Animacy effects in relative clauses: Insights from psycholinguistics and corpus data

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The notion of animacy influences human language and cognition in various, deep-reaching ways. In this talk, I explore the consequences of animacy for the production and processing of relative clauses, using data from psycholinguistic studies and corpus work. I will mostly focus on data from Mandarin Chinese and, time permitting, will also look at data from Finnish. Both of these languages have relative clause structures that differ from Indo-European relative clauses in ways that can inform our understanding of how animacy influences fundamental aspects of language processing, such as argument structure.

A large body of work shows that, crosslinguistically, animate entities tend to be mentioned in subject position (which is often also the sentence-initial position). However, much of this work has focused on simple matrix clauses, and less is known about constructions including embedding, like relative clauses. Gaining a better understanding of the effects of animacy on the processing of relative clauses can provide (i) new insights into the notion of animacy, in particular its relation to different thematic and syntactic roles, and can also help to (ii) resolve debates about principles that guide on-line language processing.

Relative clauses (RCs) are a means of providing more information about a noun (e.g. *the boy opened the gate => the boy [who lives next door] opened the gate*). In many languages, this head noun can occur in various positions within the RC: In subject-extracted RCs, the head noun is the subject of the RC structure (e.g. *the boy [who __ chased the dog]*), and in object-extracted RCs, the head noun is the object (e.g. *the boy [who the dog chased __])*.

I report a series of psycholinguistic studies and corpus analyses investigating animacy patterns in relative clauses in Mandarin Chinese, and how different animacy configurations are processed (joint work with Fuyun Wu and Elaine Andersen). There is an ongoing debate concerning the processing ease of subject- and object-extracted RCs which has implications for models of sentence processing. In English, subject-extracted RCs are easier to process than object-extracted RCs, a finding that current theories correctly predict. Crucially, because Chinese RCs occur *before* the head noun (e.g. subject-extracted: *[_ chased dog DE] boy => the boy [who __ chased the dog]*, object-extracted: *[dog chased __ DE] boy => the boy [who the dog chased __]*), different theories of sentence processing yield different predictions about which RC type (subject-/object-extracted) should be easier to process. However, psycholinguistic studies on Chinese have yielded mixed results, leading to unresolved questions regarding the nature of the human language processing system.

We argue that it is crucial to take the animacy configurations of Chinese RCs into account when investigating their processing. Based on corpus data and experiments, we show that manipulating the animacy of the head and the RC-internal noun offers new insights into the debate on the ease of processing subject and object RCs, and indicates that *subject-extracted RCs* are intrinsically easier to process than object-extracted RCs, even in Chinese.

If time permits, I will also present data from Finnish relative-clause type structures. Finnish has both 'Indo-European-style' RCs that occur *after* the head noun (*poika, [joka __ seurasi koiraa]* 'boy-NOM [who-NOM __ followed dog-PART]'), as well as 'Chinese-style' nominalized structures that *precede* the noun (*Koiraa seurannut poika* [dog-PART follow-PTCP2 boy-NOM]). Thus, Finnish allows us to explore potential effects of linear position (pre-/post-head) on the role of animacy in RCs, to see how they relate to claims that animate nouns tend to linearly precede inanimate nouns due to the former being more accessible.

More broadly, I will explore potential implications of our data for questions regarding the status of animacy in theories of psycholinguistics/language processing, and how this might relate to animacy as a cognitive and as a linguistic notion.