Exhaustivity in preschoolers' clefted focus interpretation: Identification in context

The issue One aspect of sentence interpretation that seems to become adult-like relatively late in the course of language development involves inferences triggered by focus (Höhle et al. 2016). A key inference of this type (at least when focus is used to answer an explicit or implicit question, called Question Under Discussion, QUD) is exhaustivity, namely, that replacing the focused element with any of its possible (non-weaker) alternatives would yield false alternative answers to the same QUD. Previous research has uncovered that children do not compute this inference at adult-like levels before seven years of age, even in cleft(-like) syntactic constructions (Heizmann 2012, Tieu & Križ 2017, Pintér 2018). The nature of this limitation, however, is still unclear. Specifically, it is not known whether preschoolers' non-exhaustive interpretations are merely due to their difficulties in accurately identifying the focus and the relevant alternatives to it in the context (=Hypothesis1), or they also reflect some deeper-running limitation hindering the computation of the exhaustivity inference itself in clefts (=Hypothesis2). We report on a comprehension study of five-to-six-year-old children whose aim is to adjudicate between these two alternative hypotheses, as applied to pre-verbal focus in Hungarian.

Motivation According to one possible approach to the exhaustivity of focus, this inference is essentially similar in its logical structure to scalar implicatures associated with scalar items like *some*, whose acquisition is better researched. While these latter inferences have also been found to be acquired late in early studies, more recent results show that when adequate contextual support is provided as part of the experimental task to highlight the relevance of scalar alternatives, scalar inferences appear to be already present at much earlier ages (Chierchia et al. 2011, Foppolo et al. 2012, Papafragou & Tantalou 2014, Guasti et al. 2015). By analogy, Hypothesis1 holds that children's non-exhaustive interpretations of focus are caused by their difficulties in exploiting the context to identify the focus and its set of alternatives. By contrast, Hypothesis2 takes the delay compared to (other) scalar inferencing to be real in that it assumes that, while children's difficulties in utilizing the context to properly identify the focus and its relevant alternatives might contribute to protracted acquisition, yet this is not the key factor. If so, then this latter factor must be sought in the meaning of clefted focus.

The experiment The study consists of two sub-experiments (= TASK) based on sentences containing a fronted focus. In Subexp1 children had to correct false assertions on the basis of picture stimuli (a task adapted from Szendrői et al. 2018). Congruent corrections of the element in focus reflect successful identification of the focus and its relevant alternatives. Subexp2 employed a TVJ task, using sentence–picture pairs to test the acceptance or (partial or full) rejection of non-exhaustive interpretations of focus. Both sub-experiments were conducted with the same thirty-two 5-6-year-old children (mean age: 5;10) in two sessions one week apart, which differed (in addition to the lexicalizations used) in the presence of a congruent *wh*-question before each test sentence in the second session (= CONTEXT).

Predictions Adding an explicit *wh*-question was expected to enhance the accurate identification of the focus and its contextual alternatives (by boosting the latter's relevance). According to Hypothesis1, this should yield an increase in congruent corrections in Subexp1, and a concomitant rise of (at least) the same extent in the rate of exhaustive responses in Subexp2. While Hypothesis2 is also compatible with an increase of congruent/exhaustive responses in Subexp1/Subexp2, it crucially predicts that in Subexp2 any such contextual effect of the presence of an explicit question should be limited: the proportion of exhaustive responses in Subexp2 is expected to rise by a smaller rate (if at all) than the increase of congruent responses in Subexp1.

Results and discussion The presence of a *wh*-question enhanced children's exhaustive interpretations in Subexp2 less than it helped their focus-corrections in Subexp1 (while adult controls (N=12) were at ceiling in the *wh*-question condition of both sub-experiments), yielding a significant interaction between TASK and CONTEXT. This outcome confirms the predictions of Hypothesis2 over those of Hypothesis1: the key factor hindering children's focus-exhaustification cannot simply be poor identification of focus and its relevant alternatives. We argue that of

competing approaches to exhaustivity in cleft(-like) focus constructions, DeVeaugh-Geiss et al.'s (2018) suggests an illuminating answer to what the relevant factor may be instead, and one that also accounts for a difference between our 5- and 6-year-olds. In terms of their approach, children's non-exhaustive clefted focus interpretations may be due to their inability to identify a maximal discourse referent associated with the background, or, in terms of QUDs, a maximal QUD. Indeed, Roeper et al. (2007) found that young children interpret questions as non-maximal, and start interpreting them as maximal only at 6-7 years. This ties in with a marked difference between 5-year-olds (n=16) and 6-year-olds (n=16) in Subexp2: the presence of the question significantly raised exhaustive responses in the latter, but not in the former age group.

Sample item of Subexp1

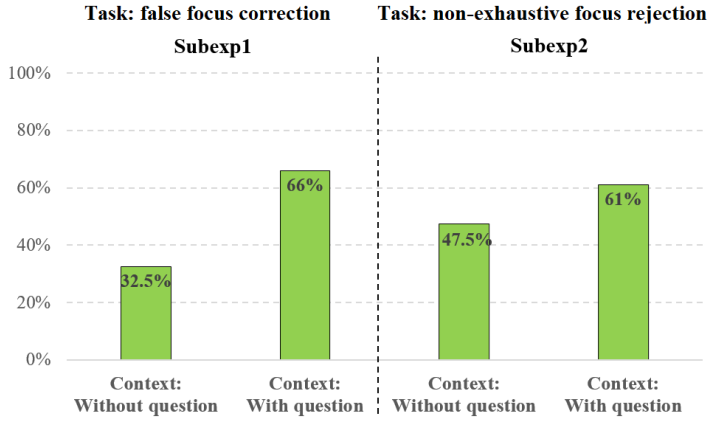
[KI]$_{FOC}$ emelte fel a teknős-t?
who lifted PRT the turtle-acc
'WHO lifted the turtle?'

[A KROKODIL]$_{FOC}$ emelte fel a teknős-t.
the crocodile lifted PRT the turtle-acc
'It is the crocodile who lifted the turtle.'

Sample item of Subexp2

[KI]$_{FOC}$ fogott ki egy halacská-t?
who caught PRT a fish-acc
'WHO caught a fish?'

[A KISMACKÓ]$_{FOC}$ fogott ki egy halacská-t.
the bear caught PRT a fish-acc
'It is the bear who caught a fish.'



Results (children)

Significant effects (GLMM):

- CONTEXT: $\chi^2(1) = 40.99$, $p < 0.001$
- **CONTEXT * TASK interaction**: $\chi^2(1) = 9.23$, $p = 0.002$

References De Veaugh-Geiss, J.P., S. Tönnis, E. Onea, & M. Zimmermann (2018) That's not quite it: An experimental investigation of (non-)exhaustivity in clefts. *Semantics & Pragmatics,* 11, Art. 3. // Foppolo, F., Guasti, M. T., & Chierchia, G. (2012). Scalar implicatures in child language: Give children a chance. *Lang Learning and Development* 8 // Guasti, M. T., Chierchia, G., Crain, S., Foppolo, F., Gualmini, A., & Meroni, L. (2005). Why children and adults sometimes (but not always) compute implicatures. *Lang & Cogn Proc 20*. // Heizmann, T. (2012). *Exhaustivity in questions & clefts; and the quantifier connection: A study in German and English.* PhD diss., Amherst. // Papafragou, A., & Tantalou, N. (2004). Children's computation of implicatures. *Lang Acq* 12. // Szendrői, K., Bernard, C., Berger, F., Gervain, J., & Höhle, B. (2018). Acquisition of prosodic focus marking by English, French, and German 3-, 4-, 5- and 6-year-olds. *Journal of Child Lang* 45. // Tieu, L., & Križ, M. (2017). Connecting the exhaustivity of clefts and the homogeneity of plural definite descriptions in acquisition. In M. LaMendola, & J. Scott (eds.), BUCLD 41.