A subject-object asymmetry in German-speaking children’s negative determiner production supports the silent concord analysis of German/English/... negative determiners.

**Introduction**

Languages vary in how they express non-existence:

- **German**: Negative determiner or silent negation ($\neg$).

(1) Keiner hilft Janek. Janek hilft keinem

anybody helps not Janek Janek helps not anybody

- **Russian/Polish**: Negative determiner and silent negation

(2) Nie pomaga Janek. Janek nie pomaga nikому

anybody not helps Janek Janek not helps anybody.

"Nobody helps Janek."

- **English**: Negative determiner or silent negation ($\neg$).

(3) Nobody helps Janek.

"Nobody helps Janek."

Analyses for German/English/negative determiners:

- **Negative quantifier analysis**: Negative determiner is a generalised quantifier (Barwise & Cooper, 1981; de Swart, 2000).

  - Prediction: Less complex to derive in subject position, due to no type-mismatch (Hem & Kratzer, 1998).

  - Silent concord analysis: Negative determiner is a positive indefiniteness that indicates the presence of a silent sentential negation (Bech, 1955; Zelljstra, 2004; Penka, 2011).

  - Prediction: More complex to derive in subject position, due to need for reconstruction.

Research Question: Does children’s production of negative determiners in subject position provide any insight to those competing analyses?

**Experiment**

Nineteen children (5.0-6.2, $M = 4.9$) and 15 adults played a game in which they had to describe a series of pictures that varied with regard to how many of the cats were wearing hats (Fig. 3). The ‘0/24’ condition picture (Fig. 1) was designed to elicit negative determiners. The experiment was designed to prime subject position negative determiners.

![Fig. 1: The ‘0/24’ condition picture.](image)

**Results**

From the ‘0/24’ condition (i.e. Figure 1) we elicited 57 utterances from children and 45 utterances from adults. Of these, 27 utterances from each group contained a negative determiner (kein) that could be clearly identified as being in subject/object position (the others largely included ‘without’, see (5)).

Our analysis of these sentences revealed a striking difference between adults and children with regard to the position of the negative determiner. Specifically, as Figure 2 shows, we found that while adults tended to produce the negative determiner in the subject position (as in (3)), children tended to produce it in the object position (as in (4)).

![Fig. 2: Mean productions of negative determiners in subject position. Dots represent individual participants.](image)

(3) Keine Katzen hat einen Hut.

No cat has a hat.

'No cat has a hat.'

(4) Alle Katzen haben keinen Hut.

All cats have no hat.

'All the cats have no hat.'

This difference was confirmed to be statistically significant by a mixed-effects logistic regression which found a significant effect of group $(\chi^2(1) = 28.44, p<0.001)$.

**Conclusion**

- **Result:** Subject-Object asymmetry in children’s production of negative determiners.

  - Implications: According to the silent concord analysis, producing the negative determiners in the subject position requires reconstruction. Assuming children find such reconstruction difficult, this could explain the identified asymmetry.

- It is unclear how the negative quantifier analysis could account for this asymmetry.

**References**


**Appendix**

![Fig. 3: Full set of iPad pictures seen by participants.](image)