Investigation of Hungarian postpositions with temporal and spatial meaning

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How do Hungarian children acquire postpositions which could have both temporal and spatial meanings? Can we find either any parallelism in the process of the acquisition or a dependency relationship in favour of the spatial structure? (as Bowerman 1983 stated) The main aim of the research is to describe the representation of spatial and temporal concepts and to reveal how these concepts connect to each other through language acquisition.

According to previous studies spatial primacy can be hypothesised. Hungarian children begin to use spatial postpositions quite early – around the age of 3 (Lengyel, 1997) but we still do not have clear data about the representation of their temporal pairs. Melissa Bowerman (1983) suggests that spatial representations could have an influence on how we represent temporality according to her data from child language:

(1) Can I have a reading *behind* the dinner? (3;4)

It is important to take into consideration David Barner's (2016) findings about temporal acquisition. He suggests that children conceptualize temporality as a whole abstract set first then the specific meanings of each temporal term settled later, around age 6-7.

We have conducted an experiment to test the children's temporal and spatial interpretation of postpositions *előtt* ('before, in front of') and *után, mögött* ('after, behind'). 30 children participated from age 3 to 6. We prepared a hide-and-seek scenario with stuffed animals in a playhouse. A blindfolded puppet made statements about the happenings. (8 spatial, 8 temporal targets by turns) The children had to decide whether the statement is true or not depending on what they saw. It was a crucial part of the task to test temporal and spatial meanings in the same way.

(1)	*pro*	Az	ágy	**előtt**	találta meg	a	farkas-t.
	3SG	DET	bed	in-front-of	find-PAST	DET	wolf-OBJ
	He found the wolf in front of the bed.						(Spatial postposition)

(2)	*pro*	A	farkas	**előtt**	a	cicá-t	találta meg.
	3SG	DET	wolf	before	DET	cat-OBJ	find-PAST
	He found the cat before the wolf.						(Temporal postposition)

The preliminary results show that younger children could perform well in spatial tasks: the percentage of correct answers was 80% for *előtt* 'in front of' and 73% for *mögött* 'behind' (Figure 1). Never the less the interpretation of the temporal events was difficult even to older children: In the oldest group the percentage of correct answers was 45% for questions with *előtt* 'before' and 85% for *után* 'after' (Figure 2). The common mistake was mixing up the order of the events, that is children usually chose *után* 'after' for describing events which originally represented the order with *előtt* 'before'.

To sum up, we could suggest that spatial representations have been completed while the temporal ones still have not been acquired yet in the case of the target age group in Hungarian. The Hungarian data fit into Barner's (2016) suggestion based on English which states abstract concepts like time are acquired relatively late in language acquisition. The research also gives us data about when the temporal representations of Hungarian postpositions appear compared to their spatial representations.

Appendix

Figure 2: Percentage of correct answers in temporal task

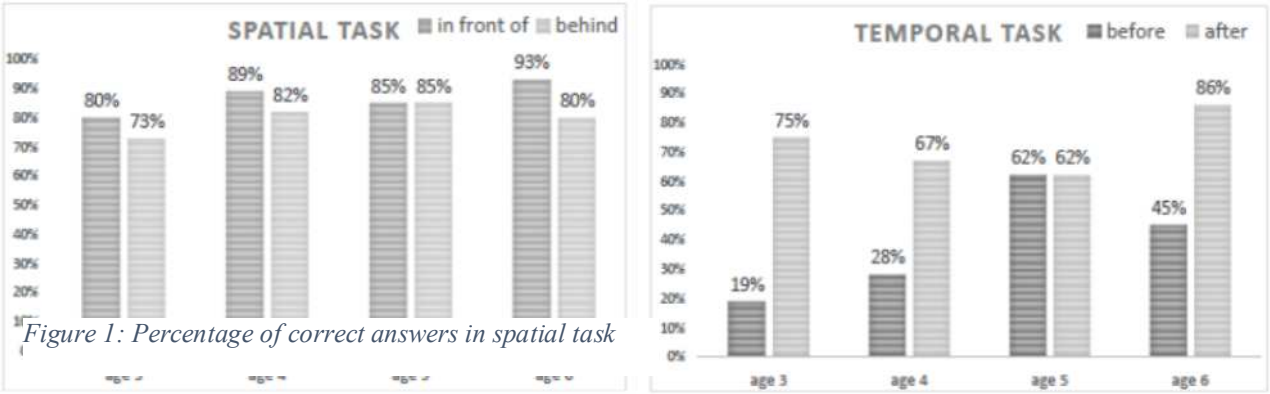

Figure 1: Percentage of correct answers in spatial task

References

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