Acquisition of doubly negated sentences in German

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How do children interpret multiple negations?
How do adults interpret multiple negations?

**Negative concord languages**

- Multiple negative expressions yield an interpretation with only one negation.
- Negative quantifiers require a clausemate sentential negation.

(1) a. Gianni *non* ha visto *nessuno*.
  
  Gianni not has seen nobody
  Gianni didn’t see anybody.

  b. *Gianni ha visto* no *nessuno*.
  
  Gianni has seen nobody
  *cannot mean* Gianni didn’t see anybody.

**Double negation languages**

- Negative quantifiers contribute semantic negation on their own.
- When they co-occur with sentential negation, the overall interpretation is no longer negative.

(2) a. Hans hat *kein* Buch gelesen.
  
  Hans has no book read
  ‘Hans didn’t read any book.’

  b. Hans hat *kein* Buch *nicht* gelesen.
  
  Hans has no book not read
Truth value judgement task: children were presented with a story such that some contexts made the NC reading true, some made the DN reading true. A puppet described the situation using a test sentence with 2 negations:

**Test sentence:** The girl who skipped didn’t buy nothing.

| NC context: The girl didn’t buy anything. |
| DN context: The girl bought something. |

The children were asked if the puppet was right or wrong.

**Results:** Children give more NC than DN responses.

- "Yes" in DN context: children (25% of the time) & adults (80% of the time).
- "Yes" in NC context: children (75% of the time) & adults (16% of the time).

**Zeijlstra 2004:** if a language has a negative marker that is a syntactic head, the language exhibits NC.

- *non* is a head, Italian is NC.
- *not* & *nicht* are adverbs, English & German are DN.

**Thornton et al.:** English-speaking children go through an NC stage due to the existence of a negative marker that is a head in English, namely *n’t.*
Our experiment

**Question:** How do standard German-speaking children interpret the negative quantifier in the context of negation given that German lacks a negative marker that is a head?

**Hypothesis:** Standard German-speaking children, unlike standard English-speaking children, should not accept sentences with *kein* and negation in a NC context because German lacks a negative marker that is a head.

**Participants:** 25 monolingual standard German-speaking children (4;2 – 6;5, $M = 5;2$) & 10 monolingual standard German-speaking adult speakers

**Design:** TVJT in an experiment with 12 stories, each consisting of three scenes.

- the story set-up, e.g., “There is a rabbit who doesn’t like to eat vegetables. Today, there is broccoli, a carrot, and a pepper to eat. Let’s see what happens!”
- First two scenes: the puppet utters a sentence with one negation (*nicht*).
  
  1N Der Hase hat den Brokkoli *nicht* gegessen.
  The rabbit has the broccoli not eaten
  ‘The rabbit did not eat the broccoli.’

- Third scene: the puppet utters the target sentence involving two negations:
  
  2N Der Hase hat *kein* Gemüse *nicht* gegessen.
  the rabbit has kein vegetable not eaten
  **DN context** ‘The rabbit ate all the vegetables.’
  **NC context** ‘The rabbit ate none of the vegetables.’
**Results**

Der Hase hat kein Gemüse nicht gegessen. **DN:** ‘The rabbit ate all the vegetables.’  
the rabbit has kein vegetable not eaten  
**NC:** ‘The rabbit ate none of the vegetables.’

![Frequencies of acceptance (Adults)](image)  ![Frequencies of acceptance (Children)](image)

**Acceptance rate for adults versus children**

<table>
<thead>
<tr>
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<th>Children</th>
<th>Adults</th>
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<tbody>
<tr>
<td><strong>DN</strong></td>
<td>25% (21/84)</td>
<td>92.5% (37/40)</td>
</tr>
<tr>
<td><strong>NC</strong></td>
<td>96.4% (81/84)</td>
<td>15% (6/40)</td>
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**Contrary to our hypothesis**

The results suggest that standard German-speaking children have an NC grammar.
Standard German-speaking children produce sentences with bare *kein* to express a negated existential – *kein* without negation does not make a sentence ungrammatical.

(3) a. Mama keine Mütze.
Mama keine hat
'Mama no hat'

b. Viele Katzen haben keine Hüte.
many cats have keine hats
'Many cats have no hats.'

Children also produce utterances with both *kein* and *nicht*.

(4) a. keine Glocken nicht da!
keine bells not there
‘no bell there!’

b. (..) e wei nicht kein.
... know not kein
'don't know any.'

The distribution of *kein* in child-produced speech differs from any encountered in adult grammars, be it strict or non-strict NC:

- *kein* can occur in any position without negation.
- *kein* enters into concord with sentential negation.
Summary & Discussion

Results: Standard German-speaking children comprehend \textit{kein} \ldots \textit{nicht} sentences as conveying one negation, unlike adults.

The source of NC-like behavior in children cannot be due to the structural position of negation (the proposed account for English).

Conclusion: NC looks like the default grammar.

- Creoles are predominantly NC rather than DN (Déprez 1999).
- A majority of the world’s languages are NC languages. (Hасpelmath 2005, Dryer and Haspelmath 2013)

The switch from child grammar into adult grammar amounts to a switch from optionally overt licensor to obligatorily covert licensor of the NPI \textit{kein}.

- Children allow the NPI \textit{kein} to be licensed by either covert or overt negation.
- In comprehension, they will interpret \textit{kein} \ldots \textit{nicht} as NC given that it’s simpler to assume an overt licensor, namely \textit{nicht}.
- In production we have more evidence for this optionality: some children go for the covert licensor route, whereas others alternate.
- Adult behavior: presumably driven by an economy principle to be covert whenever possible.
Thank you!


2N

Der Hase hat kein Gemüse nicht gegessen.
the rabbit has kein vegetable not eaten

No veggies eaten
DN  =  False
NC  =  True
All veggies eaten

DN = True
NC = False
2N Der Hase hat kein Gemüse nicht gegessen.
the rabbit has kein vegetable not eaten

All veggies eaten
DN = False
NC = False
1N sentences: Children responded correctly 93% of the time (581/624)

- control yes-fillers: 296/312 acceptance
- control no-fillers: 285/312 rejection

→ No Yes-bias