A cross-linguistic investigation of pronouns and reflexives: Experiments on picture NPs in English and beyond

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In this talk, I present a series of cross-linguistic experiments that investigate the interpretation of different anaphoric forms in representational noun phrases (e.g., picture NPs such as *picture of her/herself*). I'll present psycholinguistic data from three Germanic languages, namely English, Dutch, German, as well as results from Finnish, a non-Indo-European language. Broadly speaking, these studies use psycholinguistic methods to test whether and how the interpretation of anaphors in representational NPs (RNPs) is guided by structural and semantic information, and thereby contribute to our understanding of how syntactic and semantic information are integrated during language processing. By looking at multiple languages, we can shed light on the source/nature of these effects.

In many structural environments, pronouns and reflexives are in (nearly) complementary distribution, ex.(1). Principles A and B of traditional Binding Theory (e.g., Chomsky 1981) provide a structural account of this. However, it is well-known that the complementarity breaks down in certain environments, e.g. representational/picture NPs, ex.(2) (e.g. Jackendoff 1972, Chomsky 1986, Williams 1987, Reinhart & Reuland 1993, Tenny 2004). Here, both *her* and *herself* can refer to the subject.

(1) Kermit$_i$ thought that Cookie Monster$_j$ tickled him$_{i*/j}$/himself$_{*i/j}$.
(2) Miss Piggy$_i$ found a picture of her$_i$/herself$_i$.

Reflexives in RNPs have been argued to be sensitive to factors such as the potential antecedents' point of view, degree of awareness and semantic role. In our experiments, we focus on two hypotheses that we formulated on the basis of the existing claims for English: For reflexives, we tested the idea that reflexives in RNPs prefer antecedents that are *sources-of-information*, which is based on observations by Kuno (1987) and builds on the notion of 'source' as used by Sells (1987). For pronouns, an interesting complementary observation has been made: Tenny (2003, 2004) noted that pronouns in RNPs prefer antecedents that are *perceivers* of information.

Given that judgments concerning antecedent preferences in RNPs can be somewhat murky, we conducted experiments in order to test the validity of these hypotheses. For English, I will present data from off-line tasks as well as visual-world eye-tracking. The results indicate that (i) interpretation of reflexives in RNPs is guided by a strong structural subject preference and a weaker semantic source-of-information preference, and that (ii) interpretation of pronouns in RNPs is guided by a non-subject preference and a perceiver-of-information preference (Kaiser, Runner, Sussman & Tanenhaus 2009). The semantic source/perceiver effects are robust both in off-line data and on-line processing, and emerge early on. As a whole, the results suggest that pronouns and reflexives differ from each other in the degree of sensitivity they exhibit to structural and semantic constraints. This asymmetry suggests that existing claims regarding form-specific asymmetries in cross-clausal reference resolution (e.g. Kaiser & Trueswell, 2008) also apply in the within-clause domain.

Looking at Dutch, German and Finnish allows us to address questions left open by the work on English: First, how typologically and syntactically robust are the source/perceiver effects? Are they restricted only to certain syntactic constructions or to certain language families? Second, can these preferences be derived from other semantic or pragmatic properties of the sentences containing these anaphors? In particular, I plan to explore two possibilities: (i) Can the source preference be attributed to intensifiers? (ii) Can the source preference be derived from a general prominence bias?

The results of our experiments on these three languages indicate that source/perceiver effects are not just isolated 'quirks': These effects extend beyond English, although they may be outweighed by structural factors in certain syntactic configurations. The data also suggest that in the languages we investigated, the source preference cannot be blamed on intensification, and instead may be part of a general preference for prominent antecedents. I will also discuss these results more broadly in terms of their implications for our understanding of the syntax-semantics interface, and address some of the benefits and challenges of conducting psycholinguistic research on these kinds of topics.