Prosodic Phrasing in Argentinean Spanish: Buenos Aires and Neuquén

Ingo Feldhausen [1,2], *Christoph Gabriel* [1,2], *Andrea Pešková* [2]

[1] Institut für Romanistik, University of Hamburg, Germany
[2] Research Center 538: Multilingualism, University of Hamburg, Germany

ingo.feldhausen@uni-hamburg.de,christoph.gabriel@uni-hamburg.de,andrea_pesko@yahoo.co.uk

Abstract

This paper deals with prosodic phrasing in two varieties of Argentinean Spanish: *porteño* (Buenos Aires) and the dialect of Neuquén (Northern Patagonia). Based on recordings of 50 speakers from both places uttering 1000 SVO declaratives (which are syntactically and prosodically branching), we show that several similarities exist between the two varieties with respect to phrasing decisions and boundary cues. *Porteño* is often described as more closely resembling Italian than other Spanish dialects in terms of pitch accent realization. As for phrasing, *porteño* seems to follow the Spanish model – however, to a lesser extent than the Patagonian variety.

1. Introduction

"Buenos Aires habla con entonación italiana" [1]. This famous statement highlights a consequence of the extensive migration to Argentina between 1860 and 1920. 60% of the immigrants were Italians [2] and the majority of those coming from Central and Southern Italy stayed in Buenos Aires, where they made up a third of the population [3]. Even though Spanish monolingualism prevails today, *porteño*, the prestigious urban vernacular of Buenos Aires, shows strong Italian influence. *Porteño* has spread far beyond the borders of the capital and is spoken today as far south as Tierra del Fuego. The Italian immigration to Patagonia never reached the degree seen in Buenos Aires and consequently the linguistic situation in the Patagonian provinces is not characterized by such a strong Italian influence.

The aim of this paper is twofold. First, we hope to detect traces of language contact in the prosody of *porteño*. The focus thereby lies on phrasing, an aspect of *porteño* prosody which has been largely disregarded in the current literature which is mainly concerned with pitch accent realization, e.g. [4]. Secondly, we wish to compare *porteño* to a dialect without a strong historical background of Italian immigration. For this reason, the variety spoken in Neuquén (Patagonia) has been considered. It is hypothesized that this variety shows weaker "Italian" characteristics, if it in fact shows them at all.

2. Phrasing in Spanish and Italian

The repartition of larger units into smaller prosodic groups of the Prosodic Hierarchy [5, 6] and the factors determining the placement of prosodic boundaries are widely discussed in the literature. The possible patterns of prosodic groupings for the realization of simple SVO declaratives are manifold. They range from realizations without any intermediate phrasal break, i.e. (SVO), to several groupings such as (S)(VO), (SV)(O) or even (S)(V)(O). Phrasing decisions depend on factors such as information structure, speech rate, and the complexity of the constituents (branchingness). In our study

on all-new SVO clauses, we concentrate on the last two factors. Syntactically branching constituents are composed of a head noun and either an adjectival, (1a), or a prepositional modifier, (2e,f). A prosodically branching XP consists of a proper name, (1b).

(1) a. $_\omega$(la libélula) $_\omega$(amazónica)
[$_{DP}$ la [$_{NP}$ [$_{N'}$ [$_{N'}$ [$_N$ libélula]] [$_{AP}$ amazónica]]]]
'the Amazonian dragonfly'

b. $_\omega$(Bárbara) $_\omega$(Duarte) $_\omega$(Álamo)
[$_{DP}$ [$_{NP}$ Bárbara Duarte Álamo]]

Prosodic phrasing in Spanish is widely studied, e.g. [7, 8, 9], but it is [10], who in their cross-linguistic study exclusively focus on SVO constructions combined with the above-mentioned factors. They show that (S)(VO) is the most common grouping in (Peninsular) Spanish, while (SVO) is typical of (Neapolitan) Italian. Table 1 exemplifies the main differences between the two languages (syntactic branchingness is indicated by the doubling of the capital letters S(ubject) or O(bject): SVOO = non-branching S, but branching O). In Spanish, 79% of non-branching SVO structures display (S)(VO). When the object is branching, the percentages of (S)(VO) are even higher (93%). In Italian, (SVO) is predominant, even with branching objects (91%).

Table 1. *Phrasing decisions according to [10].*

Peninsular Spanish			Neapolitan Italian		
SVO	(S)(VO)	**79%**	SVO	(SVO)	**97%**
SVOO	(S)(VO)	**93%**	SVOO	(SVO)	**91%**

When the subject is branching, the two languages show a similar pattern, [10]. In this case, (S)(VO) is predominant in both languages, regardless of the syntactic or prosodic nature of the object branchingness. Given that syntactic branching always entails prosodic branching, [10] conclude that the branching effect is genuinely prosodic in nature.

The phonetic realization of prosodic breaks is discussed in [11]. The authors show that phrase boundaries in (Peninsular) Spanish and (Neapolitan) Italian can be signaled by several boundary cues (e.g. continuation rise (CR), sustained pitch (SP), and pitch reset (PR)). All cues can additionally be accompanied by a pause (p). Table 2 summarizes a portion of the results from [11]. CR is predominant in Spanish (88.4%), while the percentages for Italian are quite balanced between CR (54.5%) and SP (45.5%). Further differences emerge with the use of PR: While this cue occurs nearly obligatorily in the Italian data, the percentage is a great deal lower for Spanish (76%). As for the occurrence of pauses, the differences between the two languages are only slight and will not be considered any further in our study. The question now arises as to which of

these aspects of our two varieties more closely resemble Peninsular Spanish and which are more similar to the Italian model.

Table 2. *Boundary cues (according to [11]).*

	CR	SP	PR	p
Spanish	88.4%	11.2%	76%	28.2%
Italian	54.5%	45.5%	98%	16.7%

3. Methods and Data

We conducted a production experiment, which – to ensure maximal comparability of results – was partly inspired by [10]. The material, consisting of 10 simple SVO constructions, was controlled for branchingness and the location of stress in the relevant prosodic words. All subject constituents end in words with antepenultimate stress (e.g. *libélula* 'dragonfly'). The distance between the accented syllable and the word end allows for the better detection of additional tonal movements. The target sentences are given in (2). Doubling or tripling of the capital letters S(ubject) or O(bject) indicates branchingness of the relevant XP. The recordings took place in a quiet room in Buenos Aires (BA) and in Neuquén (NQN). Using a Marantz hard disk recorder (PMD671) and a Sennheiser microphone (ME64), we recorded 25 native speakers of each variety (50 in total), all of whom were naive to the purpose of the study.

(2) a. La libélula miraba a la belladona. (SVO)

 b. La libélula miraba a la belladona venenosa. (SVOO)

 c. La libélula amazónica miraba a la belladona. (SSVO)

 d. La libélula amaz. miraba a la belladona venenosa. (SSVOO)

 e. La libélula de Málaga miraba a la belladona. (SSVO)

 f. La libélula de M. miraba a la belladona venenosa. (SSVOO)

 'The (Amazonian) dragonfly (from Malaga) used to look at the (poisonous) belladonna.'

 g. Bárbara miraba a Verónica. (SVO)

 h. Bárbara miraba a Verónica Diego Solana. (SVOOO)

 i. Bárbara Duarte Álamo miraba a Verónica. (SSSVO)

 j. Bárbara Duarte Álamo miraba a Verónica D. S. (SSSVOOO)

 'Barbara (Duarte Álamo) used to look at Veronica (Diego Solana).'

Accompanied by corresponding visual stimuli depicting the situation described, each sentence was presented in graphic form on a single PowerPoint slide. To obtain a whole focus reading, the subjects were asked to produce the target sentences as if they were answering the general question "What happened?". The speakers were asked to read the target sentences aloud twice, first at a regular and then at a faster rate of speech, so that a total of 500 tokens were recorded for each variety. Due to obvious misunderstandings during the recording session, we had to exclude one speaker and parts of the data produced by other speakers. The BA corpus thus includes data from 24 subjects and consists of 470 tokens, while the NQN corpus includes 25 subjects and consists of 496 tokens. The data were recorded directly as wav files (sample rate 48 kHz), transferred to computer and analyzed using Praat [12]. The three authors analyzed and measured the data independently and compared their results afterwards. The first step consisted of detecting boundaries in the data by carefully listening to the recordings; in a second step, we singled out the relevant surface cues for each boundary.

4. Results

4.1. Tonal boundary cues

In contrast to pitch accents, boundary tones associate with the edges of intermediate or intonational phrases (ip and IP respectively). The surface realization of a boundary tone can take many forms and we assume an underlying intermediate phrasal boundary tone H- for all phonetic realizations presented below. Common to all of these tonal boundary cues is the fact that they somehow interrupt the regular downward trend (or 'declination') of the fundamental frequency F0.

Continuation rise (CR): A CR is characterized by a continuous F0 rise from the last stressed syllable until the break. An example is given in Fig. 1. The pre-boundary rise starts on the metrically strong syllable of the proparoxytonic surname *Álamo* and comes to an end on the second post-tonic syllable -*mo*, where the break is located (cf. black box, Fig. 1).
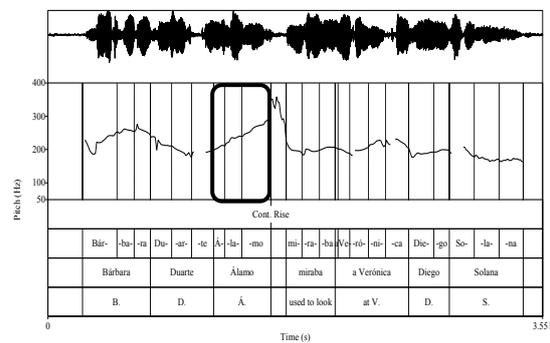

Figure 1: *CR (sentence 2j; normal speech rate).*

Sustained pitch (SP): A SP is similar to CR in starting the pre-boundary stretch with a rise on the metrically strong syllable, but ends in a high plateau that continues until the break. In Fig. 2, the contour rises on the tonic syllable of *Málaga*; the height of the pitch is sustained on -*la*- and -*ga* until the end of the prosodic word, where the boundary is located.

Pre-boundary upstep (PU): The defining characteristic of this cue is the upstep of the pitch accent preceding the boundary, leading the average level of the F0 contour preceding the boundary to be higher than the material following it (cf. also [10]). The higher average pitch level, which enables us to distinguish this tonal cue from a PR, can be seen clearly in Fig. 3 (black box), where the boundary is located after the syntactically branching subject *la libélula amazónica*. The pitch peak of the adjective is upstepped compared to the preceding one (signaled by the PU-arrow).

Pitch reset (PR): By an abrupt increase in pitch – located on a pitch accent, the regular downward trend is interrupted and hence the new prosodic phrase starts with an elevated beginning (cf. ch. 6.5 in [13] for details).

Finally, there are two pitch events which we also interpret as complex surface realizations of the underlying H-.

(Sustained) Hat contour (HC): HC resembles SP in initially maintaining the pitch height in a small plateau, but differs from it in showing a clear drop in front of the break: The plateau is not sustained until the end of the word. HC is labeled HL- in our analysis. Due to the fact that this cue is seldom realized, we do not provide an illustrative example.

Complex boundary (CB): A small dip located between the pre-boundary rising pitch accent and the high part of the tonal fluctuation signaling the boundary characterizes this pitch event. In Fig. 4, the break is located after the subject *Bárbara*. After the peak on *Bár*-, F0 falls until the beginning

of the pre-boundary syllable *-ra* and then rises again until the end of the word. We express this fall-rise with the label LH- (in line with [14]).
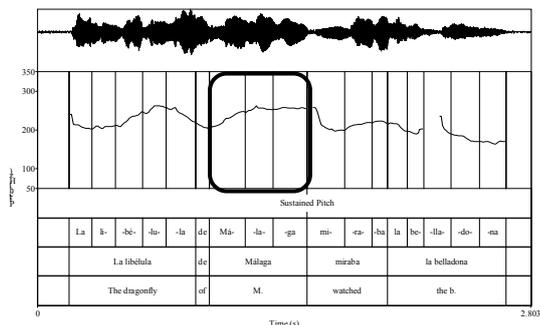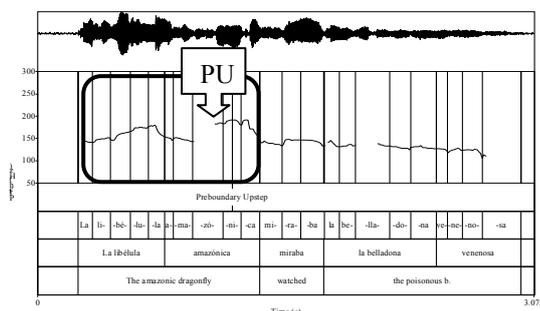

Figure 2: *SP (sentence 2e; normal speech rate).*
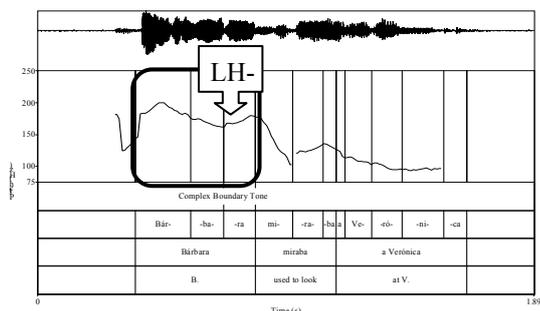

Figure 3: *PU (sentence 2d; fast speech rate).*

Figure 4: *CB (sentence 2g; normal speech rate).*

Table 3. *Frequency of Boundary Cues.*

	CR	SP	PR	PU	CB	HC
BA	42%	32%	6%	11%	7%	2%
NQN	37%	31%	3%	8%	21%	-

Table 3 summarizes the frequencies of the tonal boundary cues. In the two varieties, most boundaries are realized either as CR (42%; 37%) or as SP (32%; 31%) with a more or less balanced frequency. The remaining cues account for 26% in BA, while they account for 32% in NQN. Among the differences in the attested boundary cues (BA: PR, PU, CB, HC vs. NQN: PR, PU, CB) there is one important contrast: NQN, but not BA, displays a high percentage of CB (21%). Thus, this cue seems to be quite normal in NQN, while it is possible, though not typical in *porteño*. The typical pitch accent preceding the boundaries is L+H*. It shows up in nearly 80% of the cases in BA as well as in NQN and thus has a higher percentage than in Peninsular Spanish (16%) and Italian (44%); cf. [11]. As in the Peninsular variety, both SP and CR may combine with L+H*; the strong connection

between L+H* and SP as in Italian (cf. [11]) is not verified for BA and NQN.

4.2. Phrasing decisions

Irrespective of any condition such as branchingness or speech rate, the most common phrasing pattern in our data is (S)(VO), with a percentage of 68% for BA and 75.2% for NQN, cf. Table 4. This grouping is followed by the pattern (SVO), which occurs in about 31% of all cases for BA and 24% for NQN. The two remaining groupings, (SV)(O) and (S)(V)(O), are almost nonexistent.

Table 4. *General phrasing patterns in BA and NQN.*

	(S)(VO)	(SVO)	(SV)(O)	(S)(V)(O)	sentences
BA	68%	30.6%	0.4%	1%	470
NQN	75.2%	24%	0.6%	0.2%	496

The effect of speech rate is shown in Table 5. A rapid speech rate (r) favors a higher frequency of (SVO) groupings. In BA, the number of (S)(VO) groupings is reduced at a faster speech rate (57%) compared to 79% at a normal rate of speech (n); the number of (SVO) groupings, in turn, increases from 18% to 43%. NQN shows a parallel behavior.

Table 5. *Phrasing patterns according to speech rate.*

	(S)(VO)	(SVO)	(SV)(O)	(S)(V)(O)	sent.
BA_n	79%	18%	1%	2%	230
BA_r	57%	43%	-	-	240
NQN_n	90%	9%	0.7%	0.3%	247
NQN_r	60.6%	39%	0.4%	-	249

Table 6. *Percentages of phrasing patterns by degree of branchingness at a normal rate of speech.*

	(S)(VO) BA	(SVO) BA	(S)(VO) NQN	(SVO) NQN
2a) SVO	74%	26%	72%	24%
2b) SVOO	74%	26%	72%	24%
2c) SSVO	70%	26%	100%	-
2d) SSVOO	65%	30%	96%	4%
2e) SSVO	83%	9%	100%	-
2f) SSVOO	96%	4%	100%	-
2g) SVO	78%	22%	84%	16%
2h) SVOOO	61%	35%	84%	16%
2i) SSSVO	100%	-	100%	-
2j) SSSVOOO	96%	-	92%	4%

Table 6 depicts the branchingness condition at a normal speech rate for the phrasing patterns (S)(VO) and (SVO). In not considering the groupings (SV)(O) and (S)(V)(O), it is possible that percentages in Table 6 might not add up to 100%. Constructions with (syntactically) non-branching subjects (row a,b) are predominantly realized as (S)(VO) in both varieties (BA: 74%; NQN: 72%). In constructions with a branching subject (row c – f), the grouping (S)(VO) is also predominant in BA and NQN. Nevertheless, NQN almost always has a boundary after the subject (96%-100%), whereas in BA the numbers vary between 65% and 96%. In BA, there is a difference between branching objects of the types N+AP and N+PP (row c,d vs. row e,f), the latter clearly favoring (S)(VO) to a greater extent. NQN does not show such a difference. As for prosodic branchingness (rows g-j), (S)(VO) also constitutes the predominant grouping in both varieties.

4.3. Discussion

The results show that prosodic phrasing in the two Argentinean varieties possesses characteristics of both Peninsular Spanish and Italian. However, *porteño* shows a stronger tendency towards Italian than the Neuquén variety. Even though general phrasing shows a large number of (S)(VO), Table 4, NQN displays an even higher percentage of this grouping when only a normal speech rate is considered (90%), Table 5. This strong preference for (S)(VO) in NQN resembles Peninsular Spanish. While it is true that *porteño* obviously does not display the dramatically high percentage of (SVO) groupings of >90% as is the case for Italian, it is also clear that (S)(VO) is not as dominant in *porteño* as in Peninsular Spanish. This can especially be seen in the condition with a non-branching subject and a syntactically branching object, for which (SVO) totals 26% in *porteño*, while in Peninsular Spanish (S)(VO) already totals 93%. In the syntactic branching S conditions (row c-d, Table 6), NQN clearly shows its preference for (S)(VO) again: it totals 96%-100%, while (S)(VO) totals only 78.5% in *porteño* - despite the difference between the various types of branching objects (N+AP vs. N+PP). With respect to the groupings in the prosodic branching subject conditions, Peninsular Spanish and Italian hardly differ from one another (favoring (S)(VO)). The pattern is the same in the case of BA and NQN.

Concerning the surface realizations of phrasal boundaries, the results show that there is balanced relationship between CR and SP in both varieties. This resembles Italian. However, the percentages of CR and SP are lower than in Italian. This is due to a widely varied use of other boundary cues such as CB and PU. Whereas CB is typically used in NQN (21%), the complex tones in BA total only 9% (CB, HC). [11] do not observe such tones in their data, while they are reported by other scholars ([15],[16]). Our data clearly support the assumption of bitonal phrasal boundary tones. That PR is hardly used is very surprising. This might be due to the use of a higher average pitch level on the pre-boundary XP; a use not only limited to PU. In Fig. 4, for example, the higher pitch level can also be seen for CB. Lastly, it should be emphasized that our analyses are based on scripted speech and that data from spontaneous speech may yield different results: In a pilot study on phrasing in *porteño* semi-spontaneous speech, [17] show that the percentage of (SVO) in SVO declaratives rises to 45.5%. Thus, phrasing decisions in spontaneous speech seem to follow the Italian model to a greater extent than in scripted speech.

5. Conclusion

The aim of this study was to present a first look at prosodic phrasing patterns in the Spanish varieties in Buenos Aires and Neuquén compared to the phrasing decisions in Peninsular Spanish on the one hand and in Italian on the other. Our results show that *porteño* occupies an intermediate position in displaying characteristics of Peninsular Spanish as well as of Italian. The Neuquén variety also has Italian characteristics, but to a lesser extent. BA and NQN generally exhibit a high percentage of (S)(VO) for all conditions, which is similar to Peninsular Spanish. In the Peninsular variety and in NQN, however, the frequency of (S)(VO) is higher than in *porteño* Spanish, the latter displaying more (SVO) groupings. This, in turn, is typical of Italian. A clear similarity exists between Italian and the two Argentinean varieties with respect to the realization of prosodic boundaries. Both varieties display a rather balanced frequency of CR and SP (even though the

general percentage of these cues is higher than in Italian). However, BA and NQN make more frequent use of further boundary cues. Especially CB is typical of NQN. Finally, it is important to mention that the 'Italian' features detected in contemporary *porteño* prosody can hardly be interpreted as clear evidence of a direct Italian influence on Argentinean Spanish in the past. Nevertheless, the obvious differences in intonation between *porteño* and Peninsular Spanish, as well as the tendency of the former variety to pattern with Italian rather than with other Spanish dialects, suggest that the historical situation in the capital of Buenos Aires (Spanish/Italian contact and bilingualism) has left at least some marks on today's *porteño* prosody. In addition to the shape of pitch accents ([4]), phrasing decisions and boundary realizations also seem to offer some indications of this influence. The current spreading of the prestigious *porteño* variety and Italian immigration to Patagonia (albeit low) might explain why some 'Italian' features can also be detected in the variety of Neuquén.

References

[1] Vidal de Battini, B. E. 1964. *El español de la Argentina.* Buenos Aires: Consejo Nacional de Educación.

[2] Lipski, J. M. 2004. El español de América y los contactos bilingües recientes: apuntes microdialectológicos. *Revista Internacional de Lingüística Iberoamericana* 2: 89-103.

[3] Fontanella de Weinberg, M. B. 1987. *El español bonaerense. Cuatro siglos de evolución lingüística (1580-1980).* Buenos Aires: Hachette.

[4] Colantoni, L. & Gurlekian, J. 2004. Convergence and intonation: historical evidence from Buenos Aires Spanish. *Bilingualism. Language and Cognition* 7: 107-119.

[5] Selkirk, E. 1984. *Phonology and Syntax. The Relation between Sound and Structure.* MIT Press.

[6] Nespor, M. & Vogel, I. 1986/2007. *Prosodic Phonology.* Berlin: Mouton de Gruyter (1986: Dordrecht: Foris).

[7] Toledo, Guillermo. 2007. Fraseo en español peninsular y modelo autosegmental y métrico. Estudios Filológicos 42, 227-243.

[8] Rao, Rajiv 2007. Phonological Phrasing in Barcelona Spanish. In *Proceedings of the 34th Western Conference on Linguistics (WECOL).* Ed. by E. Bainbridge & B. Agbayani, 345-360. Fresno: Department of Linguistics, California State University.

[9] Nibert, H. 2000. *Phonetic and Phonological Evidence for Intermediate Phrasing in Spanish Intonation.* PhD Thesis, University of Illinois at Urbana-Champaign.

[10] D'Imperio, M.; Elordieta, G.; Frota, S.; Prieto, P. & Vigário, M. 2005. Intonational Phrasing in Romance: The Role of Syntactic and Prosodic Structure. In *Prosodies: With Special Reference to Iberian Languages*, S. Frota, M. Vigário & M. J. Freitas (eds), 59-97. Berlin: Walter de Gruyter.

[11] Frota, S.; D'Imperio, M.; Elordieta, G.; Prieto, P. & Vigário, M. 2007. The Phonetics and Phonology of Intonational Phrasing in Romance. In *Segmental and Prosodic Issues in Romance Phonology,* P. Prieto, J. Mascaró & M.-J. Solé (eds), 131-153. Amsterdam: Benjamins.

[12] Boersma, P. & Weenink, D. 1992ff. *Praat. Doing Phonetics by Computer.* Version 5.0.06 [http://www.praat.org].

[13] Gussenhoven, C. 2004. *The Phonology of Tone and Intonation.* Cambridge:CUP, chapter 6.5.

[14] Aguilar, L. & De la Mota, C & Prieto, P. 2009. SP_ToBI TrainingMaterials.[http://prosodia.uab.cat/sp_tobi/en/index.php]

[15] Feldhausen, I. 2008. *The Prosody-Syntax Interface in Catalan.* PhD Thesis, University of Potsdam.

[16] Estebas-Vilaplana, E. & Prieto, P. To appear. La notación prosódica en español. Una revisión del Sp_ToBI. *Estudios de Fonética Experimental* 18: 263-283.

[17] Pešková, A.; Feldhausen, I. & Gabriel, C. 2009. *Prosodic phrasing in different focus constructions: the case of Porteño Spanish.* Poster, PaPI 2009, June 17th, Gran Canaria.