

The acquisition of Hungarian recursive PP-s
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In the current study it is claimed that Hungarian children can interpret recursive PPs from the age of 4, while they start to produce them around the age of 7.

Chomsky–Hauser–Fitch (2002) state that recursion is the core property of the narrow faculty of language (FLN) that can differentiate human communication from the communicational methods of animals. If so, recursion should be part of the language competence of young children as well. International studies shed light on how the acquisition of recursive structures goes on. Roeper (2011) and Hollebrandse–Roeper (2014) say that children start with a conjunctive interpretation of embedded structures, such as sentence (1).

(1) *There is a zebra next to the elephant (and) above the bear.*

They found that young children tend to give conjunctive interpretation to recursive sentences, but later this interpretation turns into a correct, embedded one, like sentence (2).

(2) *There is a zebra next to the elephant (that is) above the bear.*

10 4-year-olds, 14 5-year-olds, 13 6-year-olds, 18 7-year-olds and 14 8-year-olds participated in the experiment. The experiment had two parts; a comprehension part and a production part, each of them with 8 test sentences. In the experiment we applied a double decker where the participants had to place the figures of animals according to the sentences of the experimenter.

Figure 1: comprehension part



Figure 2: production part



(3) *Tedd a bocit az egér fölötti cica elé!*
put the cow the mouse above cat before
'Put the cow before the cat above the mouse.'

In the case of the production part there were some animals already sitting on the bus, but there were also others which had to be taken there. Their places were marked by the foods they usually eat. The participants had to feed the animals and also make them occupy their places on the bus according to the foods they eat. Then the experimenter asked the participants to tell her where they put the given animal.

As for the results we found that the 64% of 4-year-olds, 74% of 5-year-olds, 76% of 6-year-olds, 87% of 7-year-olds and 96% of 8-year-olds interpreted recursive PPs correctly. As for the production part, below 7 years there were a little sign of recursive descriptions (only 2% of 4-year-olds, 12% of 5-year-olds, and no 6-year-olds produced recursive PPs), but 47% of 7-year-olds and 65% of 8-year-olds ($p < 0,01^{**}$) responded with recursive PPs. We found that in the case of the production part of the 7-year-olds 67% of them gave recursive answers when we started with the comprehension part, so they heard recursive sentences before the production part, but only 21% of them gave recursive answers when we started with the production part. 8-year-old children gave more recursive answers when we started with the comprehension part as well, but the difference is not significant.

We claim that young children (even 4-year-olds) can also interpret recursive PPs correctly, but the production of the first recursive structures happens only after 7 years. We have not found any evidence of the conjunctive interpretation of recursive PPs at an early age.

References: Hauser, M.–Chomsky, N.–Fitch, T. 2002. The faculty of language: What is it, Who has it, and How did it evolve? *Science*, 298: 1569-1579. Hollebrandse, B.–Roeper, Tom 2014. Empirical Results and Formal Approaches to Recursion in Acquisition In: Tom Roeper– Margaret Spears(eds.) *Recursion: Complexity in Cognition*. Springer. Berlin. 179-220. Roeper, T. 2011. The Acquisition of Recursion: How Formalism Articulates the Child's Path, *Biolinguistics* 5/1–2: 57–86.