You are *"the only one"*…how far do we go in search for referents?

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Purpose of the visit

Luisa Meroni (2nd participant) and Andrea Gualmini (arbiter) meet Francesca Foppolo (1st participant) at the University of Milano-Bicocca (Milan) to analyze the data from Italian and Dutch Experiments and to decide the follow up work.

Work carried out during the visit

During this meeting we looked up at all the data that were obtained from the four experiments that have been done. Since some our experiments involved an eye tracker experiment it was crucial to chose the right variables for the analysis. We discussed about what quadrants, and objects in the pictures were significant and at what time during the unfolding of the sentences. We decided the variables that we wanted to take into account and we proceeded in analysing the data following the Mixed-effects models using R (Baayen et al., 2008).

Besides looking at the on-line experiments, we also considered the results of the off-line experiment that we have designed during the second visit of Dr. Francesca Foppolo to Utrecht. The off-line experiment was designed to distinguish between two different strategies that might be used by adults in processing the target sentences -- a Maximal Commitment Strategy (use the strongest available interpretation of an ambiguous sentence) and a Maximal Exploitation of the context (use all the contextual information provided). In fact given that both strategies converge toward the same interpretation the on-line experiment cannot tease them apart.

Unfortunately, our results showed no effect of the type of adjective that has been used in the target sentence (scalar versus non scalar adjective) as we hypothesized in our project. The results from the on-line experiment seem to suggest that adults adopt a Maximal Commitment Strategy and stop their search once a counterexample is found independently of the adjective that has been used.

However, taken together the results of the two experiments are really interesting from the point of view of the processing strategies used by adults in interpreting ambiguous sentences. In fact, our findings show that adults rather conform to a Principle of Parsimony when their task is that of "implementing" a context: in the absence of a context (as in our off-line experiment), as in the original study by Crain and colleagues, adults make the least possible assumptions as to how to implement it. Differently, when a rich context is given (as in our on-line experiment), adults makes use of all the available information. This is exactly the same mechanism that has been convincingly proposed to explain the phenomenon of garden-path (Crain & Steedman, Altmann & Steedman): when adults are given a sentence like *"The horse raced past the barn fell"* in a so-called "neutral context", they are led down the garden-path and interpret *raced* as the main predicate (and get stuck when *fell* is encountered) . Conversely, when a rich context is provided, the garden path disappears and they correctly interpret *raced* as a reduced relative clause that refers to a subset of the horses mentioned in the context.

During the visit we also prepared a poster to be presented at the conference *AMLAP 2011*, 1-3 September, Paris, and a talk to be presented at   the conference *New trends in Experimental Psycholinguistics*, 20-30 September, Madrid.