

## Number agreement and attraction in late Italian-English bilinguals

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Broken agreement; Code-switching; Bilingual sentence production; English; Italian

Bilingual speakers tend to be good at controlling their languages, but this control is not perfect: Under at least some circumstances, their production is affected by syntactic properties of the language they are not currently speaking (*non-current language*), suggesting the *current language* is not always the most strongly activated language [1]. But under what circumstances does this occur, and what can this tell us about bilingual processing? We report an experiment that investigated whether co-activation of languages affects the computation of bilingual agreement in bilingual production.

Moderate/high proficiency late Italian-English bilinguals produced English and Italian completions for singular complex subject NPs involving English and/or Italian head and local nouns (1a-h). We manipulated *current language* (i.e., language of completion; English vs. Italian), *language task* (1- vs. 2-language), and *local noun number* (singular vs. plural). Previous research in monolingual production suggests the local noun is normally “insulated” from the agreement between the head noun and verb, but sometimes this insulation breaks down, yielding *attraction errors* (e.g., *The report of the forest fires were unbelievable*). We examined whether such errors also occur in bilingual production, and if so, the factors that affect them. Following earlier work, we expected more errors following plural local nouns, but that this effect would be stronger in two-language production (i.e., more errors in (1d) than (1b) and in (1h) than (1f)), because the current language would be more strongly activated than the non-current language, yielding a weaker influence of the head noun (and a correspondingly stronger influence of the local noun).

LME analyses on the likelihood of producing incongruent responses (i.e., when the head noun and verb disagreed in number) showed the best fit model included current language and number, with more incongruent responses when the local noun was English than Italian (33 vs. 14 errors), and when the local noun was plural than singular (35 vs. 12). The inclusion of language task did not improve the model (1-language vs. 2-language: 23 vs. 24), nor did the inclusion of any interactions.

These results suggest that as in monolingual production, bilinguals’ production of agreement was influenced by local noun number, with interference when the head noun and local noun were incongruent in number. However, unexpectedly, agreement was not disproportionately affected when the utterance involved activation of both languages than when it involved activation of one language only. The fact that bilinguals produced more errors when the local noun and verb were in their L2 (English) than their L1 (Italian) suggests differential activation of the two languages. L2 might be less strongly represented in memory than L1 in late bilinguals, yielding greater within-language interference in the computation of L2 than L1 agreement.

Taken together, our results suggest that bilingual speakers activate their languages in different ways, and that this impacts on syntactic processes in production, but there is not a straightforward relationship between the production of one- or two-language utterances and cross-linguistic interference.

- (1a) The hunt for the black whale
- (1b) The hunt for the black whales
- (1c) La caccia for the black whale
- (1d) La caccia for the black whales
- (1e) La caccia alla belena nera
- (1f) La caccia alle balene nere
- (1g) The hunt alla balena nera
- (1h) The hunt alle balene nere

### Reference

[1] Hatzidaki, A., Branigan, H. P., & Pickering, M. J. (2011). Co-activation of syntax in bilingual language production. *Cognitive Psychology*, 62, 123-150.