

The Facilitation and Inhibition of Shared Vocabulary in Picture-Naming

Vocabulary shared between two languages - similar in form and meaning in both - are called *cognates* or *doppels*. Picture-naming studies (e.g. Costa et al. 2000, Christoffels et al 2007) have shown faster, more accurate naming of doppels than non-doppels. As a result, there is widespread recognition of a *doppel (cognate) facilitation effect*.

There is evidence, however, that bilinguals avoid doppels. Ellison & Miceli (2017) describe evidence of an *anti-doppel bias* from language instruction (Malkiel 2009), behavioural experiments (Ellison & Miceli 2017), and qualitative accounts of deliberate language differentiation (François 2011, Anal 2011) as well as indirect evidence from lexical evolution in related languages. They argue that this bias against doppels favours an alternative non-doppel word form whenever such a form is available, and other conditions are met.

This presentation reconciles picture-naming results showing doppel facilitation with evidence showing doppel avoidance.

Most picture-naming experiments have singular responses intended for each picture, hence seek to trigger names without synonyms, e.g. a banana. Where a participant response does not match the intended result, it is often discarded as an error (e.g. Christoffels et al 2007, section 4.5). These constraints strongly favour stimuli triggering words which have no synonyms within the target language. These are circumstances in which no anti-doppel bias is expected. If however, stimuli were to have synonymous alternative responses, it should become apparent.

To test this prediction, we developed and ran a picture-naming study in which there were 4 stimulus conditions and 2 participant conditions. The two participant conditions were: (English-speaking) *monolingual* and (Dutch-English) *bilingual*. The four stimulus conditions were contained pictures triggering: (1) a single response non-doppel form, (2) a single response doppel form, (3) multiple responses including a doppel and a non-doppel, and (4) multiple responses none of which were doppels.

The results of this experiment show that ambiguity interacts with doppels in picture-naming behaviour. Doppels lead to a response acceleration if there are no alternative options (comparing conditions 1&2 in bilinguals). Ambiguity, and ambiguity with a doppel in particular, lead to a slow-down in response times (conditions 3 and 4).

In conclusion, the apparent counter-evidence to the anti-doppel bias from picture-naming experiments is an artefact of experimental designs, and does not hold where there are non-doppel alternatives. This confirmation of the anti-doppel bias adds to the case for this bias playing an important role in the lexical evolution of languages in contact.

References

Arnal, Antoni. 2011. Linguistic changes in the Catalan spoken in Catalonia under new contact conditions. *Journal of Language Contact* 4.5-25. DOI: 10.1163/187740911X558815.

Christoffels, Ingrid K; Christine Firk; and Niels O. Schiller. 2007. *Bilingual language control: An event-related brain potential study*. *Brain Research* 1147.192-208. DOI: 10.1016/j.brainres.2007.01.1

Costa, Albert; Alfonso Caramazza; and Nuria Sebastian-Galles. 2000. The cognate facilitation effect: Implications for models of lexical access. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 26.1283-96. DOI: 10.1037/0278-7393.26.5.1283.

Ellison, T.M. and Miceli, L., 2017. Language monitoring in bilinguals as a mechanism for rapid lexical divergence. *Language*, pp.255-287.

François, Alexandre. 2011. Social ecology and language history in the northern Vanuatu linkage: A tale of divergence and convergence. *Journal of Historical Linguistics* 1.175-246. DOI: 10.1075/jhl.1.2.03

Malkiel, Brenda. 2009. When idioti (idiotic) becomes 'fluffy': Translation students and the avoidance of target-language cognates. *Meta* 54.309-25. DOI: 10.7202/0376