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com Manuel Carreiras (Basque Center on Cognition, Brain and Language - BCBL)

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EntreviSta: At least since the eighties, proponents of two classes of models have been lively debating in Psycholinguistics, with interesting claims in the field of anaphoric resolution. On the one hand, **structural models** assume an early role for grammatical information in coreference resolution and, on the other hand, **interactive models** predict early and simultaneous use of both grammatical and context-based information. How do you currently evaluate this debate? How does the debate stand in the light of the sophisticated methodologies now available?

Manuel Carreiras: This debate is a difficult one, and probably it does not have any definite solution, since proponents of structural models can always claim that the role of early grammatical cues is visible if you use the proper fine grain methodology, while the proponents of interactive models can always claim that effects of context were not visible because the manipulation of the context was not strong enough. The two kinds of models have an interesting back door. I think that different languages are configured differently, and in the case of romance languages such as Spanish, Italian or Portuguese, formal cues such as grammatical gender are very common and it would be very uneconomical not to take advantage of those. Thus, I profoundly believe that the parser gives a lot of importance and precedence to these formal cues in these languages, but this is probably not true in other languages such as English, because other cues are more important to find out who did what to whom. Thus gender is a clear example of the initial use of formal cues. Nonetheless, if you think on conceptual anaphors, there are other situations in which this does not happen, instead content overrides formal cues during agreement.

EntreviSta: You are the director of the Basque Center on Cognition, Brain and Language – BCBL, in Donostia-SanSebastian, in the Basque Country, Spain. BCBL support cutting-edge research on language and cognition, using different experimental methods such as Eyetracking, EEG, fMRI, MEG, etc. Many interesting discrepancies have been reported in the Psycholinguistic literature, involving different methodologies. What is your view on these discrepancies?

Manuel Carreiras: What is discrepant between techniques is important, but it does not tell us probably very much about the cognitive processes involved during the performance of a task. To me is more relevant when we find convergence of results among different techniques. This will illuminate us more, since in those cases we are probably capturing the effects of some core processes.

EntreviSta: You have taken part in the early nineties in seminal work on the topic of conceptual anaphors, in papers with Gernsbacher, Garnham and Oakhill, in which superficial and meaning based interpretation of these elements were assessed. What are your views on these issues, from today's perspective, two decades later?

Manuel Carreiras: As mentioned before, this relates with the modular/interactive debate. The conceptual anaphors effects indicate that the parser pays more attention to the conceptual meaning than to the formal number cues during pronoun comprehension. I think these are still very relevant findings today showing that the processor is "opportunistic" in the sense that it may ignore and even override the formal agreement process by taking advantage of conceptual agreement in some specific cases.

EntreviSta: You have been working with colleagues in the past few years on the topic of gender and number processing. Unlike earlier views which tended to consider gender and number computation as a similar process, there seems to be interesting evidence today that indicate that these are qualitatively different processes. Could you share with us your ideas on this issue?

Manuel Carreiras: Our first results indicated no differences between the agreement processes using different features such as gender, number or person. However, the absence of evidence is not equivalent to the evidence of absence, and in fact, some more recent results, using a variety of techniques, seem to suggest that there are differences in the agreement process when this engages gender, number or person. A technical discussion of why this is the case can be found in a paper or our group (Mancini, Molinaro & Carreiras) to appear in Linguistic Compass. In addition, a summary or results on agreement can be found in a paper published in Cortex by Molinaro, Barber & Carreiras. The basic argument is that the processer will check a different type of information for the three cues, what will entail some different operations.

EntreviSta: Finally, we would like to know your views on the Grammar x Parser debate. There are people who adopt a more reductionist monistic view either reducing the first to the second or the second to the first. Other linguists believe the dichotomy is conceptually necessary. Others such as Phillips, Wagers and Lau (2011) have been trying to explore some sort of a middle ground showing that the on-line implementation of grammatical constraints is very accurate in some cases, but faulty in other cases, suggesting that comprehenders "build richly structured representations as they process a sentence, but that they have different ways of navigating these representations to form linguistic dependencies" (p. 23). What are your views on these issues?

Manuel Carreiras: As we listen or read a passage we are using all the information available to understand who did what to whom and form richly structured representations of the information. This implies the processing of content and of the formal cues present in the input. The processor will negotiate with all these cues how to get to a meaningful representation, but I don't expect that it will build trees to signal linguistic dependences in our heads. An interesting challenge is to understand how our mind and brain negotiate the use of the available information (form and meaning) to understand speech or print or for producing utterances.