Consonant Clusters in Singapore English

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In many dialects of English, consonant clusters are subject to alternations such as deletion, epenthesis, and metathesis. Various explanations for these processes have been proposed, among them syllable well-formedness, maximization of perceptual cues, and ease of articulation. In this paper, we contribute to this discussion by studying the variable behavior of /sp/-clusters in S(ingapore) E(nglish). Our data show that SE exhibits a wider variety of processes than is commonly observed in other varieties of English. As first noted by Mohanan (1992), /sp/-clusters in SE undergo productive metathesis in syllable codas, e.g. /lisp/ → *lips*, whereas /sk/ and /st/ clusters do not. A parallel case is Southern American English, e.g. /wasp/ → *waps*. Our goal is to determine whether metathesis is driven by syllable structure (Mohanan 1992) or perceptual cues (Côté 2000, Steriade 2001, Hume 2003).

56 SE speakers were recorded reading sixteen tokens containing /sp/-clusters. Each speaker produced two repetitions of four tokens, *lisp*, *lisping*, *lisps*, *lisped*, in two frames, *Say __ again*, *Say __ my way.* This resulted in 896 tokens, which were transcribed using PRAAT and tagged for alternation type. Only tokens where our two transcribers agreed are included in this study. Most striking is the observed variation, both across and within speakers. The following table only displays the three most frequent variant types for each input type, including token frequencies. Within each variant type, we found lower-level distinctions, e.g. /lisp/ → *lipsp~lipst* = Copy, /lisp/ → *lips~lifs~lits,* /lisp#z/ → *lips~lipss* = Metathesis, which are suppressed here.

	Non-alternation	Copy	Metathesis	Metathesis+Deletion	Deletion
lisp#ing	*lisping* (146)	*lipsping* (36)	*lipsing* (26)		
lisp##	*lisp* (78)	*lipst* (12)	*lips* (101)		
lisp#z	*lisps* (56)		*lips* (104)		*lisp* (12)
lisp#d	*lispt* (36)		*lipst* (101)	*lips* (21)	

The prevocalic environment favors Non-alternation and Copy; the word-final and preconsonantal environments favor Metathesis and Non-alternation. The processes are only sensitive to word phonology: the quality of the first segment of the following word (*again*, *my*) shows no statistically significant effect on the alternation rates.

The previously unreported Copy variant provides evidence against the syllable-based explanation: *lipsping* (cf. *lisping*) makes the syllable structure more marked instead of less marked, and thus cannot be derived using standard syllable markedness constraints. The cue-based explanation provides a better alternative. The perception of the stop place feature in *lipsping* is maximized since it is cued at both closure *ip* and release *pi*. Ranking MAX(C) and DEP(V) relatively high prohibits deletion and epenthesis, triggering metathesis and segment split (Copy). The most common attested variants reflect different rankings of four constraints: T→_V ('A stop should occur before a vowel', *lisping*/**lipsing*), T→V_ ('A stop should occur after a vowel', *lips*/**lisp*), and two standard faithfulness constraints: UNIFORMITY ('An input segment should not be split', *lisping*/**lipsping*), and LINEARITY ('The linear order of input segments should be preserved in the output', *lisp*/**lips*). The ranking {MAX(C), DEP(V)} >> {T→_V >> T→V_, UNIFORMITY, LINEARITY} derives the observed asymmetry between Non-alternation/Copy and Metathesis/Non-alternation. Thus, the evidence from SE supports the perceptual hypothesis over the more traditional syllable-based hypothesis.

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