

What and where is *-t,d* deletion?

The variable deletion of coronal stops in word-final clusters seems to occur in all varieties of English and has been one of the most studied variables in the sociophonology/ sociophonetics of the language. It has been used as a diagnostic in debates about the origins of AAVE since the late 1960s (e.g. Wolfram 1970) and more recently it has figured prominently in the exploration of cross-dialectal differences (e.g. Santa Ana 1992; Smith *et al* 2009), the acquisition of variable constraints (e.g. Guy and Boy 1990; Smith *et al* 2009) and particularly the relationship between variation and phonological theory (e.g. Guy 1991). The majority of studies of this variable have been carried out on North American varieties so Tagliamonte and Temple (2005) set out to replicate them on a variety of British English using the York Corpus (Tagliamonte 1998). Their findings called into question some of the extant accounts of the phonological status of a variable rule of coronal stop deletion (henceforth “(t,d)”) and raised some methodological questions. Both the empirical results and the methodological questions have important implications for the analysis of this variable and for the analysis and interpretation of sociophonetic data in general. This paper will present some of the problems identified and explore some of these implications.

It is widely accepted that the major linguistic constraints on (t,d) are, in order of strength of effect, following phonological context, preceding phonological context and morphological structure of the word containing the cluster. Thus, broadly speaking, the rule applies more frequently with following vowels than following consonants, with preceding sibilants than, e.g., preceding liquids and in monomorphemes (e.g. *taste*) than “semi-weak” verbal forms (e.g. *swept*), where it in turn applies more frequently than in regular past tense forms (e.g. *kissed*). The latter constraint is central to the most common account of (t,d) in relation to phonological theory, which sees it as a rule of Lexical Phonology, but it was this constraint which failed to be supported by Tagliamonte and Temple’s results. In revisiting their data we have focussed on two types of analytical / methodological problem. Firstly, the skewed distribution of preceding phonological context across the morphological classes suggests that the expected morphological effect could in fact be largely an artefact of the interaction of morphological class and phonological context. Secondly, an account of (t,d) as a variable phonological rule requires a clear articulation of the phonological context, but this is often hard to identify categorically. In this paper, we shall focus mainly on problems of the latter type.

We shall describe and illustrate (with detailed transcriptions and spectrographic evidence) a range of often interacting phenomena which pose a problem for the analysis of (t,d), including the following:

- **masking effects**, whereby it is impossible to tell whether a lingual articulatory gesture corresponding to an underlying /t/ or /d/ has occurred; e.g. *kept me* realised as [kɛp̚mɪ^ɪ], where the bilabial closure is maintained from the preceding to the following consonant
- **assimilation** across the dependent variable, as in *combined court* [k^həmbaɪŋk^hɔ:ʔ], which compounds the masking problem

- **interaction with other phonological / phonetic processes**, for example /l/ vocalisation, as in *told me* [təʊmi], affecting the preceding context, or deletion of following /h/, e.g. *grabbed him* [gɹabɪm]; these pose problems for deciding precisely what the phonological context is, which depends on whether the processes are taken to occur before or after the application of (t,d)

We shall then explore the implications of these phenomena. As long ago as 1972 Labov referred to (t,d) as a “low-level” phonetic rule (p.21) but it has become almost taken for granted that it is a phonological one. Our data raise serious problems for a phonological account: for example, how is the rule ordered with respect to other processes and how would one know? Moreover, the phenomena we identify are very familiar to students of continuous speech processes (CSPs) in English, suggesting that Labov’s original characterisation was the correct one. Of course, accounting for (t,d) as a phonetic CSP does not in itself eliminate all the analytical problems, but the detailed working out of these will be the subject of a future study. Our discussion will touch on many of the broader questions which are the focus of this conference:

- relation of variation to phonological and phonetic theory
- the need for a careful and principled account of how constraints like phonological/phonetic context are operationalised
- the long-standing paradox of how to access articulatory data which are available through only invasive or constrictive methods such as palatography or EMA, but where the phenomena under investigation are characteristic of relaxed, casual speech, which is likely to be impaired by the use of such methods
- the characterisation of variable rules in terms of perception vs. production

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