

## **Structural and Non-structural Constraints on Anaphora Resolution in L2 Context: A Crosslinguistic Perspective**

It is widely acknowledged that second language (L2) acquisition is often not as successful as first language (L1) acquisition. Even very advanced L2 speakers may show non-convergence with native speakers in certain linguistic structures. One relevant question is what type of structures is acquirable and what type of structures is more difficult to acquire to a native-like level. Another relevant question is why even very advanced L2 speakers exhibit non-convergence with native speakers with regard to those more vulnerable structures. This study attempts to address the above-mentioned questions in the context of anaphora resolution in advanced L2 speakers of English.

Sorace and Filiaci (2006) proposed the Interface Hypothesis, which suggests that though very advanced L2 speakers seem able to acquire narrow syntactic properties of their L2, they have difficulties in structures involving an interface of syntax and other cognitive domains, such as semantics and pragmatics. In English, it is commonly assumed that the choice of referent for reflexives such as "*himself*" is specified by the syntactic/structural configuration of the sentences (Chomsky, 1981). The resolution of non-reflexive pronouns, on the other hand, rely more on non-structural factors such as semantic and discourse factors (Hobbs, 1979; Kehler, 2002). Thus, the Interface Hypothesis would predict that the resolution of reflexives is acquirable while the resolution of pronouns may be problematic for very advanced L2 speakers.

However, it is difficult even may be impossible to find structures involving exclusively syntactic properties. Many structures are sensitive to both structural and non-structural factors. The difference between structures with regard to sensitivity to structural and non-structural information tend to be gradient instead of categorical. One example is the picture Noun Phrase (PNP, e.g. *Sheldon gave Leonard the picture of him*) in English. Kaiser, Runner, Sussman and Tanenhaus (2009) investigated PNP comprehension using a picture verification task and they found that reflexives rely more heavily on structural constraints than on non-structural constraints, whereas pronouns exhibit more evenly-matched competition between the two types of constraints. In this study, reflexives in PNPs are identified as structures that are more syntactically constrained, and pronouns in PNPs are identified as structures that are more contextually constrained. PNPs provide an opportunity to investigate the interactions between structural and non-structural factors and how they affect the interpretation of advanced L2 speakers in relation to the Interface Hypothesis.

Applying Kaiser et al.'s (2009) approach of investigating anaphora resolution to L2 acquisition, Zhan (2013) found that L1 Mandarin advanced L2 speakers of English showed different levels of divergence with native speakers in interpreting different anaphoric forms: L2 speakers exhibit a higher level of non-convergence with native speakers in their interpretation of pronouns compared to that of reflexives. However, it remains an open question why advanced L2 speakers exhibit non-convergence in their resolution of pronouns and reflexives

- is it because of crosslinguistic influence due to L1 transfer, or processing inefficiency as L2 speakers more generally?

In order to tease apart the potential L1 effect, L2 speakers of English with languages other than Mandarin as an L1 who have reached a similar high level of proficiency in English are needed for comparison. This study extends Zhan's (2013) experiment to a new population who are L1 German L2 advanced speakers of English. Groups of 20 L1 Mandarin, 20 L1 German highly proficient speakers of English and 22 native monolingual English controls took part in the experiment. Each participant completed a picture verification task, where conflict and non-conflict conditions (whether or not structural and non-structural constraints conflict) were crossed with reflexive and pronoun conditions via verb manipulation in the target sentences.

The results show that advanced L2 speakers exhibit residual non-convergence with native speakers in resolution of both pronouns and reflexives in PNPs, and this non-convergence only occurs in conditions where different types of constraints are in conflict. In other words, advanced L2 speakers do not necessarily exhibit more divergence in the pronoun conditions than in the reflexive conditions. It is only in the *conflict* conditions that they exhibit more divergence in interpreting pronouns than in interpreting reflexives. The non-convergence in advanced L2 speakers in interface conditions is not due to the interface *per se*. It is the presence or absence of the conflicts of different types of constraints that predicts whether or not there is non-convergence in interface conditions. The interface provides the possibility of having conflicts of different types of information and various types of interface conditions predict various degrees of non-convergence.

There is no simple answer to explain the non-convergence at interface structures. Not all interfaces are identical. The results show that non-convergence in structures that are more syntactically constrained (e.g. the reflexive conditions) likely reflects crosslinguistic influence and this non-convergence may disappear as L2 speakers reach a near-native level of proficiency. Non-convergence in structures that are more contextually constrained (e.g. the pronoun conditions) may reflect processing inefficiency as L2 speakers more generally, and this non-convergence may remain permanent even at a very advanced stage. Crosslinguistic influence and processing inefficacy are not mutually exclusive in relation to the non-convergence with native speakers at advanced stages in L2 acquisition.

#### Key References:

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