Structure-sensitive constraints in non-native sentence processing

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Examining how and to what extent non-native (L2) speakers can use their linguistic knowledge during real-time processing can provide us with a more comprehensive picture of their L2 mastery than can be obtained from offline or metalinguistic tasks. From a psycholinguistic perspective, L2 processing data can be informative about the real-time status of linguistic constraints and how their relative weighting or timing might vary across populations, thus allowing us to test the robustness of current L1-based processing models or hypotheses.

Here I will look into proficient L2 learners' ability to apply structure-sensitive constraints on the formation of intra-sentential dependencies, focusing on referential and filler-gap dependencies. If a particular constraint is not applied during L2 processing, or is only applied with some delay, this may indicate that

(i) the constraint has not been acquired,

(ii) the constraint is a weakly weighted or late-applying constraint, or

(iii) the structural representation over which the constraint is defined has not been computed accurately or fast enough, or has faded from memory, at the point during processing at which the constraint becomes relevant.

I will provide a selective review of recent L2 processing studies which have all used the same methodology (eye-movement monitoring during reading), similar experimental designs, and L2 learners at comparable proficiency levels. All of these studies focus on learners who were able to demonstrative native-like knowledge of the relevant constraints in offline tasks, and on L1/L2 combinations that should help minimise the possibility of negative L1 influence. Results from these studies show that depending on the type of structure-sensitive constraint under investigation, the constraint may be more likely, equally (un-)likely, or less likely to be violated during L2 than during L1 processing.

Several attempts have been made to attribute differences between L1 and L2 speakers' processing performance to a specific underlying cause, including general processing resource limitations, slower lexical access, difficulties with prediction, reduced sensitivity to grammatical information during processing, or increased susceptibility to memory interference. These hypotheses are often difficult to disentangle empirically, and are also not necessarily mutually exclusive.

I will argue that trying to reduce L1/L2 processing differences to a single cause is misguided. A more realistic and nuanced picture of L2 learners' processing abilities can be obtained by taking into account how sensitivity to linguistic properties of the input interacts with processing mechanisms such as those involved in memory search, prediction, or structure-building, as well as with processing economy constraints.