Deletion of Final /t/ and /d/ in BBC English
Implications for Teachers in Singapore
by David Deterding, National Institute of Education (david.deterding@nie.edu.sg)

Investigation of recordings from the BBC World Service shows that BBC broadcasters quite regularly omit final /t/ and /d/ from consonant clusters at the end of a word, especially when the next word begins with a plosive, fricative or nasal. Furthermore, this deletion occurs regardless of whether the /t/ or /d/ is an –ed suffix or is part of the stem of the word. It is suggested that teachers should not be too concerned if students sometimes omit final /t/ and /d/, and greater emphasis should be directed to the –s suffix, as final /s/ and /z/ are hardly ever omitted in British or American English.

■ Introduction
It has often been observed that there is a tendency for final consonant clusters to be simplified in Singapore English (Tongue, 1979: 27; Bao, 1998; Deterding & Poedjosoedarmo, 1998: 158), and this particularly affects final /t/ and /d/ (Cruz-Ferreira, 2005; Gut, 2005).

Many pronunciation teachers in Singapore focus on this feature, emphasizing that retention of final /t/ and /d/ is important. However, we need to be aware that deletion of final /t/ and /d/ is also common both in American English (Guy, 1980) and in British English (Fabricius, 2002; Temple, 2005). In fact, careful enunciation of every single final /t/ and /d/ may represent an over-careful, unnatural style of pronunciation.

In this paper, the extent of /t/ and /d/ deletion is investigated in RP British English broadcast by the BBC World Service, and conclusions are drawn regarding priorities for pronunciation teaching in Singapore.

■ Data
In British or American English, the environment that is most conducive to deletion of /t/ and /d/ from the end of a word-final consonant cluster is when the next word begins with a consonant, so the /t/ in last Sunday and the /d/ in world class are both likely to be deleted. In addition, deletion of /t/ is more common when the preceding consonant is voiceless (Wells & Colson, 1971: 58; Deterding & Poedjosoedarmo, 1998: 134-5). This second stipulation arises because, when a /t/ follows a voiced sound, deletion of the /t/ may leave a residue in the shortening of the preceding consonant, so it is hard to determine if there really is deletion or not. (This can easily be demonstrated by noticing that even when the /t/ is deleted, felt sad does not become the same as fell sad, and pint glass does not become pine glass.)

It is also rather difficult to tell whether the final /t/ or /d/ is deleted or not when the next word begins with a /t/ or /d/, so in the current investigation, such tokens were avoided. For the same reason, tokens where the following word begins with an affricate /tf/, /dȝ/ were avoided. Furthermore, it is common for /h/ to be omitted from unstressed pronouns such as he, her and his (Roach, 1991: 104), so instances where the following word begins with /h/ were not included.

195 tokens that matched all these criteria were extracted from the MARSEC corpus of BBC World Service broadcasts from the 1980’s (Roach, Knowles, Varadi & Arnfield, 1993). In most cases, three or four words were included in the extract, to provide some context for the speech. In some instances, several tokens were extracted from the speech of one person, but care was taken to randomize the order of presentation so that tokens from the same speaker were not heard consecutively.

■ Listeners
Three British phoneticians listened to all 195 tokens over headphones. They did the exercise separately, and they could listen to each token as many times as they wanted before indicating whether they perceived retention or deletion of the /t/ or /d/. For 151 tokens, there was unanimous agreement, but for 44 tokens, one of the listeners disagreed with the other two. In cases where there is disagreement, the majority verdict is the one used here.

■ Results
Overall, 112 tokens (57%) were perceived to have a retained /t/ or /d/, while in 83 cases (43%) the plosive was heard to be deleted.

We can also consider some of the circumstances affecting the deletion or retention of /t/ and /d/. In 51 of the tokens, the final consonant is a –ed suffix, either a past tense form of the verb or the past participle.
(Instances of irregular verbs where the final /t/ or /d/ occurs together with a change in the vowel, such as left and told, are not regarded as instances of –ed suffixes, as the vowel already indicates it is not the base form of the verb.) Table 1 shows the proportion of tokens with and without the –ed suffix to undergo deletion.

**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>retained</th>
<th>deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>–ed suffix</td>
<td>32 (63%)</td>
<td>19 (37%)</td>
</tr>
<tr>
<td>no –ed suffix</td>
<td>80 (55%)</td>
<td>64 (45%)</td>
</tr>
<tr>
<td>total</td>
<td>112 (57%)</td>
<td>83 (43%)</td>
</tr>
</tbody>
</table>

One might expect /t/ or /d/ to be deleted less often when it is a suffix, as in this case it carries meaning, and this is the pattern reported by Guy (1980), though Temple (2005) fails to find the same pattern for British English. Although the results for the BBC data from Table 1 suggest a slightly greater probability for retention of /t/ or /d/ when it is a suffix, the difference is not significant ($\chi^2 = 0.796$, df = 1, ns), so in fact there is no evidence from these results that the status of the final sound as a suffix has any influence on its deletion.

We can further investigate whether the nature of the sound at the beginning of the following word has any affect on the retention or deletion of a final /t/ and /d/. Table 2 shows the results for this, and in this case, the differences are highly significant ($\chi^2 = 20.07$, df = 3, p<0.01). It is clear that deletion occurs very regularly before plosives, is quite common before fricatives and nasals, but is much less common before approximants.

**Table 2**

<table>
<thead>
<tr>
<th>next sound</th>
<th>retained</th>
<th>deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>plosive /p, b, k, g/</td>
<td>19 (40%)</td>
<td>28 (60%)</td>
</tr>
<tr>
<td>fricative /f, v, ð, s, z, θ/</td>
<td>37 (51%)</td>
<td>35 (49%)</td>
</tr>
<tr>
<td>nasal /m, n/</td>
<td>18 (58%)</td>
<td>13 (42%)</td>
</tr>
<tr>
<td>approximant /j, w, r, l/</td>
<td>38 (84%)</td>
<td>7 (16%)</td>
</tr>
</tbody>
</table>

### Discussion

The proportion of deleted /t/ and /d/ reported here is rather lower than that found by both Gut (2005) and Cruz-Ferreira (2005) for Singapore English, but we should not be surprised if news broadcasters are a bit more careful in their speech. What is certainly true is that even BBC broadcasters exhibit quite regular deletion of /t/ and /d/, both when they carry no independent meaning (e.g. last, world) and when they represent a separate morpheme (e.g. worked, described), and this deletion occurs very commonly before a following plosive and also quite often before a fricative or nasal.

While it is true that speakers need to be aware of the existence of final plosives in the underlying representation of a word, for example to help them use standard spelling and also to enable them to pronounce a word carefully under some circumstances, we should not be too concerned if our students sometimes drop these sounds in ordinary speech. It is far more important for teachers to focus on the retention of the –s suffix, as /s/ and /z/ at the end of a word are very rarely dropped in most varieties of English. While /s/ may occasionally be silent (as in précis [prɛsɪ], and non-final /s/ may occasionally be deleted (for example in sixth which is sometimes produced as [sɪkθ]), an –s suffix is almost never dropped.

In summary, teachers should focus more on the pronunciation of the –s suffix than the –ed suffix.
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REFERENCES