

The Limits of Linguistic Community: Speech Styles and Variable Constraint Effects*

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1 Introduction

The linguistic unity of speech communities lies in shared linguistic practices and evaluations. Where variable processes are concerned, this linguistic unity extends to shared constraint effects. Guy (1980) demonstrates that Philadelphians show a common effect of the following pause constraint on /t,d/ deletion, treating it as a conservative environment which disfavors deletion. On the other hand, New Yorkers exhibit an opposite effect of the same constraint, such that it favors deletion. Since the effects are distinct in the two communities, they cannot be attributed to universal factors. But since they are consistent within each community, they reflect shared linguistic practices, which can be characterized as shared grammars. Hence variable constraint effects can be treated as a feature of the grammar, which is consistent with their representation in the variable rule model.

The shared attitudes and evaluations in a community are most clearly evidenced by common directions of style shifting. Thus the fact that New Yorkers in Labov's (1966) studies all use more coda /r/ in their more careful styles is indicative of a shared evaluation of the sociolinguistic significance of this variable, and indeed, is diagnostic of speech community membership, because speakers from other communities do not vary their /r/ usage in this way. But how does style shifting interact with variable constraints? Although rarely explicitly stated, the conventional practice in sociolinguistic research is to assume that linguistic constraint effects are stable across different speech styles: thus in Labov's department store survey, the emphatic repetitions showed higher /r/ use than the original responses, in effect showing a more careful style, but the linguistic constraint of internal versus final position was the same in both styles. In a variable rule model, this stability follows from the treatment of style as an additional factor group, implying that the effect of a given style is simply a quantitative shift in the rate of use across all contexts, while the factor weights in other groups are the same for

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all styles. This also follows from the observation that different constraint effects imply different grammars: if the different individuals in a community share a common grammar with a common set of constraint effects, the most straightforward hypothesis would be that their various styles also share that grammar. Bell's (1984, 2001) Audience Design hypothesis argues that stylistic variation reflects inter-individual differences. If speakers within a community maintain consistent constraint rankings, Audience Design would predict similar consistency of constraint rankings across styles.

However, given that different speech communities can show distinct constraint effects, the possibility arises that some speakers may command different dialects (or registers), with dissimilar constraint effects, and alternate among them in appropriate social circumstances. This is, in fact, what is postulated to occur in diglossia: the alternation between H and L varieties involves, in some respects, different grammars. Hence it is worth investigating whether "stylistic" variation ever involves differences in constraint effects. This paper examines this issue with respect to the constraints on English coronal stop, or /t,d/ deletion. Stylistic variation in /t,d/ deletion has been explored by Labov (1972), Baugh (1979) and Guy (1980). These studies have all shown quantitative adjustments such that the rate of /t,d/ deletion increases with more vernacular speech. However, the speakers we will report on here show qualitative differences in style shifting. We investigate stylistic and linguistic constraints in /t,d/ deletion in the speech of four Singapore English speakers in New York City.

2 Methodology

The informants for this study were part of a social group of NYU college students. They all grew up and attended school in Singapore, and had been in the US for 2-4 years. Except for one informant who had just graduated, all of the other three speakers were still students. Age and ethnicity were controlled factors as the subjects were all in their early twenties and ethnically Chinese.

Speaker	Age	Education	Years in the U.S.
Cindy	21	3 rd year college	3
Adam	23	3 rd year college	3
Dave	24	College graduate	4
Bettina	21	3 rd year college	2

Table1: Subjects' background information

The interviews were conducted by one of the authors, who is Singaporean and recorded with a Lavalier microphone and Sony DAT recorder. In total, over 9 hours of recorded speech of high sound quality was collected with more than 1000 tokens analyzed. The recordings were transcribed impressionistically and coded by the Singaporean author. Following Guy (1991a & b), we have not included contractions of *not* such as *wasn't* and *won't* and tokens in a neutralizing environment where the following segment is a /t/ or /d/. In addition, we limited the number of repeated items to no more than 10 tokens of any given word from any one speaker. This was necessary since words like *and* and *just* for example, showed higher frequencies of occurrence than most other words.

Since the results of our VARBRUL analysis showed that gender and individual speakers as factor groups proved to be statistically insignificant, the factor groups of interest for the purpose of this study are:

- (1) Morphological status
- (2) Preceding phonological environment.
- (3) Following phonological environment.
- (4) Style

In the formulation of contextual styles, we adopt the categories used by Labov (1972) with some modifications. Labov considers the interview proper to belong to Style B which involves careful speech. Interspersed within the interview situation are various contexts which elicit what he terms as casual speech or Style A. We have not made a distinction between Style A and B in this paper although four of the five contexts that Labov considers as Style A were observed in the interviews. For simplicity, we will label this as Style AB. Apart from this difference, style C (reading style) and D (word lists and minimal pairs) follow along the same lines as Labov (1972). For the purpose of this paper, Style AB involves less formal speech while CD is correlated with more formal speech.

With Bell's (1984, 2001) audience design model of stylistic variation in mind, we have also kept addressee/interviewer constant by having all of the interviews conducted by the same interviewer. Hence, for all subjects, the target audience was a fellow Singaporean of the same ethnicity. Despite the gender asymmetry for male and female subjects with respect to the interviewer, no gender differences were detected as far as the /t,d/ variable was concerned. Additionally, we have also attempted to control for topic by introducing similar topics in all of the interviews. These included stories about the informants' childhood, experiences in school and growing up in Singapore.

3 Analysis

We present an overall summary of the results in Table 2.

	<u>Informal</u>			<u>Formal</u>		
	<u>Factor</u>	<u>Deletion</u>	<u>Ns</u>	<u>Factor</u>	<u>Deletion</u>	<u>Ns</u>
<u>Morphological</u>						
Monomorpheme	0.60	84 %	513	0.81	63 %	87
Irregular	0.65	80	62	0.37	18	44
Bimorpheme	0.26	47	224	0.30	10	119
<u>Following Context</u>						
Consonant	0.61	80	377	0.62	34	138
Vowel	0.37	62	289	0.47	30	49
Pause	0.48	76	133	0.27	17	63
<u>Preceding Segment</u>						
Nasal (<i>tent</i>)	0.56	82	345	0.82	69	68
Sibilant (<i>test</i>)	0.52	76	247	0.42	15	76
Fricative (<i>craft</i>)	0.43	54	42	0.36	18	32
Stop (<i>tact</i>)	0.42	51	87	0.21	4	43
Lateral (<i>belt</i>)	0.30	61	78	0.47	22	31
p0	0.770			0.214		
Log likelihood	-393.762			-94.572		
<u>Overall Total</u>			799			250

Table 2: Summary of Results: VARBRUL analysis of /t,d/ deletion in Singapore English

3.1 Morphological Category

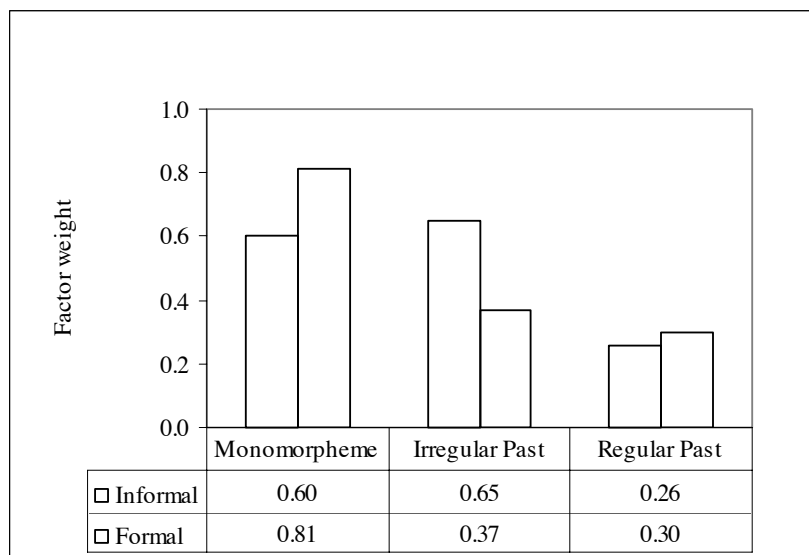


Figure 1: Morphological Category Effect on /t,d/ Deletion

Focusing on the morphological factor group, our results indicate that the morphological constraint is a first order constraint conditioning /t,d/ deletion in Singapore English in both Formal and Informal styles of speech. As can be seen in Figure 1, it is clear that the speakers are consistent with the pan-English ranking in which monomorphemic forms undergo much more deletion than regular past tense forms. However, in the intermediate category, irregular past tense forms like *lost*, *kept* and *told* differ between the two styles. In the Informal style, these words have a high rate of deletion – higher in fact than the monomorphemes, while in the Formal style, they move to an appreciably lower rate, approaching the conservative rate found in regular past tense forms.

These two patterns suggest substantively different grammars for the two “styles”. The Informal style is consistent with the pattern reported by Guy & Boyd (1990) for adolescent speakers of American English: Irregular past tense forms are treated as if they were underived, and hence deleted at a rate comparable to monomorphemes. Effectively, this grammar treats the class of verbs such as *lost*, *kept*, etc. as suppletive alternants, the same kind of morphological treatment we expect for verbs such as *go-went* and *think-thought*. The Formal style, however, compares with the pattern Guy & Boyd

report for mature adult speakers of American English, one which reflects a morphological analysis in which the final stops in irregular past tense verbs are seen as affixes which are derived in the morphology. Guy & Boyd postulate that these are developmental stages for their American English subjects, reflecting morphological reanalysis by speakers during their lifetimes.

It appears that our Singaporean subjects, however, may well be entertaining both analyses simultaneously, in two different grammars: if the Informal speech in our data are reflective of their native vernacular, then the irregular past tense forms are treated as monomorphemes in this style of speech. On the other hand, it seems that in their Formal variety, they may have adopted the (American English?) adult norm. This dichotomous behavior is surprising as it defies the general observations found in studies of /t,d/ deletion as well as other studies, where constraint effects are assumed to be consistent across speech styles. Before commenting further, we turn now to the following segment effects to show that this re-ranking of constraints is also evident in the phonological factors.

3.2 Following Context Effects

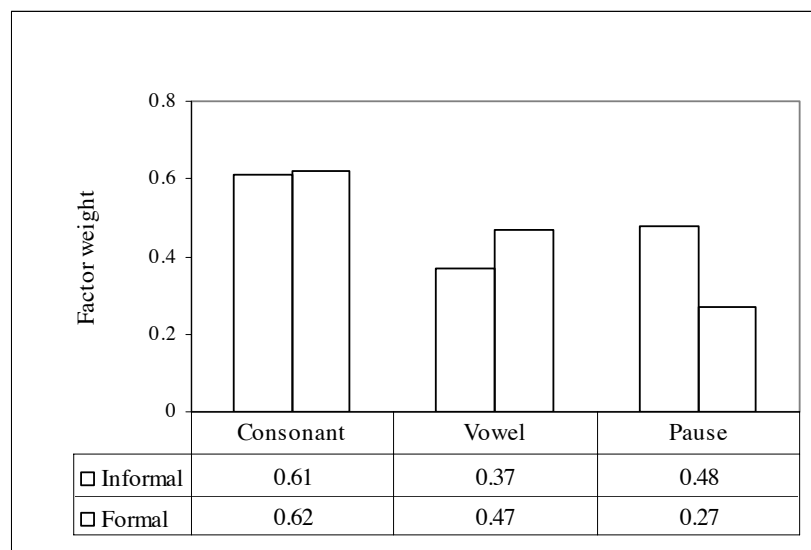


Figure 2: Following Context Effect on /t,d/ Deletion

Looking at Figure 2, we observe that while in both styles the subjects preserve the universal ranking in which consonants promote deletion more than vowels (no doubt reflecting the universal preference for CV syllable structure), a stylistic difference appears in the relative order of following vowel and following pause. In the Informal style, our subjects have an intermediate value for pause, so that it promotes deletion more than a following vowel. This pattern has been reported for a number of English dialects. In their Formal style, however, these speakers treat pause as the most conservative following context.¹

A question arises as to where the two patterns come from. On the one hand, the high rate of deletion before pause in Informal speech is reflective of the NYC vernacular found by Labov et al (1967, 1968) and Guy (1980). But the pattern that our speakers adopt in their more formal styles is consistent with that encountered in Philadelphia and other parts of the United States, where Pause is highly conservative. Have our speakers been influenced by contact with American English dialects, or do they get these patterns from other sources? Before providing an interpretation of the results, we turn now to the effect of the preceding phonological environment.

3.3 Preceding Segment Effects

The preceding segment factor group, illustrated in Figure 3, also shows important differences between the two styles. In the Informal style data, nasals are high, liquids low, stops and fricatives intermediate, with no significant difference in the fricatives between /s/ and the non-sibilant fricatives. In the Formal style, nasals maintain their maximally favoring ranking, while liquids move up to second-most favorable position, and stops and fricatives move down. (Again, there is little difference between sibilant and nonsibilant fricatives.)

What is the explanation for these differences in constraint effects? Any interpretation should begin with a cautionary note: numerous previous studies of /t,d/ deletion exist showing that this factor group is considerably less stable in its effects than the other two factor groups that we have just looked at; it is also a relatively weaker factor group than the other two. Guy & Boberg (1997) explain the rankings of the factors in this group in terms of

¹ Some of the data in Formal style are drawn from word lists and minimal pairs; most speakers read these forms with pauses afterwards, but this did not appear to materially influence the results for the following context factor group. Note that Formal style tokens included connected speech from the reading passage data; also, some speakers gave connected readings of the word-lists.

an OCP effect, depending on the similarity between the preceding segment and the /t,d/ target for deletion: /s/, stops, and /n/ share more features with the deletion target than liquids, nonsibilant fricatives, and non-coronal nasals. The Guy and Boberg analysis is partially supported in these data for Informal style: nasals, /s/ and stops are not significantly different from one another, and are collectively more favorable to deletion than fricatives and liquids. But the Singapore English Formal data do not fit the Guy & Boberg model.

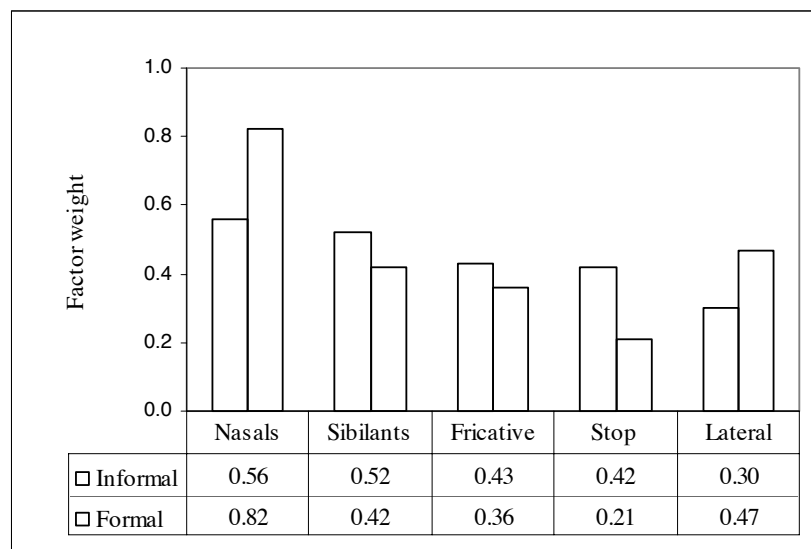


Figure 3: Preceding Segment Effect on /t,d/ Deletion

A striking feature of these results is the different treatment of /l/ in the two styles: why is it the least favoring segment in one style and the second-most favorable segment in another? The answer appears to be that the two styles actually involve different articulations of the laterals: in the Informal style, they are generally vocalized (becoming glide-like) or deleted; in the Formal style, however, although some vocalizations and deletions occur, there is a higher rate of occurrence of consonantal articulations, including tokens of clear (apical) /l/. Since /t,d/ deletion is systematically favored in all varieties of English by preceding consonantal segments and disfavored by preceding vocalic segments, the "style shift" here may actually reflect an adaptational of the segmental phonology.

Another noteworthy distinction between Singapore English and Pan-American English is the markedly high deletion rates for nasals in both Formal and Informal Singapore English. Why should preceding nasals be so highly favorable to /t,d/ deletion? We propose that this arises from the phonology of Singapore English. Final obstruent devoicing is a productive aspect of Singapore English (Tay 1982, Bao 1998). The result of this is that words such as *pad* and *pat* or *tend* and *tent* are homophonous. It has been widely observed in many languages that NC̥ clusters, involving a nasal followed by a voiceless consonant, are highly marked and disfavored. The rationale for this, according to Huffman (1993:310) and Ohala & Ohala (1991: 213), may be articulatory. Velic closure is necessary for both voiced and voiceless stops, but after a nasal, velic closure is slow and leakage may occur during the stop articulation. Ohala and Ohala (1991) state that “voiceless stops have less tolerance for such leakage because any nasal sound –voiced or voiceless – would undercut either their stop or their voiceless character.” Consequently, the *NC̥ constraint would favor deletion of the final –t, because this would eliminate these marked sequences. Turning back to the Singapore English data, this implies that the process of final obstruent devoicing feeds the *NC̥ constraint, yielding a higher overall rate of deletion after nasals than would be found for dialects that do not have final devoicing, such as American English.

Another feature of these results that merits attention is the marked reduction in deletion in the Formal style after sibilants, fricatives and stops. We hypothesize that these results may reflect sensitivity to the differences between Singapore English and other varieties of English. Our speakers may recognize that in their vernacular variety they are not producing /st/, /ft/ and /kt/ coda sequences, and they over-correct these forms in their careful styles.

Overall, these results again suggest important grammatical differences between the two styles that go beyond what we find in more conventional style shifting in other studies. In particular, a change in segmental phonology, as occurs in the liquids, is strongly indicative, in our view, of the use of different grammars in the two data sets.

4 Discussion

The salient feature of these data is that in all three factor groups, we find significant differences in constraint rankings between Informal and Formal styles. In the morphological category factor group there is a shift in the treatment of irregular verbs; in the following segment group there is a shift in the treatment of the following pause, and finally, in the preceding segment

group, several constraints change their ranking, most noticeably the lateral, which is pronounced differently in the two styles. These results are at odds with the common assumption – which is well supported by empirical studies – that style shifting involves purely quantitative adjustments of the rate of use of a variable. Why do the data on Singapore English contradict the other findings?

The crucial point appears to be that Singapore English can be interpreted in terms of the use of contrasting grammars in the two styles. In effect, these speakers are bi-dialectal or diglossic, rather than mono-dialectal style shifters. What are the possible origins of the two grammars? There are two main possibilities: one is that the two grammars are reflective of their native usage in Singapore English, while another is that one or both of their patterns of constraint rankings reflect hybridization by contact with American English.

First let us examine the latter possibility - contact influence. Are there potential American sources for any of these constraint rankings? In the Informal style, the favoring following Pause effect is consistent with the NYC vernacular. However, the other two factor groups show constraint rankings in the Informal style that have no plausible adult American sources: for example, the high deletion with preceding nasals, and the irregular verbs patterning with monomorphemes. In the Formal style data, the morphological category and following segment effects are similar to the Pan-American English patterns, but the preceding segment effects are highly anomalous, because of the high nasal and lateral values. Finally, what would be the social sources for such contact influences? Our speakers' principal contacts are with other college students who come from all over the US, which makes it unlikely that these speakers would adopt the NYC vernacular. Furthermore, the four speakers are all extremely similar in their behavior, even though they do not participate in the same social networks. Hence it is unlikely that they would have independently converged on the same contact-influenced constraint rankings. While we cannot rule out some influence from contact with American English until we complete our ongoing study of Singaporeans interviewed in Singapore, the major constraint effects reported here cannot be adequately attributed to American sources.

Therefore, we must consider the other alternative: that these speakers' usage reflects the diglossic nature of Singapore English. As it happens, a number of scholars have treated Singapore English as involving diglossia or grammatical diversity; for example, Gupta (1991, 1994, 1998) and Richards (1977, 1983), who based their conclusions on studies independent of the /t,d/ variable. Using primarily a discourse approach, they adopt Ferguson's (1959) diglossic model where functional and domain differences determine the use of High(H) and Low(L) varieties in Singapore English. The H vari-

ety is similar to standard varieties of English while the L variety can be strikingly different, especially in syntax. The linguistic situation in Singapore is complex for a number of reasons: speakers can be multilingual and may command different proficiencies in their use of English. Yet, for a growing population of Singapore English speakers, it is their first and native language. This is the case for the four speakers of this study who are typical of the more educated speakers of Singapore English, capable of a range of English that extends from the colloquial L variety to the formal H variety.

Further support for the idea that these ranking differences are evidence for bidialectalism is found in the one case reported in the previous literature on /t,d/ deletion where re-ranking of variable constraints across styles occurs. Labov (1972: 26, 27) describes the usage of a subject DR, who is an African-American woman raised in North Carolina. She demonstrates two distinct grammars in /t,d/ simplification with respect to the morphological category constraint. Figure 4, reproduced from Labov, shows that in the informal style, where the subject is in conversation with a close relative, there is no difference between the monomorphemic and past tense forms. In contrast, in her speech with a white interviewer, she displays a more formal style, in which a clear distinction is made between the two morphological categories. This result indicates that DR is also potentially a bi-dialectal speaker.

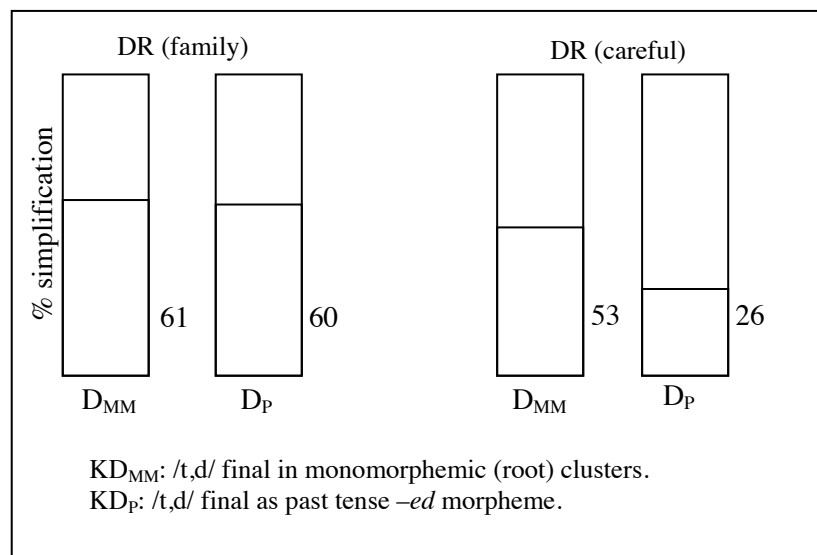


Figure 4: Style and Morphological Category in Speaker DR (from Labov 1972: 27)

With this in mind, it seems reasonable to assume that the multiple grammars of our Singaporean speakers are reflective of diglossia. It is still possible that some aspects of their speech may be a result of contact in the U.S., so we are in the process of investigating data recently collected in Singapore to clarify this point. Nevertheless, our data indicate that multiple grammars are at work here; when speakers show constraint rankings that are substantively different between styles, but consistent within a style, their behavior cannot be modeled by a single grammar, given the generally accepted models of variation that we are working with.

We have constructed our analysis to distinguish two styles, and hence have imposed a dichotomization of our speakers' usage into two varieties. It is plausible that they in fact vary across a continuum, in the manner ascribed to speakers in post-creole communities. But whether or not the styles we have identified represent discrete polar distinctions or points on a continuum, it is clear in these data that our speakers do employ distinct grammars at different points in their "stylistic" range. This has not been observed in mono-dialectal style-shifters. This implies that a more general conclusion is possible: we propose that contrasting constraint rankings can serve as a diagnostic for diglossia or bi-dialectalism. Within a single grammar, constraint weights do not vary, leaving style shifting to affect only the overall rates of usage of a form. When constraint weights differ, however, different grammars are involved, and hence, the speaker who commands multiple grammars is not simply style-shifting but is multi-dialectal.

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