

Aspiration vs. Deletion of /-s/ in Contemporary Eastern Cuban Spanish: Differing Constraints

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Abstract

In coda position, the Spanish voiceless sibilant /s/ often undergoes aspiration or deletion in a number of varieties. The present study focuses on factors conditioning /s/ aspiration vs. deletion and thus constitutes an important contribution towards our understanding of these variable processes. Working with a corpus gathered in situ from Cuban Spanish speakers, our variable rule analysis considers stylistic (interview, reading passage, word list), social (sex, age, education, rural vs. urban), and phonological (position, pause, stress, word length, and following segment) factor groups. In addition, we code possible functional dimensions of lexical vs. morphemic /s/ as a factor in variation. Our analysis shows that style is the strongest conditioning factor for both variables followed by the phonological nature of the next segment. Rural speakers (vs. urban) favour vernacular variants, but only when interview data are considered on their own.



Figure 1. Map of Cuba (the arrow shows the province of Holguín.)

Corpus

We used the Fernández-Heap-Tennant corpus (Tennant et al. 2006; Rosés Labrada et al. 2011), with 41 sociolinguistic interviews at present. In addition to a free interview, these interviews include two reading passages and a word list that speakers were asked to read. We use here data from 27 speakers: approximately six minutes from the interviews and the read materials (word list and reading passages).

Speakers

Age	Sex		Residence		Level of Education			
	Male	Female	Urban	Rural	Primary	Secondary	Pre-University	University
18-29	1	4	4	1	0	1	1	3
30-59	7	10	14	3	0	3	3	11
60+	2	3	1	4	3	0	1	1

Table 1. Demographic distribution of study participants (N=27) according to sex, age, residence, and highest formal level of education attained.

Methodology

Recordings were orthographically transcribed in Praat; 6916 tokens were identified and coded for different social and linguistic factors.

The social factors that are considered in this study are sex, age, place of residence, level of formal education, and style.

Coding for each occurrence of the (s) variable takes into account the different morphophonological contexts that proved important in previous studies:

- position in the word (word-internal vs. word-final)
- following segment (vowel or consonant) vs. pause
- number of syllables (monosyllabic words vs. polysyllabic words)
- stress on syllable with the (s) variable vs. stress on the following syllable
- morphological status of the (s) variable in the word (lexical, plural, or verbal)

A multiple-regression analysis performed with Goldvarb allowed us to determine the linguistic and social factors that favour the different realizations of the (s) variable in coda position: /s/ retention, aspiration or deletion.

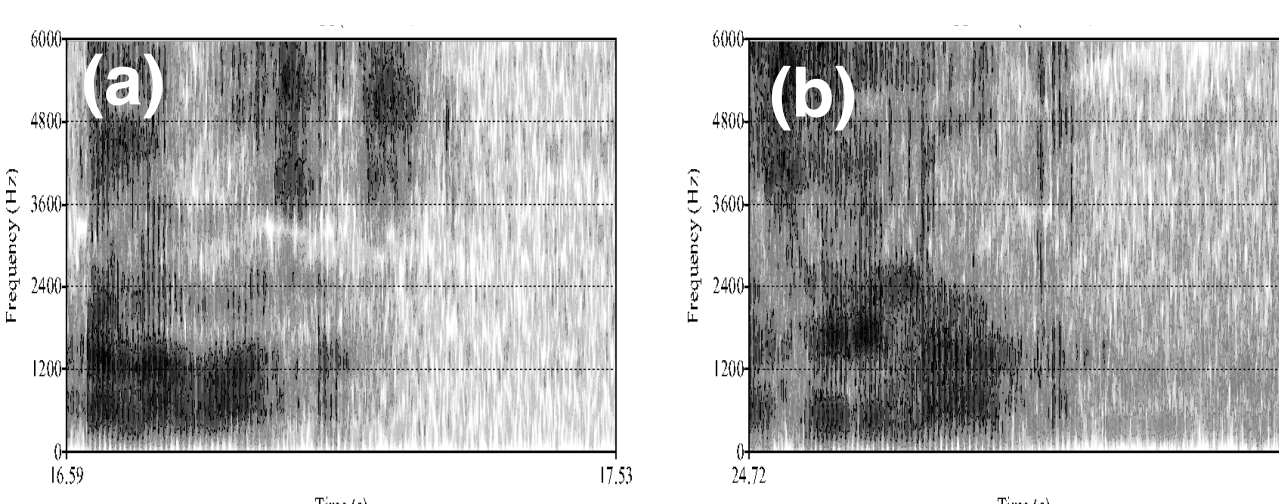


Figure 2(a-b). [s] in final position (*calabaza[s]* 'pumpkins') and in initial position (*[s]serenata* 'serenade') as pronounced by speaker L.

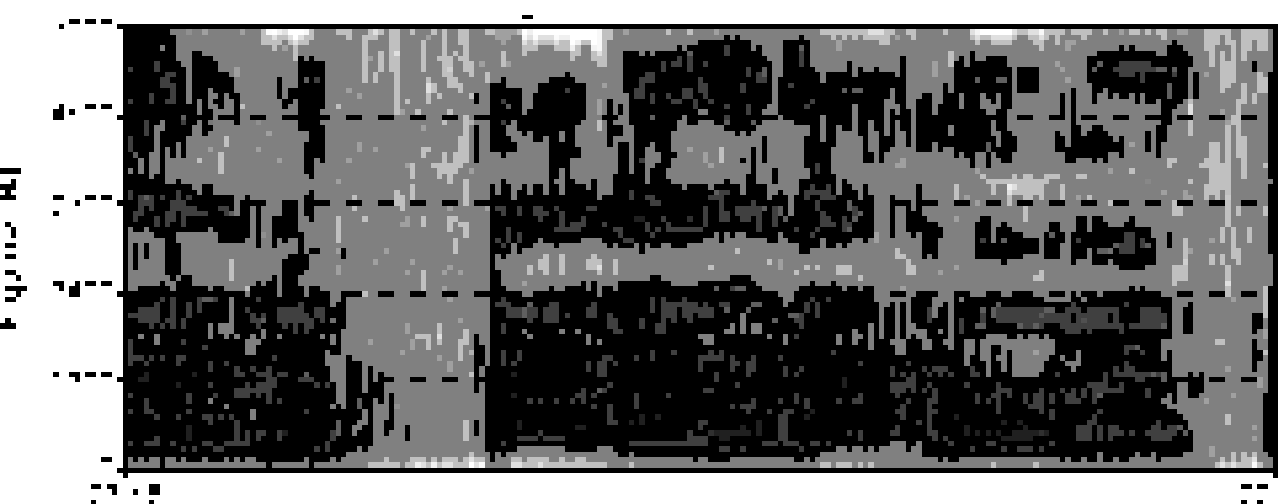


Figure 3. [s] deletion in the sequence *padre[Ø] de la* 'parents of the' as pronounced by speaker R.

Goldvarb Results: All styles (N = 6916)

Style	Aspiration	N	Proportion	Factor weight
Interview	2599	3247	80.04%	0.709
Reading passage	970	1678	57.81%	0.401
Word list	192	980	19.59%	0.094
Range:				70
Following context				
Word internal	1422	2039	69.74%	0.675
Final before C	1513	2028	74.61%	0.542
Final before V	578	937	61.69%	0.383
Final before pause	195	847	23.02%	0.163
Range:				51
Age				
Under 30	539	719	74.97%	0.695
60 +	739	1042	70.92%	0.504
30 – 59	2483	4144	59.92%	0.445
Range:				25
Education				
Middle school	436	734	59.40%	0.572
Primary	460	637	72.21%	0.556
University	2410	3840	62.76%	0.489
Pre-universitario	455	694	65.56%	0.432
Range:				14
Urban/Rural				
Urban	2881	4570	63.04%	0.517
Rural	880	1335	65.92%	0.440
Range:				8
Sex				
Male	1258	1996	63.03%	0.524
Female	2503	3909	64.03%	0.488
Range:				3

Table 2: GoldVarb analysis of aspiration of /s/ in Holguín Spanish. Factor groups not selected: morphological status (lexical, plural, verbal), number of syllables in word, stress on same syllable, stress on following syllable.

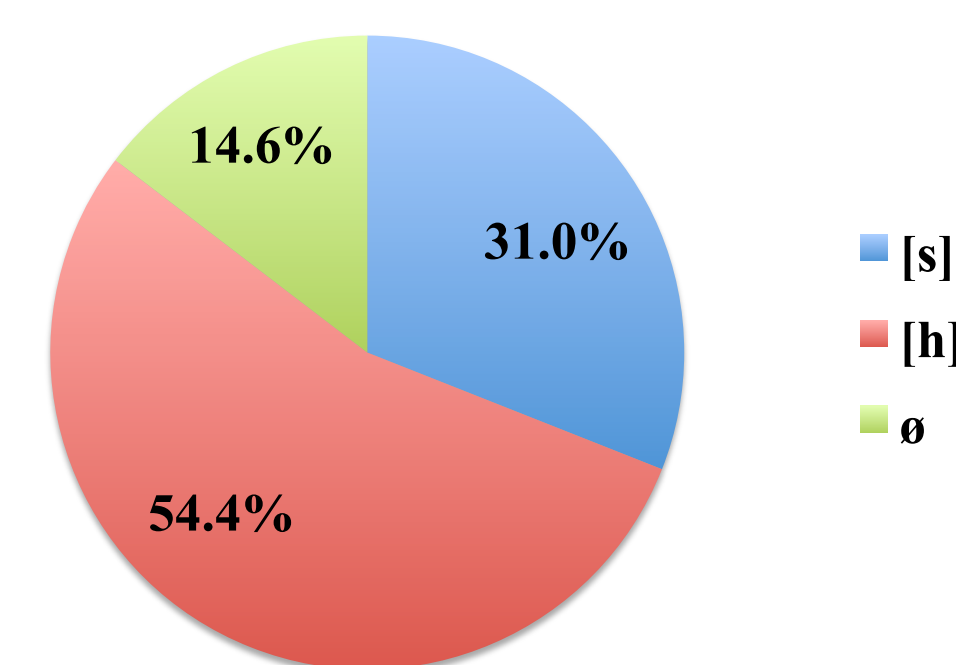


Figure 4. Distribution of variants of coda (s) in Holguín Spanish. Interview, word list, and reading passage (N = 6916).

Goldvarb Results: Interview data only (N = 4026)

Following context	Aspiration	N	Proportion	Factor weight
Word internal	808	898	89.98%	0.633
Final before C	1151	1381	83.35%	0.548
Final before V	425	606	70.13%	0.354
Final before pause	163	309	52.75%	0.220
Range:				41
Morphology				
Verbal	197	235	83.83%	0.601
Lexical	1423	1661	85.67%	0.538
Plural	979	1351	72.46%	0.436
Range:				16
Urban/Rural				
Rural	263	415	63.37%	0.537
Urban	516	1012	50.99%	0.487
Range:				5

Table 4: GoldVarb analysis of aspiration of /s/ in Holguín Spanish in interview style only. Factor groups not selected: sex, age, education, number of syllables in word, stress on same syllable, stress on following syllable.

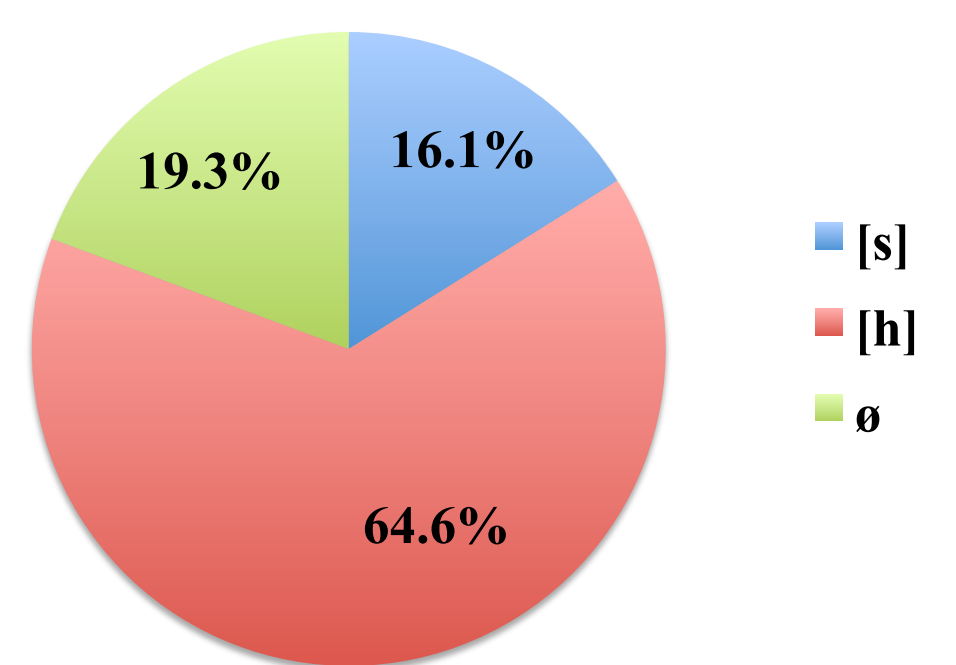


Figure 5. Distribution of variants of coda (s) in Holguín Spanish. Interview style only (N = 4026).

Style	Deletion	N	Proportion	Factor weight
Interview	779	1427	54.59%	0.790
Reading passage	213	921	23.13%	0.468
Word list	19	807	2.35%	0.100
Range:				69
Following context				
Final before C	501	1016	49.31%	0.650
Final before V	253	612	41.34%	0.581
Word internal	75	692	10.84%	0.372
Final before pause	157	809	19.41%	0.359
Range:				29
Stress same syll.				
Stress	200	1063	18.81%	0.556
No stress	811	2092	38.77%	0.392
Range:				27
Stress following syll.				
No stress	971	2834	34.26%	0.522
Stress	40	321	12.46%	0.319
Range:				20
Age				
60 +	214	394	54.31%	0.626
Under 30	144	447	32.21%	0.566
30 – 59	653	2314	28.22%	0.465
Range:				16
Education				
Middle school	139	437	31.81%	0.626
Pre-universitario	116	355	32.68%	0.527
University	579	2009	28.82%	0.474
Primary	177	354	50.00%	0.459
Range:				13

Table 3: GoldVarb analysis of deletion of /s/ in Holguín Spanish. Factor groups not selected: sex, urban/rural, morphological status (lexical, plural, verbal), number of syllables in word.

Syllables	Deletion	N	Proportion	Factor weight
Polysyllabic	692	1121	61.73%	0.590
Monosyllabic	87	306	28.43%	0.207
Range:				39
Following context				
Final before C	378	608	62.17%	0.598
Final before V	189	371	50.94%	0.516
Final before pause	143	280	51.07%	0.401
Word internal	53	143	37.06%	0.257
Range:				34
Urban/Rural				
Rural	263	415	63.37%	0.598
Urban	516	1012	50.99%	0.459
Range:				14

Table 5: GoldVarb analysis of deletion of /s/ in Holguín Spanish in interview style only. Factor groups not selected: sex, age, education level, morphological status (lexical, plural, verbal), stress on same syllable, stress on following syllable.

Conclusions and future research

Six of our coded factors groups proved significant for each of aspiration and deletion, with data from the corpus as a whole. (Tables 2 and 3). Only four factor groups (the same four, with slightly different rankings) are significant when considering just the Interview data (Tables 4 and 5): with the effect of style removed, we see linguistic factors outranking social social factors in this sub-corpus.

Social factors: Style and age. For both variables, style shifting follows the expected pattern, with aspiration and deletion being favoured in interviews and disfavoured in the reading passage and the word list. Age shows a U-shaped distribution, with the youngest and oldest speakers behaving similarly, unlike middle-aged speakers who are more constrained by workplace norms (Milroy & Gordon 2003; Eckert 1997). Sex is only (barely) a factor for aspiration, with men more likely to use the vernacular variant than women. The seemingly contradictory effects of education in Tables 2 & 3 require further study.

Unsurprisingly, rural residence favours both vernacular variants in the interview data (Tables 4 & 5), an effect which seems (inexplicably) reversed for aspiration in the corpus as a whole (Table 2).

Linguistic factor effects: following phonological context. After style, the strongest linguistic factors effects involve the following phonological segments, with different effects on aspiration vs. deletion. Rankings of factors is almost identical for the whole corpus (Tables 2 and 3) and the interview data (Tables 4 and 5) Previous research (Rosés Labrada et al. 2011; Heap et al. 2012) with smaller samples from this corpus suggested that following voiced consonants disfavour /-s/ retention. The effect of factors involving numbers of syllables and position with respect to stress require further analysis.

Future research. As we continue to refine the analysis and increase the numbers of tokens, a number of factor groups may require recoding. We are currently coding for more specific phonological contexts (whether following consonants are [+/- cont] or [+/- voice]) as well as finer morphological distinctions i.e. different types of nominal and verbal agreement involving /-s/ (Poplack 1980ab). The position of /-s/ with respect to stress (same vs. following syllable) will also be recoded as a single factor group, possibly together with the number of syllables (monosyllable vs. polysyllable). Individual speakers and interviewer effects will also be considered.

References:

Alba, Orlando. 1982. Función del acento en el proceso de elisión de la /s/ en el español de la República Dominicana. In *El español del Caribe*, ed. by Orlando Alba, 15-26. Santiago de los Caballeros: Universidad Católica Madre y Maestra.

Cedergren, Henrietta. 1973. *The interplay of social and linguistic factors in Panamá*. PhD dissertation, Cornell University.

Cepeda, Gladys. 1995. Retention and deletion of word-final /s/ in Valdivian Spanish (Chile). *Hispanic Linguistics* 6-7: 329-353.

Eckert, Penelope. 1997. Age as a sociolinguistic variable. In *The Handbook of Sociolinguistics*, ed. by Florian Coulmas: 151-167. Oxford: Blackwell.

Heap, David, Jorge Emilio Rosés Labrada & Jeff Tennant. 2012. Aspiration and Deletion of /-s/ in Holguín (Cuba) Spanish: Phonological Variables and their conditioning. Paper presented at *International Conference on Applied Linguistics and Literature*. Islamic University of Gaza, Gaza, Palestine.

Hualde, José Ignacio. 2005. *The sounds of Spanish*. New York: Cambridge University Press.

Lipski, John M. 1985. /s/ in Central American Spanish. *Hispania* 68 (1): 143-149.

Lynch, Andrew. 2009. A sociolinguistic analysis of final /s/ in Miami Cuban Spanish. *Language Sciences* 31 (6): 766-790.

Milroy, Lesley & Matthew Gordon. 2003. *Sociolinguistics: Method and interpretation*. Malden: Blackwell.

Poplack, Shana. 1980a. Deletion and disambiguation in Puerto Rican Spanish. *Language* 56(2): 371-385.

Poplack, Shana. 1980b. The notion of the plural in Puerto Rican Spanish: competing constraints on /s/ deletion. In *Locating language in time and space*, ed. by William Labov, 55-67. Philadelphia: Academic Press.

Rosés Labrada, Jorge Emilio, David Heap & Jeff Tennant 2011. -s Aspiration and Deletion in Holguín Spanish: Conditioning Phonological Variables. Paper presented at *Methods in Dialectology 14*. University of Western Ontario, London, Ontario.

Terrell, Tracy D. 1977. La aspiración y elisión en el español cubano: implicaciones para una teoría fonológica dialectal. In *Estudios sobre el español hablado en las principales ciudades de América*, ed. by Juan M. Lope Blanch, 39-48. México: Universidad Nacional Autónoma de México

Terrell, Tracy D. 1979. Final /s/ in Cuban Spanish. *Hispania* 62 (4): 599-612.

Tennant, Jeff, David Heap & Ana Faure. 2006. The Holguín Cuban Spanish corpus. Paper presented at *Hispanic Linguistic Symposium*. University of Western Ontario, London, Ontario.

Acknowledgements

We would like to thank Western University's Faculty of Arts & Humanities for funding Rosés Labrada's three field visits, as well as the Western International Research Fund. We greatly acknowledge the help of our interviewees Jesús Fernández, Santiago Barreda and Ana Faure and the Holguín speakers that participated in this research and welcomed us in their homes.

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