Interference of Lexico-Syntactic Gender in Bilingual Spoken-Word Recognition: An Eye-Tracking Study with Non-Cognate Nouns

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Several eye-movement studies have confirmed that, even in monolingual situations, bilinguals activate lexical candidates from all languages when recognizing spoken words: When asked to pick up an object (e.g. a *marker*), late bilinguals often briefly look at crosslinguistic competitors whose name is phonemically similar to the target (e.g. a stamp, */marka/* in Russian).[1] L1 phonemic categories are also known to influence lexical access in L2.[2] Recent evidence further suggests that L1 gender interferes with L2 listening for cognate nouns: When instructed in German to click on a cassette *(die*$_{[fem]}$ *Kassette)*, French-speaking participants excluded a canon from consideration, despite onset similarity with *Kassette* in both languages, because it differs in gender in French although it does not in German.[3]

However, L2 gender could be stored differently for non-cognates. In general, bilinguals process cognates faster and the effects are stronger. Therefore, it is conceivable that L1 gender interference in L2 might be stronger for, or even specific to, cognates. If so, L1 gender's influence might be relatively marginal, since most words are non-cognates.

The present eye-tracking experiment was run entirely in French with German-French and French-German late bilinguals, and French controls. Participants were asked to click on a target in a display also containing a competitor and two unrelated distractors. In the instructions, the target was preceded by its gender-marked article. The competitor was a non-cognate whose German name overlapped in onset with the French target, while its French name did not. Two conditions were compared: In the same-gender trials (1), the competitor had the same gender in German as the French target, and in the different-gender trials (2), its gender differed. The competitor's gender in French always differed from the target.

Both bilingual groups fixated the competitor significantly more often than distractors when gender did not interfere (1), confirming that L2 nouns may be partially activated during L1 recognition, at least for listeners currently living in an L2 environment. However, the effect was numerically smaller for the French-German bilinguals, supporting previous findings that the magnitude of crosslinguistic competition may be dependent on language proficiency. Fixation proportions to competitor and distractors did not differ for the control group.

In (2), however, the effect disappeared in the bilinguals: When the German competitor's gender differed from the French target, the competitor was not activated despite onset overlap. Bilinguals excluded disagreeing German competitors from the very start from competition. Thus, in addition to bilingual listeners being unable to ignore irrelevant vocabulary and phonemic categories of other languages during lexical access, they also seem unable to ignore irrelevant lexico-syntactic gender constraints, for both cognate and non-cognate nouns.

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Example Stimuli

French and German Nouns

			French	German	English
(1)	Same-Gender	Target	$table_{[fem]}$		'table'
		Competitor	$sapin_{[masc]}$	$Tanne_{[fem]}$	'fir'
(2)	Different-Gender	Target	$radis_{[masc]}$		'radish'
		Competitor	$fusée_{[fem]}$	$Rakete_{[fem]}$	'rocket'

(Legend: 'fem'=feminine gender, 'masc'=masculine gender)

Carrier sentences

Cliquez	sur	$le_{[masc]}/la_{[fem]}$	...
('Click	on	the	...')

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