

Overcompensation of /t/-reduction in Dutch by German-Dutch bilinguals

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Résumé:

Deux expériences ont étudié la perception de la réduction du /t/ à la fin d'un mot par des bilingues allemands-néerlandais en néerlandais. Les résultats des auditeurs L2 étaient très proches de ceux des auditeurs L1. La différence principale était qu'ils ont reporté un nombre supérieur de codas en /t/ pour des verbes. Deux études de production ont montré que des locuteurs néerlandais réduisent le /t/ à la fin d'un verbe plus souvent que des locuteurs allemands. Les auditeurs L2 semblent surcompenser la réduction du /t/ sur les verbes néerlandais dans leur perception.

Continuous speech is extremely variable. Processes such as assimilation, epenthesis and extreme reduction induce variations and create ambiguities. This can make the decoding of speech problematic for native listeners, but even more so for non-native listeners. Non-native listeners already have the disadvantage that speech in their second language (L2) often contains sounds that they are unfamiliar with from their native language (L1). Moreover, even if L2 listeners are familiar with most sounds in the L2, continuous speech processes such as consonant reduction, e.g. the deletion of /t/ in 'Postbank', can confront them with unfamiliar word forms.

On the other hand, if a reduction process is familiar because it also occurs in the L1, it may also be easy to cope with in the L2. The present study investigated German-Dutch bilinguals' perception of word-final /t/-reduction in Dutch, a reduction phenomenon which is also found in German. Previous studies of /t/-reduction in Dutch have shown that *native* listeners take into account preceding acoustic context, phonetic detail, and the lexical status of the form in the interpretation of syllabic codas that may or may not contain a reduced /t/ (Mitterer & Ernestus, 2006, *JPhon*). The current study examined whether L2 listeners use all these factors too. In two experiments, listeners decided whether or not target words ended in /t/. Five realizations of /t/, from full production to complete deletion, were presented in two acoustic contexts, after /n/ (where /t/-reduction is normally unlikely) and after /s/ (where /t/-reduction occurs frequently). In Experiment 1, target words were verbs (e.g., *ren* 'run', *kus* 'kiss'). This made it possible to use grammar (preceding *ik* 'I', *zij* 'she') to predict whether or not the ending should be /t/; the Dutch present tense third person singular inflection is /t/ while the first person inflection is null. In Experiment 2, lexical information produced the same result: interpreting /t/ made the target word a correct word (*charmant*) or not (*kanon*[t]).

Results showed that in interpreting the codas L2 listeners, like L1 listeners, took account of all four factors: acoustic context (/n/ versus /s/), type of /t/-reduction, grammaticality, lexical status. Thus familiarity with a reduction process due to its presence in the L1 renders it less problematic than it might otherwise have been in listening to an L2.

However, in Experiment 1 (with verbal inflections), the L2 listeners reported significantly more /t/-codas than native listeners. In Experiment 2 (with lexically determined /t/), there was no such difference between the groups. Two production experiments investigated whether there were corresponding differences between the reduction patterns for word-final /t/s in nouns versus verbs in the speech of native speakers of Dutch and German. The experiments were constructed in such a way that the Dutch and German participants performed exactly the same task, with as similar target items as possible. In Experiment 3, /t/-reduction in verbs was examined with a sentence generation task. The stem of the critical verb in the sentence ended on either /n/ or /s/ and the verb was always presented in its full form (e.g. *rennen* 'run'), and the participants had to produce a sentence with the third person singular present (e.g. *rent* 'runs'; note that first- and third-person inflections in German pattern similarly to Dutch). Experiment 4 tested /t/-reduction after /n/ and after /s/ in proper names, using a blending task. Participants saw two non-existent place names (e.g. *Toestwoud* and *Liekbeek* for Dutch), and made a new place name with the first part of the first place name and the second part of the second place

name (in this case *Toestbeek*). Again the acoustic context was manipulated in that the first part of the place name could end in either /nt/ or /st/.

Analysis of 1600 responses (ten speakers of each language x 80 tokens) showed that Dutch speakers reduced the morphemic /t/ at the end of verbs more often than German speakers, but only for the /s/ context. For proper names, German and Dutch speakers showed similar reduction patterns. These results imply that German-Dutch bilinguals have learned that in the Dutch language the morphemic /t/ on a verb is more often reduced, especially after /s/, than is the case in German. As a result, even weak cues for the presence of a /t/ may be enough for German-Dutch bilinguals to assume that a /t/ was present. In other words, they seem to overcompensate for /t/-reduction in Dutch verbs. For lexical forms such as proper names, Dutch does not show a higher frequency of reduction than German, and accordingly there is no need for the L2 listeners to adjust their perception.

Taken together, the perception and production results suggest that L2 listeners are able to take into account acoustic context, the type of /t/-reduction, grammaticality, and lexical status of the words in their L2. Furthermore, L2 listeners seem to be able to learn when specific phonetic variations occur in continuous speech. However, they then do not use this L2 knowledge in a fine-tuned way in speech comprehension. Instead, they overgeneralize what they have learned about their L2 and thus fail to exploit the acoustic cues to the full extent.