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Subject and Object Relative Clauses in Child Language: An Eye-Tracking Study of French, German and Russian

The talk will revisit the well-known phenomenon of Subject/Object Asymmetry in relative clause processing whereby ORCs cause greater processing difficulty than their subject extracted counterparts. However, the subject advantage is not equally pronounced in different languages. We will discuss the results of three visual word experiments where we tracked the eye movements of Russian, German and French children while they were exposed to a subject relative clause ("*Where is the cat that is feeding the hedgehog?*") compared to an object relative clause ("*Where is the cat that the hedgehog is feeding?*") in their native language. In French and Russian, the possible word order variations (NP-V or V-NP) additionally were contrasted.

Questions with relative clauses were presented audially. While listening to a question, participants could see a visual display with the referents mentioned in this question, as in Figure 1. On the next display, one of the referents was presented again. With the pre-programmed "yes / no" keys, the subjects were asked to answer whether this was the referent implied by the question. Response accuracy and reaction times were measured.

In general, eye movements were more consistent for SRCs than for ORCs. However, the subject preference pronounced itself differently in the three languages. While French speakers took significantly longer to divert their attention to the intended referent, Russian speakers needed more time to disengage from the syntactic competitor in the ORC condition.

The crucial finding of the study was an increase in the proportion of looks towards the middle referent (the hedgehog) in French and Russian ORCs starting at the RC verb and into the RC offset. Arguably, while processing complex structures the parser does not always operate on a complex unit such as the whole relative clause, but on its integral parts (*the hedgehog is feeding*). Since no such tendency was witnessed for the SRC, we will conclude that, to be eligible for lower-level analysis, the segment needs to be locally coherent and constitute a well-formed unit of a language.

The proportion of looks towards the middle referent remained low for either relative clause type in German. A marginally significant increase at the RC offset in ORCs is indicative of the parser's sensitivity to local coherence. Supposedly, constructing a relative clause representation in real time, the parser resorts to different processing strategies individually and in different languages. French and Russian native speakers seem to be assembling a relative clause from less complex locally coherent constructions (e.g. a subject-verb unit "*ezh, vozmozhno, pokormit*") in a bottom-up fashion. By contrast, a German native speaker makes extensive use of their top-down knowledge of subordinate clauses (e.g. the V-NP word order) and activates an empty fully-fledged representation of a relative clause, which is filled with the upcoming input.

In the final part of the talk, we will discuss how the study of relative clause processing can provide insight into the strategies that learners employ to bootstrap complex syntax in the languages they acquire. How do strategies change over time during language acquisition with growing proficiency? Can a commitment to different strategies explain the differences in learner performance within a single language pair (Russian-French; French-Russian)?

Figure 1.

**Старая Басманная 21/4,
аудитория 518
6 октября (пятница) в 10:30**

**Сайт семинара:
ling.hse.ru/SciSeminar**