Before and After with Temporal and Spatial Meaning in Language Acquisition



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Research questions

Do **Hungarian** postpositions with a spatial meaning have primacy with respect to postpositions with a temporal meaning during language acquisition?

Előtt 'Before/in front of' – Után/Mögött 'After/Behind' Frame-hypothesis: The conceptual interpretation of space predates the conceptual interpretation of time. (Bowerman, 1983)

Background

The order of acquisition of locations in Hungarian

BEFORE > BEHIND

- age 2: suffixes
- age3: postpositions goal-types >source-types

before (egocentric)* > behind,
before (located object)**

The order of the acquisition of the temporal relations:

AFTER > BEFORE

In temporal meaning after (,után') appears first (Sellar, 1999). The order of events is described with after, therefore it should be easier in production and in processing language.

Relation between the two concept domains

- Relative frame of references 'FoRs' (English: "Turn to the left") vs.
 absolute FoRs (Kuuk Tayorre "Turn to the East") → Languages using an
 absolute FoR for space use the same in temporal representation
 (Boroditsky 2009)
- Conceptual Metaphor Theory: We interpret time as a one-dimensional domain, thus the one-dimensional component of space is mapped on it. The direction of mapping is from the tangible domain of space to the abstract domain of time This supposition presumes the primacy of spatial terms. (Szamarasz, 2006)

"Christmas is near"

Method

- **Participants:** 30 children, 3;6 7;5 (m=5;7) –
- 2 parts: spatial task temporal task

Spatial task

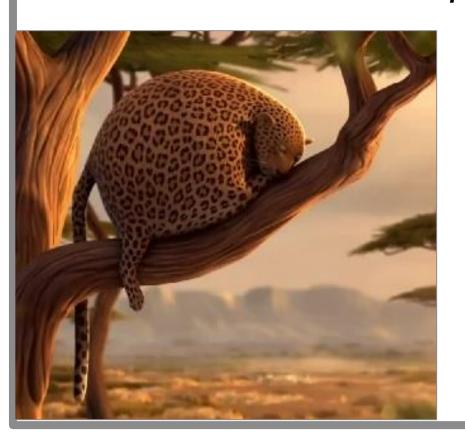
- Hide and Seek scene, 3 animals play (fig. I) + blindfolded puppet
- TVJT: Hedgehog puppet (HP) made statements about the scenes.
- 24 questions, 10 targets (5 before, 5 behind)
 - "Experimenter: Where did the dinosaur find the wolf?"
 - Hedgehog: "Behind the bed" Child: "Y/N" (fig.2)



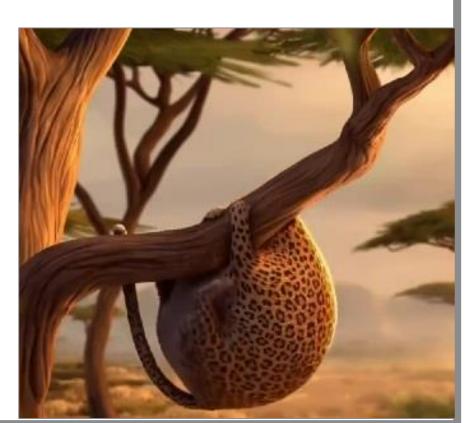
Temporal task

- 3D cartoon, 4 scenes, 1,5 minute
- 2 sessions: full video first followed by scene by scene (questions)
- 16 questions, 4 targets (2 before, 2 after)
- Forced choice

"When does the panther stretch? Before or after he falls down?"



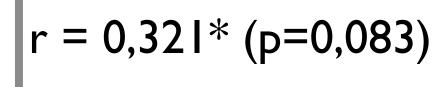


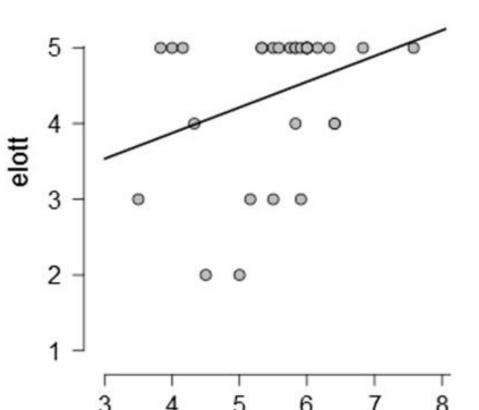


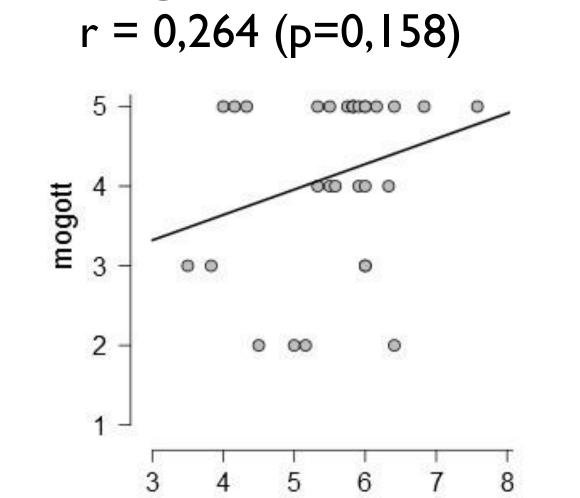
Results

Spatial task

Correct identification of locations: Előtt Mögött







participants/age^

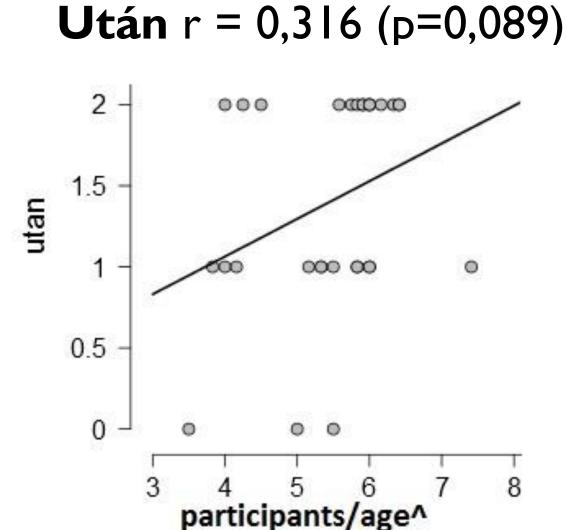
Children have already learnt the correct usage of spatial postpositions for this age.

Temporal task

Correct identification of temporal relations:

Előtt r = 0.383* (p=0.037*)

0 0000 0



Children learn the correct usage of after earlier

participants/age^

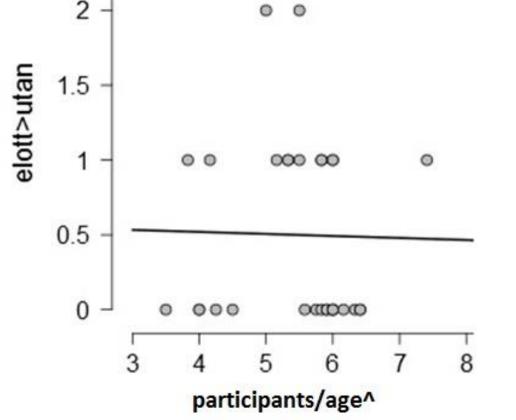
Mixing up the two postpositions in temporal task

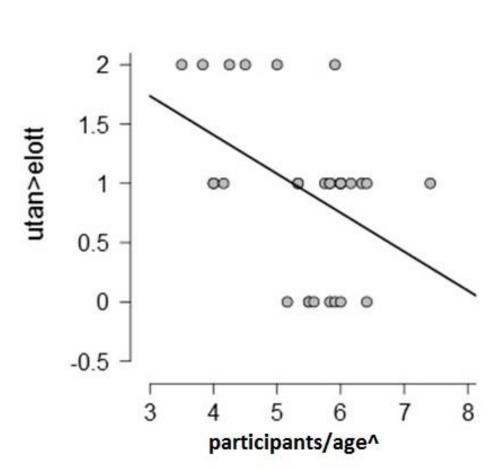
before instead of after r= -0.020 p= 0.918

after instead of before



r = -0.435* (p = 0.016*)





Children learn the correct usage of *after* earlier Younger children have not learnt the correct usage of temporal *előtt* yet.

Conclusion

There is no significant difference between the youngest and the oldest children's spatial production, but there is in the temporal production.

→The age has a significant effect on the production of előtt ,before' in temporal meaning. The children tend to replace it with 'after'.

- I. The acquisition of spatial meaning of these postpositions is completed by the pre-schooler age, but the temporal meaning is not completely acquired yet.
- →The spatial representation is easier.
- 2. Után ,After' appears to be easier in temporal dimension.

TIME order of events "Után" SPACE

expediency "Előtt"

→ Directionality might lead the acquisition of temporal meaning of these postpositions, same as in spatial dimension (Pléh, 2014).

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