Two systems, one strategy: acquiring ordinals in Dutch and English

This talk compares the acquisition of ordinal numerals in Dutch and English. We present novel comprehension data that shed light on how numerical and linguistic knowledge are combined in the ordinal domain, and strongly suggest that ordinal acquisition follows a rule-based pattern in which language-specific knowledge is key. These results not only add to earlier findings regarding ordinal acquisition (cf. Colomé & Noël 2012 for French, Trabant et al. 2015 for German), but also brings us back to more general questions pertaining to language learning and linguistic productivity.

Dutch and English have considerably different ordinal count lists. Putting aside *eerste* 'first' (a superlative), Dutch has one irregular ordinal, morphophonologically irregular *derde* 'third', and two ordinal suffixes: *–de* and *–ste*. English only has one ordinal suffix, namely *–th,* but English learners are confronted with a different challenge: reliable evidence for the English ordinal rule only appears from *sixth* on. These differences between the two languages notwithstanding, our data suggest children approach learning them in a similar rule-based fashion, and that it is this insight in the ordinal form that helps them acquire ordinal meaning.

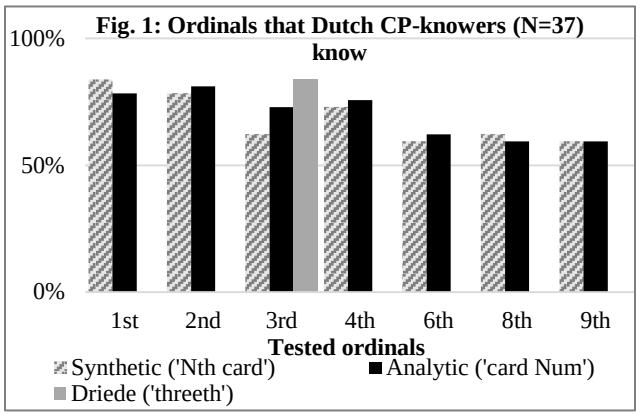
Using a Give-X comprehension task (Wynn 1992), we asked 62 Dutch (2;8–4;11) and 36 U.S. English L1-learners (3;3–5;3) to pack certain items in a suitcase, such as *three t-shirts* (cardinals), *the fourth bear* (synthetic ordinals) and *car three* (analytic ordinals). We tested *one–four, six, eight, nine,* their synthetic and analytic ordinal counterparts, plus the ungrammatical yet regularized form **driede* 'threeth' in Dutch, and the first seven of all three numeral types in English.

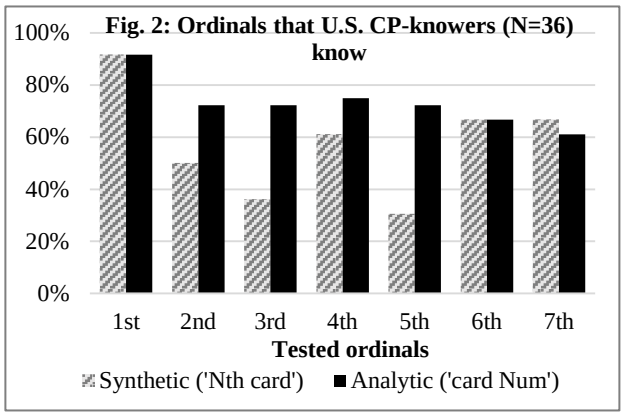
Figure 1 shows that the percentages of Dutch CP-knowers (i.e. children who have mastered the relevant counting principles, N=37) who understand synthetic and analytic ordinals are similar (e.g. scores on *de vierde beer* 'the fourth bear' do not differ from *kabouter vier* 'gnome four'). Ordinals for *three* constitute the only exception: scores on the analytic forms (*konijn drie* 'bunny three') and **driede* 'threeth' were similar to ordinals for *two* and *four*, whereas grammatical synthetic items (*de derde auto* 'the third car') were harder. Figure 2 shows that in English, too, irregular synthetic ordinals are more difficult than regular forms and *bunny three*-type ordinals, despite such analytic forms being uncommon, especially in English.

That children seem to prefer regular forms may seem intuitive at first sight. However, these findings actually go against different approaches that may seem plausible given acquisition patterns found for other phenomena, such as purely frequency-reliant approaches and ideas involving a U-shaped type of development. Instead, our data strongly suggest that children acquire ordinals in a rule-based, rather than lexical, fashion in which children use the morphosyntactic properties of ordinal forms to acquire ordinal meaning. To be more precise, we argue that children take in ordinals from the input, initially storing them without being able to use them, then recognize their complexity (i.e. identify the cardinal root and the ordinal suffix) and use that structure to discover what ordinals (and ordinality) mean. It is at this point that children both comprehend and produce ordinals appropriately.

In order to understand why this rule is productive and how this helps learners, we discuss Yang's (2016) principles of Tolerance and Sufficiency, and illustrate that both a linguistic and a conceptual component are at play here: children use language to apply knowledge they developed in cardinal acquisition to the ordinal domain. In short, this talk discusses the (not-so-) obvious aspects of ordinal acquisition in particular, in relation to the development of linguistic knowledge and numerical concepts in general.

Figures





Selected References

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