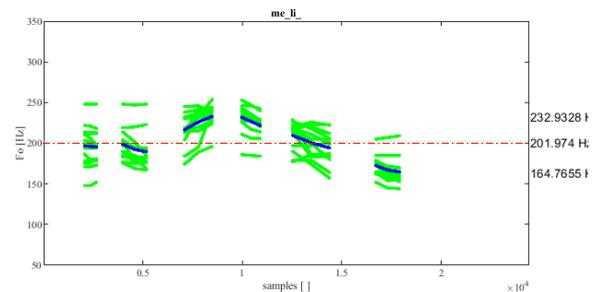


Figure 3: Pitch patterns for the same question in different dialects (Capo d'Orlando, Lipari, Ragusa, Modica, Vittoria, Erice, Castellamare, Pollina, Polizzi, Palermo - 4 speakers-).

On the contrary, the pattern in Fig. 4 shows a falling-rising trend, coinciding with the other typical contour already described for the varieties of East-Sicilian regional Italian (see [2] and [9]).

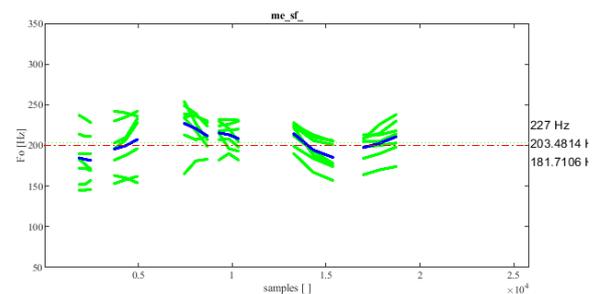


Figure 4: Pitch patterns for the same question in different dialects (Gela, Catania, Acireale, Acibonaccorsi, Grammichele, Zafferana Etnea, San Fratello, Agrigento).

The cluster analysis of the 31 data files lead to the graphical representations shown in Fig. 5 and 6. Although the expected groups do not clearly emerge, we may observe some interesting clusterings: for instance, Catania (ct_ct), Acireale (ct_ac), Grammichele (ct_gm), Zafferana (ct_zs) and Gela (cl_ge) are grouped together as for some samples of

Pachino (sr_pa) and Rosolini (sr_ro) or Palermo (pa_pa, pa_pa3) and Pollina (pa_po1). The main groups also include different prosodic profiles which do not correspond to the types shown above. This inconsistency may be due to the weight of the initial part of the questions and to their different timing which may be responsible for some mismatching and also to prosodic focus made by the speakers. In particular, in the lower group, corresponding to the East-Southern Sicily, two intruders may be detected: the Erice-Trapani and the Agrigento samples.

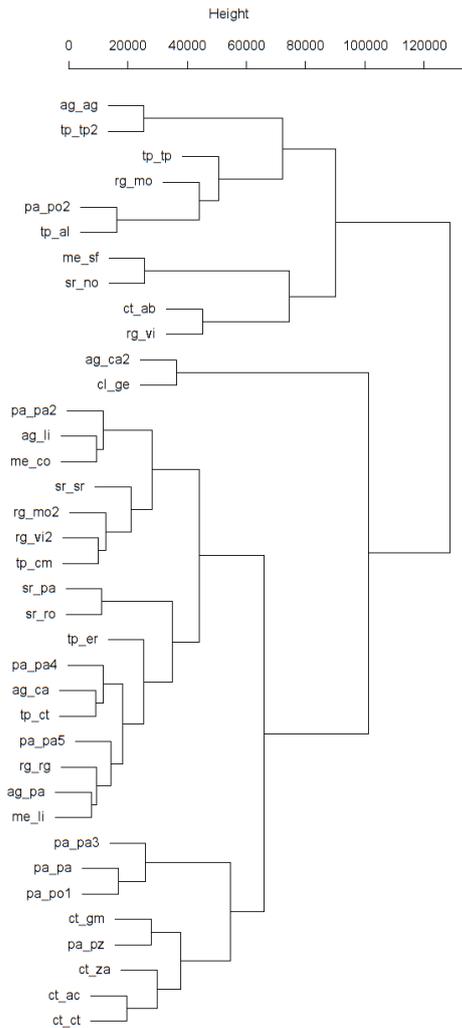


Figure 5: Dendrogram of all the dialects (interrogative modality).

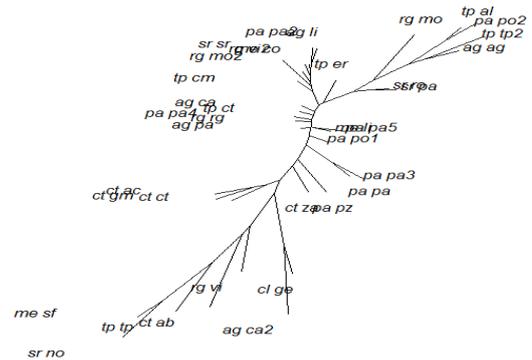


Figure 6: Phylogenetic tree of all the dialects (interrogative modality).

The phylogenetic tree in Fig. 6 (see [1]) confirms the emergence of a group including all the East-southern dialects. Surprisingly (see above for a possible explanation), the sample from Aciconaccorsi (ct_ab) do not appear in the expected group, though their geographical position in the Eastern part of the island.

3.2. A comparison with other Southern dialects

The same distance method described in 3.1. has been applied to a set of comparable sentences available for other Southern dialects.

For our hypotheses, we considered previous dialectal studies and data discussed for Italian in [6]. We expected a higher correlation between the Sicilian dialects and the Southernmost places. In particular, we assumed that questions share the same pitch contour in these areas (see [16]).

Fig. 7 shows the clustering obtained for 21 declarative 10-syllable sentences uttered by speakers from: Pollina-Palermo (coded 0724), Battipaglia-Salerno (0707), Mattinata-Foggia (06d4), Spinazzola-Bari (0637), Taranto (06b6), Sannicola-Lecce (0625) and Parabita-Lecce (0616). Clusters confirm a general similarity between Sicilian and Southern Sallentinian and allow to separate the Apulian dialects and, farther, the Campanian and Taranto samples.

As regards questions, a set of 21 similar utterances has been assessed. Results are shown in Fig. 8.

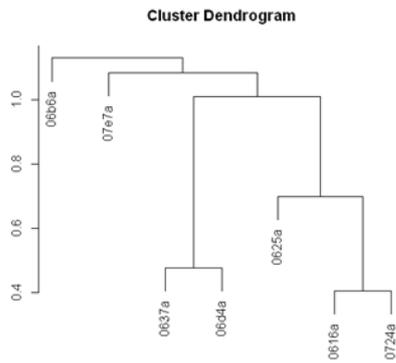


Figure 7: Dendrogram of the Southern and Upper Southern dialectal varieties (declarative modality).

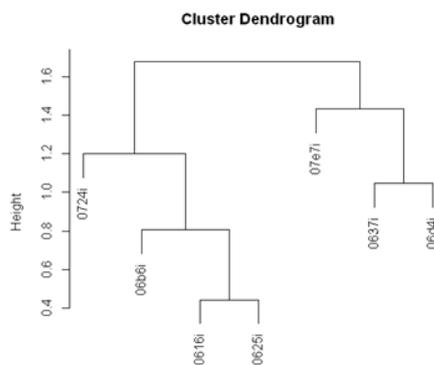


Figure 8: Dendrogram of the Southern and Upper Southern dialectal varieties (interrogative modality).

The final clustering for the interrogative modality reveals other classifications. According to the geographical position, Taranto appears halfway between Sicily and the two Sallentinian samples (which are well apart), whereas the two Apulian dialects cluster with Battipaglia-Salerno.

This dialectometrical study, conducted by calculating mean prosodic distances for 168 statements and questions (10 and 13 syllables) gave a map which confirms both our hypotheses and the dialectological taxonomy claimed by traditional surveys (see [14]). Nevertheless, as shown in Fig. 7 and 8, differences appear depending on modality.

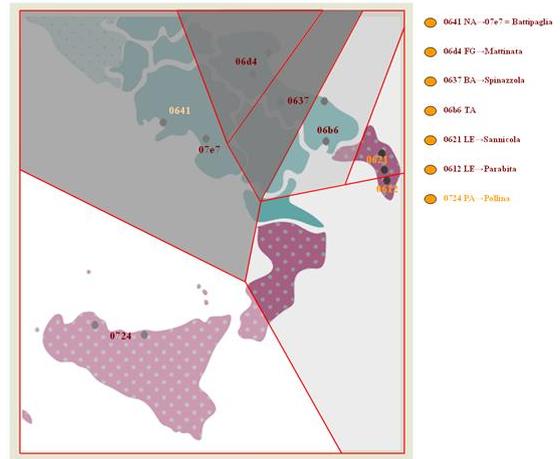


Figure 9: Prosodic map showing the prosodic distances of the Southern and Upper Southern samples for the interrogative modality.

4. CONCLUSIONS

In this paper we attempted to propose a prosodic classification of some dialects of Sicily through a dialectometrical comparison of some recordings. We also wanted to investigate the prosodic proximity between the prototypical Sicilian prosodic profile and other dialects belonging to the Upper Southern and Southern dialectal areas. Results lead to assume that more than two prosodic patterns can be associated to the Sicilian area. The analysis of various corpora shows the presence of different prosodic profiles existing in the Sicilian area and a distinction among the Upper Southern and Southern dialects. Sicilian dialects and other Southern Italian varieties have been grouped according to specific prosodic features which, through typological considerations and correlation matrices, partly confirmed the extension of areas of prosodic homogeneity within Sicily and Southern Italy.

These experiments represent only a starting point and further investigations including more consistent data are necessary to consolidate our results. This will allow to describe peculiar intonation types we found in some Sicilian dialects and to explain the reasons of a sociolectal variation (even in small communities). Finally, it would be interesting to deepen the prosodic correlation between the dialectal *stratum* and regional Italian.

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