

Rapid Acquisition of Expletive Negation in Modern Hebrew

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Introduction

- **Expletive Negation (EN):** the occurrence of a negative marker without apparent negative force.
- Crosslinguistically common:

1) Me quedaré hasta que **no** me echen.
I will stay until that **NEG** me they.throw
'I will stay until they throw me out.'
(Spanish; Espinal 2000:61)

2) Ja podoždu poka ty **ne** prideš.
I will wait until you **NEG** arrive
'I will wait for you until you arrive.'
(Russian; Abels 2005:54)

3) dani yamšix lišon ad še-ha-mešiba **lo** tatxil.
Danny continue to sleep until the-party **NEG** start
'Danny will continue sleeping until the party starts.'
(Modern Hebrew; Eilam 2009:42)

- See Eilam (2009) on the semantics of EN in Hebrew.

- **The acquisition of EN is a notable feat:** children must learn to associate the negative marker with a non-negative interpretation in a restricted set of linguistic environments, and to avoid generalizing this interpretation (cf. Baker's Paradox; Pinker 1989).

- Two factors potentially hamper the acquisition of EN:

- I. Acquisition of the negative marker in its standard function is early and robust: it is one of the components of children's earliest vocabulary (Pea 1980), and is common in both children's speech (CS) and child-directed speech (CDS).

- II. The rarity of EN in the input: only 4 tokens (e.g. (4)) are found in the Berman Longitudinal Corpus of Hebrew*, among a total of 42 uses of *until* (9.5%) and a total of 6451 tokens of the negative marker *lo* (0.06%) in CDS (see Grinstead 2004 for similar findings from Spanish). Also, not all occurrences of negation under *until* in CS and CDS are EN (cf. (5)).

* 4 Hebrew-speaking children; age range 1;4-3;3; 348,610 tokens (MacWhinney 2000)

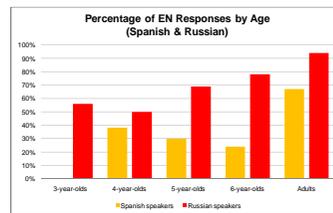
4) "ani lo yexola laxfof la ad še-ha-daleket **lo** ta'avor."
"I can't wash her hair until the infection is over."
(llo203a:68)

5) "baxa ve-baxa ve-baxa, ad še-**lo** baxa."
"[the king] cried and cried and cried, until he didn't cry."
(hag208b:569)

Goal: Test whether Hebrew-speaking children nonetheless acquire EN at a young age, and do not misinterpret EN as standard negation (SN), using a novel methodology.

Previous Research

- Grinstead (2004), Gavrusova & Grinstead (2004): Russian-speaking children interpret EN correctly from the age of 5;5, and Spanish-speaking children from age 7.



- Two possible drawbacks of these studies:

- I. Used a truth value judgment task (TVJT), imposing high memory and processing demands on young children (cf. 29% exclusion rate in Russian and 20% in Spanish).

- II. Unclear what an SN interpretation of the sentences reflects, since negation of the verbs does not yield a plausible event/state.

6) El cerdito estuvo comiendo el helado hasta que Pooh **no** le ofreció la galleta.
'The piggy was eating ice cream until Pooh (not) offered him the cookie.'
(Grinstead 2004)

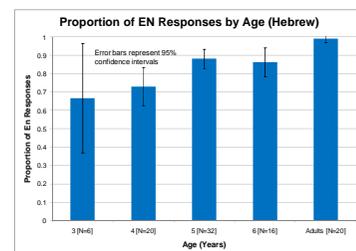
Possible interpretations:

- The piggy was eating ice cream until Pooh offered him the cookie. → EN interpretation
- ??The piggy was eating ice cream until Pooh did not offer him the cookie. → SN interpretation

Methods

- Subjects: 83 Hebrew-speaking children (age range 3;5-7;1; $M=5;1$) and 20 adults (age range 23-58; $M=36$).
 - Procedure: Act-out task, with minimal working memory demands and situational complexity, unlike the TVJT. The target sentences allow a plausible SN interpretation, on a par with the EN interpretation.
 - Example: A box is placed before the subject. 10 marbles are placed inside the box and an equal number outside it.
- 7) lo tekabel prasad še-ha-gulot **lo** iyu **ba-kufsa** / **me-xuc** la-kufsa.
NEG you.will.get prize until that-the marbles **NEG** will.be.in.the-box / from-out to.the-box
'You won't get a prize until the marbles are (not) in the box / outside the box.'
- Possible responses:
- Subject moves the marbles that are outside the box into it. → EN interpretation / SN interpretation
 - Subject moves the marbles that are inside the box outside. → SN interpretation / EN interpretation
- Stimuli: 5 target trials, 2 warm-ups, 1 control verifying acquisition of *ad* 'until', 1 trial testing generalization to *im* 'if'
 - Target trials were counterbalanced in terms of order of presentation and sentence used (cf. (7)), for a total of 4 lists.

Results



- Hebrew-speaking children acquire EN as early as age 4.
- 9 subjects (10%) failed the control trial, the oldest of which was 5;3.
- Using E-logit transformed data of proportions, a linear model based on subject means revealed a reliable effect of age ($p < .01$). Furthermore, subjects were above chance by the age of 4 ($p < .001$).
- Only one of the six 3-year-old children was below chance, having instead 100% SN interpretations, suggesting that most 3-year-olds may understand EN as well.
- 23/56 children (41%) who have acquired EN treated negation under *im* 'if' as EN, but also 5/18 children (28%) who have not acquired EN. The issue of generalization should be tested separately.

Conclusions

- This study contributes to a growing body of literature illustrating the relative effortlessness with which children acquire word meanings.
- Hebrew-speaking children's success at acquiring EN may be attributable to a number of facilitating factors, including (i) the implausibility of an SN interpretation in certain linguistic contexts, (ii) children's sensitivity to the discourse context, and (iii) their awareness of speaker intentions (Bloom 2000).
- From a methodological perspective, the study demonstrates that alternatives to the TVJT paradigm should sometimes be preferred in assessing children's competence: the task complexity of previous studies may have masked children's knowledge of EN.

References

- Abels, K. 2005. "Expletive negation" in Russian: A conspiracy theory. *Journal of Slavic Linguistics* 13:5-74.
- Bloom, P. 2000. *How Children Learn the Meanings of Words*. Cambridge, MA: MIT Press.
- Eilam, A. 2009. The crosslinguistic realization of *-ever*: Evidence from Modern Hebrew. *Proceedings of the 43rd Annual Meeting of the Chicago Linguistic Society (CLS) Vol. 2*, ed. Malcolm Elliott et al., 39-53. Chicago, IL: Chicago Linguistic Society.
- Espinal, M.T. 2000. Expletive negation, negative concord and feature checking. *Catalan Working Papers in Linguistics* 8:47-69.
- Gavrusova, E. & J. Grinstead. 2004. The acquisition of expletive negation in child Russian. Paper presented at the Workshop on First Language Acquisition, Michigan State University, April 2004.
- Grinstead, J. 2004. Expletive negation, scalar implicature and negative evidence in Child Spanish. *BUCLD 28: Proceedings of the 28th Annual Boston University Conference on Language Development*, ed. A. Brugos et al., 211-219. Somerville, MA: Cascadia Press.
- MacWhinney, B. 2000. *The CHILDES project: Tools for Analyzing Talk, Third Edition*. Mahwah, NJ: Erlbaum.
- Pea, R. 1980. The development of negation in early child language. *The Social Foundations of Language and Thought*, ed. D. R. Olson, 156-186. New York, NY: Norton.
- Pinker, S. 1989. *Learnability and Cognition: The Acquisition of Argument Structure*. Cambridge, MA: MIT Press.

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