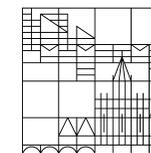


Speech errors in the L1, triggered by code switches from the L2



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Background: L1 and L2 sounds share the same phonological space → bidirectional interference
Research question: Under which conditions do L2 sounds affect L1 sounds in L1 sentences containing code switches?

Recent production study (Schlipf 2017):

German speakers occasionally replaced German [ʁ]-sounds by retroflex English [ʁ] in German verbs (**target**) that preceded or followed English names (**trigger**), see example (1)

(1) Der ehemalige Präsident Ronald Reagan [ʁ]angelt gerne mit seinem Hund
 The former president Ronald Reagan joust like with his dog
 "The former president Ronald Reagan likes to joust with his dog"

Stimuli → German sentences with code switches

- Manipulation of position: target word before or after trigger word
- Manipulation of word-internal position: /r/ in onset-initial position (e.g., Reagan, rauchte 'smoked') vs. /r/ as second member of an initial consonant cluster (e.g., Craig, bremste 'braked')
- Both factors were manipulated within subjects and within items
- 64 experimental trials (see example (1))
- 16 filler sentences with other English names

Participants:
 16 monolingual native speakers, B2 level of English (18-29 years, 5 male)

Procedure:

- Participants were asked to read a German and an English text aloud prior to the experiment
- Sentences were presented on a computer screen one after the other

Data treatment:

- Productions were coded auditorily as retroflex-r, fricative-r, or trilled-r

Results → Percentage of retroflex /r/ in German words:

Condition	order: Target-Trigger	order: Trigger-Target
Onset-N // Onset-V	5,83 %	3,33 %
Onset-N // Cluster-V	8,33 %	4,16 %
Cluster-N // Onset-V	1,66 %	3,33 %
Cluster-N // Cluster-V	5,00 %	1,66 %

No effect of position ($p > 0,5$) and onset-type ($p=0,08$), no interaction

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Questions:

- Do these results generalize to non-word-initial positions (within target)?
- Do these results also occur if English names start with other non-native approximants ([w]) or sounds that occur in both languages ([s,t,n,l,k,g])?
- Is there an activation of L2 in general / only by non-native sounds / by orthographic proximity

Study I:

Experimental manipulation:

- Participle form with prefix ge-
- non-word-initial position of /r/ in the verb
- use of participle at sentence-final position
- Introduction of further non-native sounds ([w]) in triggers
- Control condition: German names starting with /r/ (e.g., Ritter, Richter)
- No English preactivation text

Stimuli:

- 32 German participle verbs (e.g. gerückt 'moved') (see example (2))
- 8 quadruplets of surnames as triggers (Eng-r, Eng-w, Eng-other, Ger-r)
- 32 experimental trials
- Different vowel in r-syllable of participle than in preceding name
- Trigger type was manipulated within subjects, but between items
- 128 filler sentences with or without code switches
- Participles were matched for word frequency and frequency of stem syllable (cf. Geyken et al. (2012)).

(2) Den Designertisch hatten sie vor das Sofa von Reagan ge[r]ückt
 The designer table had they in-front-of the sofa of Reagan move
 "They moved the designer table in front of the sofa of Reagan."

Participants:
 62 monolingual native speakers, B2 level of English (18-30 years, 14 male)

Procedure:
 Sentences were presented on a computer screen one after the other.

Results → Number of retroflex /r/ in German words:

Eng-r	Eng-w	Eng-other	Ger-r
0	2	1	0

Follow-up studies (Studies II-IV)

Manipulation of several variables:

- Number of code switches (in addition to targets) ranging from 8-128
- Sentence position and verb type (... Reagan gerückt vs. Reagan rückte...)
- Only surname vs. first and surname (Ronald Reagan)
- Familiarity with names (Melody Readan vs. Ronald Reagan)
- Memory load (remembering 5 digits vs no other tasks)

Results of all studies:

	# Code switches	Pos., Verb	First name	Name	Load	# Subjects (62 so far)	Occurrence E-r/E-w/E-oth/G-r
I	32/160	Final, ge-V	no	unknown	no	25	0/2/1/0
II	32/160	V2, V	no	unknown	no	8	0/1/1/0
III	152/160	Final, ge-V	yes	unknown	yes	8	0/0/0/0
IV	144/160	Final, ge-V	yes	known	yes	21	3/0/1/1

Note: A considerable number of hesitations and other speech errors, especially before trigger (approx. 9%) and between trigger and target (3%)

Discussion:

- Fewer r-errors compared to Schlipf (2017) in all studies.
- Do the sentence-final/sentence-initial position draw 'more attention' and are they thus less likely for a speech error to occur?
- Does the prefix ge- provide for a 'planning period' which allows the speaker to better monitor and (pre-)correct any mistakes?
- Are the unfamiliar and semantically not preactivated English names less likely to trigger the English inventory?
- Does disfluency minimize the number of speech errors?
- Is a sole reliance on code switches without preactivation (e.g., by an English text) not 'enough' to trigger cross-linguistic speech errors?

References:

- Geyken, A., Hanneforth, T., & Kliegl, R. (2012). dlexDB. <http://dlexdb.de/>
- Schlipf, H. (2017). Versprecher aus der L2: Inwiefern beeinflusst die Phonemposition das Auftreten des rhotischen-englischen [ʁ] im Deutschen? [Speech errors triggered by the L2: How phoneme position affects the production of rhotic English [ʁ] in German]. Unpublished BA Thesis.