ON THE DISTRIBUTION AND THE ACQUISITION OF THE GERMANIC *NEEDS*

GERMAN BETWEEN DUTCH AND ENGLISH

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THIS TALK

Focus: three verbal NPIs in Dutch, English and German;

Discuss: two factors affecting language acquisition:

(1) opacity
(2) robust input evidence

Conclude: German between Dutch and English

A Germanic sushi?
NEGATIVE POLARITY ITEM (NPI)

NPIs = words or expressions that survive only in negative contexts

(1) Max has *(not) finished yet.

(2) Het kan mij *(niet) schelen.

‘I don’t care.’

(3) Mit großen Herren ist *(nicht) gut Kirschen essen.¹

‘It is best not to tangle with the superiors.’

¹Taken from Richter and Soehn (2006: 428: (12)).
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FOCUS OF THIS TALK

Three verbal NPIs expressing necessity:

English: need

Dutch: hoeven ‘need’

German: brauchen ‘need’
GERMANIC **NEEDS AS NPIS**

English *need*

(4) *We need (no) water.*  
(lexical verb)

(5) *We (don’t) need to drink water.*  
(modal verb)

(6) *We need *(not) drink water.*  
(modal auxiliary)

→ *need* is an NPI only when used as an auxiliary (i.e., (6)).

(Iatridou and Zeijlstra 2013, among others)

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GERMANIC *NEEDS* AS NPIS

Dutch *hoeven*

(7) *Wij hoeven *(geen) water.* (lexical verb)
‘We don’t need water.’

(8) *Wij hoeven *(geen) water te drinken.* (modal verb)
‘We don’t need to drink water.’

→ *hoeven* is always an NPI, independent of its lexical or model use.

(Zwarts 1981; Van der Wouden 1997; Hoeksema 2000)
Germanic *NEEDS AS NPIS*

German *brauchen*

(9) \(Wir \text{ brauchen (kein) Wasser.}\) \(\text{(lexical verb)}\)

‘We (don’t) need water.’

(10) \(Wir \text{ brauchen *(kein) Wasser zu trinken.}\) \(\text{(modal verb)}\)

‘We don’t need to drink water.’

→ *brauchen* is an NPI only when used as a modal verb (i.e., (10)).

(Zwarts 1981; Van der Wouden 1997; Hoeksema 2000)

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## GERMANIC NEEDS

German between Dutch and English:

<table>
<thead>
<tr>
<th>NEEDs</th>
<th>Lexical verb</th>
<th>Modal verb</th>
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GERMANIC NEEDS

German between Dutch and English:

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An opacity hierarchy:

English need > German brauchen > Dutch hoeven
OPACITY

Opacity here is defined as the degree of the transparency between a certain phonological form and its possible function(s) or meaning(s).

[need]: the most opaque; 1 form with 3 functions of which only one is an NPI;

[brauchen]: less opaque; 1 form with 2 functions of which one is an NPI;

[hoeven]: the least opaque; though 1 form with 2 functions, both functions show NPI-distribution.

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PREDICTION FOR ACQUISITION

Given the opacity hierarchy:

English *need* > German *brauchen* > Dutch *hoeven*

Acquisitional pace:

NPI *need* < NPI *brauchen* < NPI *hoeven*
BUT ... 

Opacity is not everything!

Distribution of the NPIs in language input is at play:

NPI-need frequently attested in the input? Acquisition may be facilitated due to robust input evidence.

NPI-hoeven seldom used towards Dutch acquiring children? Acquisition may be delayed despite the least opacity.
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**NPI-hoeven** seldom used towards Dutch acquiring children? 
Acquisition may be delayed despite the least opacity.
NPIS IN THE INPUT

- Child-directed speech in CHILDES (MacWhinney 2009);

- Dutch: 710 files (BolKuiken; CLPF; DeHouwer; Gilles; Groningen; Schaerlaekens; VanKampen; Wijnen)

- English: 1492 files (Belfast; Cruttenden; Fletcher; Forrester; Howe; Lara; Manchester; Thomas-Heritage; Wells)

- German: 917 files (Caroline; Leo; Miller; Szagun; Wagner; Rigol)
### NPIS IN THE INPUT

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<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>brauchen</td>
<td>180</td>
<td>1130</td>
<td>0.16</td>
</tr>
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Amount and robustness input evidence:
English *need* < German *brauchen* < Dutch *hoeven*
PREDICTION FOR ACQUISITION

Given the robustness hierarchy:
English *need* < German *brauchen* < Dutch *hoeven*

Acquisitional pace:
NPI *need* < NPI *brauchen* < NPI *hoeven*
SUMMARY

Both opacity and input evidence predict:

NPI *hoeven* is acquired earlier than NPI *brauchen*, which is in turn acquired earlier than NPI *need*. 
METHOD: CORPUS RESEARCH

<table>
<thead>
<tr>
<th>Language</th>
<th>Age range</th>
<th>N of files</th>
<th>N of children</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>1;00 - 4;12</td>
<td>710</td>
<td>59</td>
</tr>
<tr>
<td>Dutch</td>
<td>1;00 - 4;12</td>
<td>1492</td>
<td>145</td>
</tr>
<tr>
<td>German</td>
<td>1;00 - 11;12</td>
<td>917</td>
<td>41</td>
</tr>
</tbody>
</table>

The same subcorpora were analyzed as for the child-directed speech.
## RESULTS: NPI **HOEVEN**

<table>
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<th>Age</th>
<th>NPI <em>hoeven</em></th>
<th>TOTAL</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>As a lexical verb</td>
<td>As a modal verb</td>
</tr>
<tr>
<td>1-year-olds</td>
<td>1 (100%)</td>
<td>0</td>
</tr>
<tr>
<td>2-year-olds</td>
<td>80 (80.8%)</td>
<td>19 (19.2%)</td>
</tr>
<tr>
<td>3-year-olds</td>
<td>56 (82.3%)</td>
<td>12 (17.7%)</td>
</tr>
<tr>
<td>4-year-olds</td>
<td>32 (65.3%)</td>
<td>17 (34.7%)</td>
</tr>
</tbody>
</table>
## RESULTS: NPI **BRAUCHEN**

<table>
<thead>
<tr>
<th>Age</th>
<th>Non-NPI <em>brauchen</em></th>
<th>NPI <em>brauchen</em></th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>As a lexical verb</td>
<td>As a modal verb</td>
<td></td>
</tr>
<tr>
<td>1-year-olds</td>
<td>4 (100%)</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>2-year-olds</td>
<td>163 (97%)</td>
<td>5 (3%)</td>
<td>168</td>
</tr>
<tr>
<td>3-year-olds</td>
<td>129 (94.9%)</td>
<td>7 (5.1%)</td>
<td>136</td>
</tr>
<tr>
<td>4-year-olds</td>
<td>27 (90%)</td>
<td>3 (10%)</td>
<td>30</td>
</tr>
<tr>
<td>5-year-olds</td>
<td>30 (96.8%)</td>
<td>1 (3.2%)</td>
<td>31</td>
</tr>
<tr>
<td>6-11-year-olds</td>
<td>77 (72%)</td>
<td>30 (28%)</td>
<td>107</td>
</tr>
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# RESULTS: NPI *need*

<table>
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<tr>
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<tr>
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<td>As a lexical verb</td>
<td>As a modal verb</td>
<td>As an auxiliary</td>
</tr>
<tr>
<td>1-year-olds</td>
<td>8 (100%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2-year-olds</td>
<td>1818 (84.3%)</td>
<td>340 (15.7%)</td>
<td>0</td>
</tr>
<tr>
<td>3-year-olds</td>
<td>707 (80.5%)</td>
<td>171 (19.5%)</td>
<td>0</td>
</tr>
<tr>
<td>4-year-olds</td>
<td>288 (55.8%)</td>
<td>230 (44.8%)</td>
<td>0</td>
</tr>
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RESULTS

(1) NPI *hoeven* emerges already from age 2;
   (similar results are also reported in Van der Wal 1996; Lin et al. 2015)

(2) *Brauchen* appears only 4.3% of the time on average as NPI below age 6;

(3) NPI *need* is never attested in child English till age 5.

→ NPI *hoeven* is acquired earlier than NPI *brauchen*, which is in turn acquired earlier than NPI *need*.
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CONCLUSION

- Opacity of the Germanic *needs* with respect to their NPI uses:
  English *need* > German *brauchen* > Dutch *hoeven*

- Robustness of the Germanic *needs* in the input:
  English *need* < German *brauchen* < Dutch *hoeven*

- Acquisitional pace of the Germanic *needs*:
  English *need* < German *brauchen* < Dutch *hoeven*
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IMPLICATIONS FOR CHANGE

(1) NPI *hoeven* acquired early on, before the critical age (i.e., 6 or 7 years);

(2) NPI *brauchen* acquired right after the critical age (i.e., 6 or 7 years);

(3) Acquisition of NPI *need* seems to be an instance of late acquisition.

→ Different learning mechanisms responsible for the acquisition.
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→ Different learning mechanisms responsible for the acquisition.
IMPLICATIONS FOR CHANGE

NPI *hoeven*: stable in the language;

NPI *brauchen*: (only) in marked constructions?

NPI *need*: disappearing from natural language use?
DISCUSSION (1)

NPI *brauchen*, i.e., the modal verb, emerges after age 6.

Modal use more difficult to acquire or use than lexical use??
DISCUSSION (1)

While looking at how Dutch children use *hoeven*:

22% of attested *hoeves* (48 out of 217) as modal before age 5;

Whereas in child German:

only 4.3% of attested *brauchens* (16 out of 169) as modal before age 6.
DISCUSSION (2)

Opacity and input evidence predict the same.

Based on the presented data, impossible to tear apart the impact/influence of each factor during acquisition.


Ladusaw, William. 1979. *Negative polarity items as inherent scope relations*. Austin, the United States: University of Texas at Austin dissertation.


THANKS!
QUESTIONS?