

# A PHONETIC STUDY OF A SALLENTINIAN VARIETY (SOUTHERN ITALY)

Antonio Romano

*Facoltà di Lingue e Letterature Straniere - Università di Lecce, 73100 Lecce, Italy.*

*Centre de Dialectologie - Université Stendhal - 38040 Grenoble, France.*

*Tel. +4 76 82 68 64 Fax +4 76 82 43 56, E-mail: romano@u-grenoble3.fr*

## ABSTRACT

This paper aims to briefly illustrate the main segmental features of the phonetic system of a Romance language still spoken - together with Italian, the official language - in a small linguistic area of southern Italy: the Salento peninsula, the "heel of the Italian boot".

Sallentinian, perhaps less known abroad, is well taken into account in national studies and has an important vernacular literature (mainly since the 18th century) with a number of medieval texts. Even if it is well studied from an historical point of view, instrumental phonetics surveys are still missing, though. Given that this language - spoken by more than one million of Salento inhabitants - is widespread in a number of slightly differing dialects, we chose to describe only one variety, that of Parabita. The analyses we conducted on speech make-up collected in this village gave data which we summarise and discuss below.

## 1. INTRODUCTION

Within the large variety of italo-romance dialects, Sallentinian belongs to the same linguistic domain of Sicilian. It has been well taken into account in the past by famous philologists (among them, G. Rohlfs) and in a number of dialectological surveys and works [9].

An important vernacular literature exists for Sallentinian, mainly since the 18th century, also comprising some medieval texts (e.g. the one described in [8]).

Sallentinian is widespread under a constellation of slightly differing dialects spoken together with regional varieties of Italian, the national language. It is spoken by more than one million of Salento inhabitants and is quite well opposed to Apulian dialects along the northern linguistic boundary.

More details about the sociolinguistic dynamics in this region (including code-switching) are pointed out by A.A. Sobrero (e.g. [12]), whereas complete dialectal surveys have been published by G.B. Mancarella [4, 5]. Prosodic interferences between Sallentinian and regional Italian have also been reported in [10].

Sallentinian shows interesting phonetic facts, like some relevant oppositions along the simple-geminate axis and retroflexion, as an areal feature. The presence of this phenomenon in some Salento areas has been neglected until today outside national studies. G. Millardet, in 1933 [6], worked on palatograms of retroflexed sounds of Sicilia and Sardinia (and other regions too): he disregarded, however, Peninsular speakers. D.N.S. Bhat, in his impressive survey of 1973 on retroflexion [1], did not consider them at all, and they did not appear among *rhotics* as surveyed by P. Ladefoged & I. Maddieson (1996) [3].

The variety of Parabita, chosen as representative of a middle-southern group, presents phonetic features shared by other Sallentinian systems, overall the southernmost. Previous unpublished phonotactic surveys we already worked at led to more general results, mostly in agreement with [2, 4, 5], as resumed in the tables below.

Phonetic analyses on the acoustic make-up we have collected - as a result of a fieldwork which we conducted in the village here taken into account - gave the interesting conclusions partially discussed in the next sections.

Table 1.

vowels	front	central	back
close	i		u
mid/open-mid	e		o
open		a	

Table 2.

consonants	bilabial	labio-dental	alveolar	post-alveolar	prepalatal (retroflex)	palatal	velar
plosive	p b		t d		t̪ d̪	c	k g
fricative		f v	s (z)	ʃ			
affricate			ts dz	tʃ dʒ	(dʒ̪ tʃ̪)		
nasal	m	(ɱ)	n		(ɳ)	ɲ	(ŋ)
trill (or tap)			r (r)				
lateral approx			l				
approximant*						j	

\*The labial-velar approximant [w] also exists. Bracketed sounds represent common distributional variants.

Some obstruents can be opposed on the single-geminate axis [p t ʃ c k f s ʃ tʃ], whereas only 4 sonorants can be distinguished along it [m n r l].

Table 1. displays the five vowels of the basic stressed vowel system. Accounting for the aperture of vowels, as well known from various surveys on Sallentinian varieties, a three-degree system is widespread. Back mid vowels tend to be rather open-mid (chiefly in closed syllables), whereas front mid vowels tend to be lowered when they occur followed by a trill. This is the reason why we have chosen to adopt a simple phonemic notation for mid vowels here transcribed in *italic*.

The system for vowels in unstressed position seems to be a similar one even though mid vowels tend to be absent from it.

Table 2. tries to give a capture of the consonant system. The phonotactic repertoire in the table does not display the existence of other phonetic units used in a distinctive way vis-à-vis of those here sketched: namely, geminate sounds. Sounds like [b d ɖ ɡ ʈs ɖʒ ɖʒ̃ ɲ j] are intrinsically long (unless belonging to consonant clusters) and do not show to be in opposition with single intervocalic realisations. On the contrary, [p t ʈ c k f s ʃ ʈ̃ m n r l] constitute a set of consonants that can be opposed along the single-geminate axis (about [r], see below).

A detailed discussion about the functional and distributional properties of these sounds is given in the next sections in order to appreciate better the role they really play in the characterisation of this language.

A recent report on syllabic structures of this variety, based on the inspection of a list of lexical forms in phonetic transcription, provided interesting remarks [7]. We base the phonotactic considerations summarised here on the same sample of phonetic forms, whereas instrumental issues are based on a few acoustic data related to it.

## 2. VOWEL SYSTEM

Thanks to the analysis of the occurrences within a list of 1845 phonetic forms, we have been able to assess the effective presence of each vowel.

5358 vowels and vowel sequences (chiefly bivocalic) have been analysed (5081 simple vowels, 1705 in stressed position, the remainder being represented by ongliding and offgliding sequences). The diphthongisation being an almost negligible feature in most Sallentinian dialects, we mainly account here for different occurrence rates for simple vowels.

Stressed vowels are represented by a 33,2% rate in this set (more or less a ratio of two unstressed vowels for each stressed vowel). This produces a relevant index of conservation for unstressed vowels (as opposed to Apulian dialects).

The following percentages have been observed within this vowel set (note that no assessment involved rates of usage):

Table 3.

vowel sound	occurrence rate within the set	relative % of tonic realisations
[i]	10,1%	43,5%
[e]	12,1%	56,1%
[a]	41,1%	26,1%
[o]	6,2%	90,8%
[u]	29,6%	19,1%

Stressed [a] and [u], as well as unstressed, are largely widespread. From these figures one can conclude that the [u] vowel tends to be used mainly as an unstressed vowel. On the contrary, a stressed [o] vowel is relatively absent among the observed realisations. [a] is the most frequent vowel in stressed position with an occurrence rate almost double with respect to the most represented among the other vowels that show similar distributions.

An acoustic analysis of stressed vowels has been carried out involving a laboratory production of a 28-year-old male speaker. Figure 1. illustrates the dispersion diagram of 150 realisations (showing the existence of five tonic vowels). Table 4. provides evidence for a distinctive recourse to the five phonemes by means of selected examples for each vowel in various contexts.

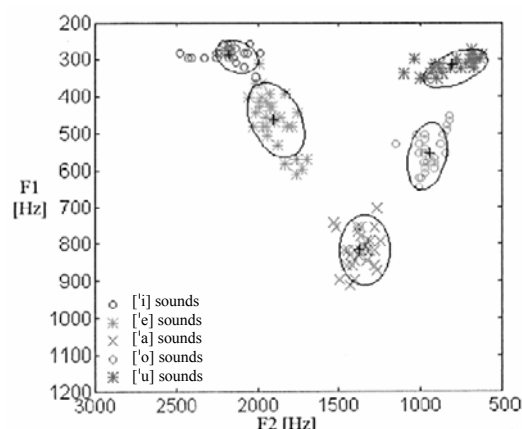


Fig. 1. Stressed vowel dispersion areas. 80% likelihood ellipses.

Table 4.

Distribution	Stressed vowel		Unstressed vowel	
	Open syllable	Closed syllable	Unstressed final position	Prestressed position*
[i] sounds	<i>filu</i> ['fi:lu] 'wire'	<i>cista</i> ['tʃista] 'basket'	<i>id̥di</i> ['i:ɖi] 'they, them (m.)'	<i>minare</i> [mi'na:re] 'to throw out'
[e] sounds	<i>pete</i> ['pe:te] 'foot'	<i>terra</i> ['ter:a] 'ground, earth'	<i>esse</i> ['es:e] 'he/she/it goes out'	( <i>veranda</i> [ve'randə] 'veranda')
[a] sounds	<i>capu</i> ['ka:pu] 'head'	<i>nzartu</i> ['ntsartu] 'rope'	<i>ad̥da</i> ['a:ɖa] 'other (f.)'	<i>catina</i> [ka'ti:na] 'chain'
[o] sounds	<i>rota</i> ['ro:ta] 'wheel'	<i>porta</i> ['porta] 'door'	-**	( <i>ncossare</i> [nko'sa:re] 'to tuck')
[u] sounds	<i>cuta</i> ['ku:ta] 'tail'	<i>musca</i> ['muska] 'fly'	<i>ungu</i> ['ungu] 'I grease'	<i>cuniju</i> [ku'ni:ju] 'rabbit'

\* Usually [e] and [o] are avoided in prestressed position. They tend instead to have a regular distribution in pre-prestressed position.

\*\* The [o] sounds never appear as unstressed in final. An initial stressed [o] is possible, though (like in *oju* ['oj:u] 'oil'). Final back rounded vowel sounds define a unique dispersion area and they are perceived as [u] sounds by native speakers who pay attention to make a distinctive use of [o] in final position when they speak Italian (nowadays also native language for most Sallentinian speakers). Northern varieties avoid final [e] sounds as well: [i] sounds are realised instead.

### 3. CONSONANT SYSTEM

As for vowels, we have carried out a statistical observation of occurrence of these sounds in a set of 5129 consonants and consonant clusters (1001 tauto- and hetero-syllabic clusters, 949 geminates and 3179 intervocalic or initial consonants, for a total amount of 6275 segments).

The complete study requiring a larger space in such a way to report about all rates, we restrict this description to only account for the most significant results.

Obstruents resulted almost equally frequent as sonorants (by representing 51% and 49% of the consonants respectively). In intensive usage seems to be made of sounds like [r], [k], [l], [t], [n], [p], [m], [s] etc. which occupy the first ranks in the classification.

Geminates are also frequent. Thanks to their presence in common morphemes very productive in noun diminutives (such as *-eddū/a* and *-uzzu/a*), [d:] and [t:] sum together the 33% of geminates. [t:] is also well represented (12%).

Among the 75 possible consonant sequences, heterosyllabic clusters are the most frequent: an intensive usage is made of *-st-*, *-nt-*, *-sk-*, *-rt-*, *-sp-* et *-nts-* occurring in the 33% of clusters.

From a functional point of view, a complete phonemic status is only guaranteed for the classic set of voiceless stops [p t k] who all show the same kind of treatment in hypoarticulation. Nevertheless they tend to keep a strong opposition with their geminate counterparts which show a different tendency (weaker articulation for singles vs. aspiration for geminates). The opposition ['kra:pa] 'goat' ~ ['krap:a] 'bunch' tends to be rather realised as ['kra:pa] ~ ['krap:<sup>h</sup>a] (also see below).

A reduced functional efficiency is observable for the palatal stop [c], who misses a voiced counterpart into the bargain.

A big interest has always been taken, in all the surveys on Sallentinian varieties, in the voiced retroflex geminate plosive [d:], the regular outcome of the Latin geminate *-LL-* evolution. Prepalatal retroflexed voiced and unvoiced single sounds ([d] and [t]) also exist as realisations of the original *-dr-* and *-tr-* clusters (according to a dynamic described in [1]).

Among fricatives, voiceless consonants are dominant, often affected by articulation lowering in connected speech. This causes relevant phenomena of undershoot to appear. Voiced fricatives are practically absent except for the labiodental [v], also contextual variant of the voiced bilabial plosive (as in the distinctive use made in cases like ['vɛ:ru] 'I come' vs [sta'b:ɛ:ru] 'I'm coming') and for the voiced allophone of /s/ ([z]) in *s* + voiced *C* clusters.

Affrication is well represented by distinctive sounds like [ts], [dʒ] and [dʒ], which are intrinsically long, and [tʃ], which instead presents a number of contrastive pairs on length bases. Very close opposition does exist between postalveolar affricates and alveolo-palatal or prepalatal retroflex affricates issued by the emergence of frication in some variants of [t] or [d] (with realisations transcribed as [tʃ] and [dʒ]).

Besides a number of combinatory variants, the nasal set displays a complementary distribution for [m] and [n] before bilabial and dental plosives, as well as an equal intervocalic distribution for each of the three distinctive sounds.

The only lateral widespread is an alveolar one. In principle, it is always single, except for recent borrowings. As mentioned above, lateral geminates evolved towards the [d:] sound. A case matching these two different treatments against each other is provided by the pair *carusedda* [karu'sed:a] 'little (young) girl' ~ *carusella* [karu'sel:a] 'fennel thallus'.

An opposition is possible between voiced alveolar apical trills which are often realised as a simple tap ([r]) versus a polivibrating trill [r] (the same as in standard Italian, cf. [3]). A classic contrastive pair showing opposition between these sounds on the single-geminate axis is provided by ['karu] 'dear' ~ ['karu] 'wagon'. Taps are never realised as retroflex [ɽ]. Nor alveolar approximants or fricatives ([ɹ] or [ɹ]) seem to exist, even though such phenomena are frequent in other southern systems sharing the presence of retroflex sounds (like Sicilian ones). On the contrary, more complex realisations appear in coarticulated onsets (such as in *-tr-* and *-dr-*) where the plosives tend to become retroflex and the trill tends to be rather fricative (see Fig. 3).

#### 3.1. Some relevant length oppositions

For the main voiceless stops a length opposition is possible in connected speech (*nu puzzu* [nu'put:su] 'a well' ~ *nu ppuzzu* [nu'put:su] 'I don't smell'), as well as at the very beginning of a word or sentence (*punta!* ['punta] 'bet, point!' ~ *ppunta!* ['punta] 'fasten!', *tocca!* ['tok:a] 'touch!' ~ *ttocca!* ['tok:a] 'you have to, one musts', *conza* ['kɔntsa] 'mortar' ~ *cconza!* ['k:ɔntsa] 'prepare!, adjust!'). Other relevant oppositions do exist for voiceless fricatives, both alveolar ([a:su] 'ace' ~ [a:su] 'axle') and postalveolar (kind of opposition unknown in standard Italian: [o:ʃi] 'today' ~ [o:ʃi] 'your, yours (pl.)' or [va:ʃa] '(that) he/she/it go' ~ [va:ʃa] 'short, low (f.)').

As already highlighted, except for hyperarticulated utterances, intervocalic voiceless plosives are always interested by articulation lowering phenomena often leading to lenition (*na patata* 'a potato': [napa'ta:ða], [napa'ta:ða]; *me tole* 'a capu' 'I have a headache': [me tole a'va:βu]). As stated above, in geminate realisations, but even in clusters, they often show changes in the articulatory timing by causing aspiration (*nu purpu* [nu'purp<sup>h</sup>u] 'an octopus'). This seems worth explaining the perceived single-geminate opposition at the beginning of a word. Instrumental evidence supported this hypothesis (also see [14]).

#### 3.2. Sounds with limited distribution

Voiced alveolar stops, as well as bilabial and velar, don't show relevant length oppositions, nor a well-established articulation in intervocalic position where they tend to be geminate or unvoiced. For example, the two main allophones ([d] and [d:]) appear in a complementary way, in heterosyllabic clusters ([kardu] 'thistle', [kwandu] 'when') or at the word beginning ([d:i:atu] 'I wake up') and in intervocalic position (*caddu* ['kad:u] 'warm, hot'). A clear opposition does exist with respect to the prepalatal retroflex voiced plosive, as supported by the existence of several contrastive pairs (e.g. *caddu* ~ *caddu* 'corn, callus', the latter being realised as ['kaɖ:u] or ['kaɖ:zu]).

The voiced velar plosive [g] only appears in clusters (such as *-ng-* or *-rg-*). In all other positions where it originally was in Latin, it tends to be realised as unvoiced. Its voiceless counterpart

[k] tends to show a limited distribution because it palatalises as [c] before high front vowels. The opposition of [c] sounds against other voiceless stops could be supported by a distinctive use in a number of cases such as: *chioppe* ['cop:ɐ] 'it rained' ~ *coppe* ['kop:ɐ] 'cups', *ricchia* ['rika] 'ear' ~ *ricca* ['rika] 'rich (f.)', *aschia* ['asca] 'log' ~ *asta* ['asta] 'pole', *tanta* ['tanta] 'as much (f.)' ~ *chianta* ['canta] 'plant' ~ *canta* ['kanta] 'he/she/it sings'. Nevertheless, it could be actually realised as [kj] or even as [kç].

Affrication provides a distinctive articulatory manner for at least two other sounds pairs, even though this phenomenon represents only an areal feature [2]. The voicing opposition is realised at the alveolar level (such as in *puzzu* ['put:zu] 'well (n.)' ~ *puzzu* ['puɖ:zu] 'wrist' or *fazzu* ['fat:zu] 'I do/make' ~ *fazzu* ['fad:zu] 'false') as well as at the post-alveolar level (*fagge* ['fad:ʒe] 'scythe' ~ *facce* ['fat:ʃe] 'face' also opposed to an alveolar realisation, *fazze* ['fad:ze] 'false (fpl.)').

### 3.3. Instrumental data on retroflex sounds

As a matter of fact, one should distinguish at least [d:] sounds, whose general place and manner are those of a prepalatal retroflex voiced geminate plosive. Sometimes its realisation produce a fricative release which is often misperceived by non-native listeners (also see [13]). The same phenomenon is supposed to be at the base of the clusters -tr- and -dr- to be misinterpreted as [tʃ] or [dʒ] by non-native listeners.

In the framework of an instrumental analysis, we have observed various degrees of affrication in elicited productions as well as in connected speech.

Fig. 2 displays some spectrograms related to elicited speech uttered by a 28-year-old native speaker. A realisation of the word *ad̥a* ['ad̥a] 'other (f.)' is compared with one of the word *aggia* ['ad̥ʒa] '(that) he/she/it have': a relatively concentrated burst of the retroflex realisation is opposed to the significant frication of the affricate. Distinct formant trajectories, on both the preceding and the following vowel, are clearly related to two slightly different places of articulation. F<sub>2</sub> tends to rise up to (or to drop down from) 2000 Hz for the postalveolar non retroflex onset of [d̥ʒ] and tends to stay around 1850-1900 Hz for the retroflex onset.

Spectrograms in Fig. 3 provide evidence for a slightly more prominent frication in *mandra* ['maɳɖa] 'herd', whereas a significant distinction is made for the pair *na t̥rija* [na't̥ij:a] 'a red mullet' ~ *na cija* [na't̥ij:a] 'an eyelash'. Different durations are noticeable for the occlusive and the fricative elements.

### 4. STRESS AND INTONATION

Primary stress is mainly realised by means of a balance of vowel lengthening, pitch and intensity peaks hierarchy, the sentence accent being chiefly a matter of lengthening. Details about intonation patterns are in [11] where interesting final rising-falling contours are described as signalling y/n questions.

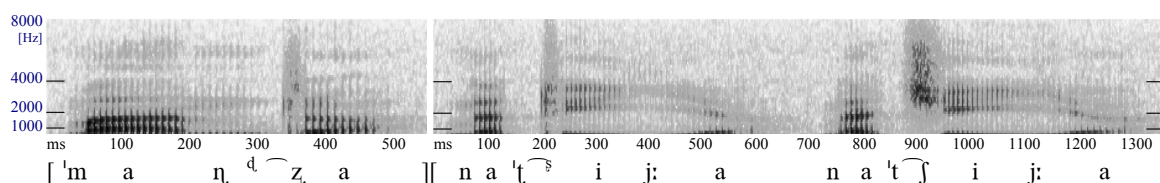


Fig. 3. Acoustic differences accounting for a distinctive power of retroflex articulations even when subject to affrication process.

### 5. CONCLUSIONS

This paper attempts to give a first short description of some phonetic features of the Sallentinian variety spoken in Parabita. In the aim to provide a general overview of this phonetic system, results from a phonotactic study are described. Information about vowel and consonant phonemic status and the conditions of their realisation have been discussed as well, giving instrumental evidence for a few relevant phenomena.

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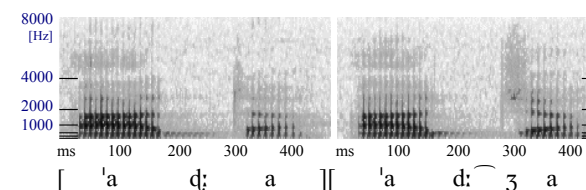


Fig. 2. Broad band spectrograms showing the distinction between voiced retroflex and non-retroflex postalveolar affricates.