The acquisition of grammatical gender of definite determiners in 2L1/child L2 Dutch

29 januari 2005, Taalkunde-in-Nederland, University of Utrecht

Leonie Cornips & Aafke Hulk
Meertens Instituut & Universiteit van Amsterdam
leonie.cornips@meertens.knaw.nl & aafke.hulk@uva.nl

1. Introduction

bilingual children
- 2L1 -> children acquiring two languages from birth
- child L2 -> children acquiring a second language starting between age 4 and 7

our subjects: 2L1 or child L2??
14 bilingual children: born and raised in the Netherlands in ethnic minority communities where the non-Dutch language is embedded in the entire community.

Bilingual first language acquisition (2L1)
Meisel (1989), Genesee & Paradis (1995), De Houwer (1994) and many others:
- early separation of the two grammars
- autonomous development of the two grammars, similar to monolingual L1 development

Hulk & Müller (2000), Müller & Hulk (2001):
(syntactic) cross-linguistic influence possible if
- seemingly ambiguous input
- vulnerable domain
- syntax/pragmatics interface

Child L2 acquisition
Schwartz (2003), Domain by Age Model
- Syntax like adult L2: transfer
- Morphology like child L1

Unsworth (2004) on scrambling in Dutch:
Child L2 syntax: like adult L2=> transfer
Child L2 semantics/pragmatics: like child L1
2. The 2L1/L2 experiment
2.1 Subjects and methodology

Subjects
14 bilingual children: born and raised in the Netherlands in ethnic families and communities where the dominant language is not Dutch

6 monolingual Dutch children (controls)

i) young: n=10, between age 3;0-3;10
ii) middle: n=6, between age 5;0-5;2
iii) old: n=4, between age 9;3-10;5

Methodology (taken from Zuckerman 2001)
A sentence completion test, describing 34 picture-pairs designed to test do-support/position finite verb, analysed here for the production of definite determiners

Experimenter: full coordinating structure

(1) Dit is de man die het brood snijdt en dit is de man die de tomaat snijdt.
this is the man who the bread cuts and this is the man who the tomato cuts

truncated coordinating structure (VfO)

Dus deze man snijdt het brood en deze man ...
so this man cuts the bread and this man.....

Child:
...... snijdt de tomaat
......cuts the tomato

Experimenter:
full coordinating structure

(2) Deze man snijdt het brood en deze man snijdt de tomaat.
this man cuts the bread and this man cuts the tomato

truncated coordinating structure (OVf)

Dus dit is de man die het brood snijdt en dit is de man die ....
so this is the man who the bread cuts and this is the man who ...

Child:
......de tomaat snijdt
......the tomato cuts
3. Gender morphology on definite determiners in Dutch

Target adult Dutch

**Definite determiner in Dutch**

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuter noun</td>
<td>het</td>
<td>de</td>
</tr>
<tr>
<td>Non-neuter noun</td>
<td>de</td>
<td>de</td>
</tr>
</tbody>
</table>

No gender distinction on the indefinite article: *een* for both neuter and non-neuter nouns

Gender of nouns in Dutch: hardly any cues
Only salient morphological cue: the diminutive suffixe –(*tje*) always makes the noun **neuter**

(3) a. *een* tafel  
   ‘a table’  
   *de* tafel  
   the(NON-NEUTER) table

b. *het* tafeltje  
   the (NEUTER) table+DIM  
   *de* tafel(tje)s  
   the(PLUR) table(DIM)PLUR

c. *een* boek  
   a book  
   *het* boek  
   the (NEUTER)book

d. *het* boekje  
   the (NEUTER)book+DIM  
   *de* boeken  
   the(PLUR) bookPLUR

4. The acquisition of definite articles

‘universal’ scenario (Chierchia et al 2001 and references cited there) between age 2-3;5

- stage 1) no determiners
- stage 2) optional determiners
- stage 3) target determiners

acquisition gender (morphology) Dutch definite articles

- stage 1) overgeneralisation *de*
- stage 2) target morphology neuter def.det: not before age 6
5. Experimental data from Hulk & Cornips (to appear)

Table 1

<table>
<thead>
<tr>
<th>input</th>
<th>De</th>
<th>monolinguals</th>
<th>bilinguals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=2</td>
<td>n=8</td>
<td></td>
</tr>
<tr>
<td>young</td>
<td>de</td>
<td>90 (64%)</td>
<td>165 (23%)</td>
</tr>
<tr>
<td>3;0-3;10</td>
<td>het</td>
<td>2 (1%)</td>
<td>5 (0.7%)</td>
</tr>
<tr>
<td></td>
<td>Ø</td>
<td>29 (21%)</td>
<td>274 (39%)</td>
</tr>
<tr>
<td></td>
<td>een</td>
<td>19 (14%)</td>
<td>80 (11%)</td>
</tr>
<tr>
<td></td>
<td>other</td>
<td>36 (26%)</td>
<td>186 (26%)</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>140</td>
<td>710</td>
</tr>
<tr>
<td></td>
<td>n=3</td>
<td>n=3</td>
<td></td>
</tr>
<tr>
<td>middle</td>
<td>de</td>
<td>94 (89%)</td>
<td>55 (39%)</td>
</tr>
<tr>
<td>5;0-5;2</td>
<td>het</td>
<td>2 (2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td></td>
<td>Ø</td>
<td>1 (1%)</td>
<td>29 (21%)</td>
</tr>
<tr>
<td></td>
<td>een</td>
<td>4 (4%)</td>
<td>11 (8%)</td>
</tr>
<tr>
<td></td>
<td>other</td>
<td>5 (5%)</td>
<td>46 (33%)</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>106</td>
<td>141</td>
</tr>
<tr>
<td></td>
<td>n=1</td>
<td>n=3</td>
<td></td>
</tr>
<tr>
<td>old</td>
<td>de</td>
<td>24 (92%)</td>
<td>109 (76%)</td>
</tr>
<tr>
<td>9;3-10;5</td>
<td>het</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Ø</td>
<td>1 (4%)</td>
<td>6 (4%)</td>
</tr>
<tr>
<td></td>
<td>een</td>
<td>1 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td></td>
<td>other</td>
<td>0 (0%)</td>
<td>29 (20%)</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>26</td>
<td>144</td>
</tr>
</tbody>
</table>

Results: significant (Fisher's Exact Test) evidence correct use of *de* (stimulus contains *de*)

- *Monolingual* and *bilingual* children of the youngest (3;0-3;9, p<.0001) and middle age (5;0-5;2, p<.0001) group differ significantly in the correct use of *de* (64% versus 23% and 89% versus 39% correct use *de*, respectively)

- Within the group of monolingual children, the *youngest* and *middle* age groups differ significantly in the correct use of *de* (64% versus 89%, respectively, p<.0001)

- Within the group of bilingual children, the *youngest* and *middle* age groups differ significantly in the use of correct *de* (23% versus 39%, respectively, p<.0001)

- Within the group of bilingual children, the *middle* and *oldest* age groups differ significantly in the use of correct *de* (39% versus 76%, respectively, p<.0001)
Tentative conclusion wrt development in the acquisition of correct use *de*

- In both the monolingual and the bilingual children we see a clear development in the acquisition of the correct use of *de*
- The bilingual children show a delay with respect to the monolingual children in this development: there is a ‘quantitative’ difference between the two emerging grammars

<table>
<thead>
<tr>
<th>Input HET</th>
<th>Monolinguals</th>
<th>Bilinguals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Response</strong></td>
<td>n=2</td>
<td>n=8</td>
</tr>
<tr>
<td>young 3;0-3;10</td>
<td><strong>Het</strong></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>De</strong></td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Ø</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Een</strong></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>148</td>
</tr>
<tr>
<td>middle 5;0-5;2</td>
<td><strong>Het</strong></td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>De</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Ø</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Een</strong></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>46</td>
</tr>
<tr>
<td>old 9;3-10;5</td>
<td><strong>Het</strong></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>De</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ø</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Een</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>41</td>
</tr>
</tbody>
</table>

**Significant evidence** (Fisher's Exact Test) for correct use of *het* (stimulus contains *het*)

- **Monolingual** and **bilingual** children of the middle (5;0-5;2, p<.0001) and oldest age (9;3-10;5, p<.0012) group differ significant in use of 'het' (77% versus 15% and 90% versus 32% correct use *het*, respectively)
- Within the group of **monolingual** children, the **youngest** and **middle** age groups differ significantly in use of correct *het* (p < .0001)
• Within the group of bilingual children, we find no significant differences between the different age groups.

Tentative conclusion wrt development in the acquisition of correct use of het
  • In the data of the monolingual children we see a clear development in the acquisition of the correct use of het
  • In the data of the bilingual children we see no development in the acquisition of the correct use of het

Not reported in the literature until now:
  • The monolingual and the bilingual children appear to show a ‘qualitative difference’ in their emerging grammars

6 Discussion

QUESTION: why do these children show what looks like ‘fossilization’ in their acquisition of the neuter gender of definite determiners in Dutch?

Possible answers
  • these children are more like (adult) L2 speakers of Dutch in (all) aspects of their syntactic competence – > other cases of ‘fossilization’

No: the acquisition of the root/non-root asymmetry of the position of the finite verb in Dutch by these same children (Hulk & Cornips to appear) showed a delay, but the oldest age group had target results
  • Cross-linguistic influence?

Hawkins & Franceschina (2004) hypothesis about the adult L2 acquisition of gender in determiners and nouns:
  if [ugender] feature absent in L1, learners not beyond probabilistic selection
  if [ugender] feature present in L1, presence on D in L2 triggered at some point

However:
White et al. 2001: L2 gender features and gender agreement are acquirable even when absent in the L1

Our subjects
'gender' versus 'non-gender' distinction of the involved languages

<table>
<thead>
<tr>
<th>gender</th>
<th>non-gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic/Berber</td>
<td>Turkish</td>
</tr>
<tr>
<td>French</td>
<td>Akan/Ewe</td>
</tr>
<tr>
<td></td>
<td>Sranan</td>
</tr>
</tbody>
</table>
Our results: not conclusive wrt influence gender nouns in other language
More plausible answers

- (theoretical) linguistic reasons

which linguistic mechanisms are involved in the acquisition of the neuter gender of the definite determiner?

not just lexical rote learning det+noun, because gender nouns is also involved in other grammatical phenomena (agreement pronouns, adjective flection etc)

no binary valued gender feature: if just the acquisition of a binary (+/- neuter) gender feature [and copying it from N to D], not clear why neuter would be more difficult than non-neuter (cf other languages)

non-neuter is the default/underspecified/elsewhere value of the gender feature in Dutch nouns, which is acquired first

- input neuter gender

- (lexical) gender Dutch nouns: 75% non-neuter (de) and 25% neuter (het) (Extra 1978)
  – distinction visible only in the definite singular determiner

- input in bilingual children even smaller than in monolingual children

- what is the quality of the input the bilingual children get?

Sociolinguistic observations (Cornips 2002, Cornips&De Rooy 2003):
All ethnic varieties of Dutch show overgeneralisation of de -> not due to ‘interference from the other language’

(4) a. zitten we in de laatste jaar
are we in the final year
[the (NEUTER) year, Cengiz, Turkish ethnicity, youngster, Utrecht]
b. de meest serieuze type
the most serious type
[the (NEUTER) type, Abdelkhalek, Moroccan ethnicity, Berber, youngster, Utrecht]
c. de man met de boek
th man with the book
[the (NEUTER) book, Anouar, Moroccan ethnicity, Arabic, youngster, Utrecht]
d. Hij had de juiste merk aan
he wore the right brand
[the (NEUTER) brand, Ronald, Surinamese ethnicity, youngster, Rotterdam]
**Tentative conclusion:**
The input bilingual children get is both qualitatively and quantitatively different from the input monolingual Dutch children get.

**Hypothesis:**
The input of neuter gender *het* is **below a certain threshold** necessary to trigger complete acquisition.

**Role of quantity/quality input** (Sorace (to appear))

- Low **quantity** of input  => **processing problems** wrt interface phenomena  
  => delay
- Low **quality** of input  => **representation** problems wrt interface mapping  
  => difference

7. **Conclusion and further research**

The qualitative differences between the monolingual and bilingual children in our experiment are not the result of cross-linguistic influence, but of quantitative and qualitative lack of evidence for *het* below a certain threshold in the input of the bilingual children.

Producing **the right form of the definite article** involves:
- the lexical acquisition/activation of the gender feature of the noun
- the syntactic operation of concord/agreement between D & N
- the morphological spell-out of the definite article

**Question 1)**
Do we also expect to find acquisition problems with other (agreement) phenomena involving neuter nouns?

**Relative pronouns**
Our data also contain information about the production of relative pronouns which vary in form according to the gender of the antecedent noun: slightly different picture.

**Adjective agreement**
Blom et al in progress: appears to confirm our results

**Question 2)**
Do we also expect acquisition problems with *het* in other bilingual communities?
Cornips & Hulk in progress on the acquisition of definite determiners and adjectives in a Standard Dutch/Dialect bilingual community: different results
References


Velde, M. Van 2004 “L’acquisition des déterminants en L1: une étude comparative entre le français et le néerlandais” *AILE* 21, 9-47

White, L. et al. 2001 “The status of abstract features in interlanguage: gender and number in L2 Spanish” *BUCLD* 25, 792-802


Appendix

Figure 1: The subjects' age and language background

<table>
<thead>
<tr>
<th>Language Background</th>
<th>Age</th>
<th>Name</th>
<th>Nationality</th>
</tr>
</thead>
<tbody>
<tr>
<td>2L1/L2, age 3;0 - 3;10</td>
<td></td>
<td>Youssra</td>
<td>3;0 Moroccan Arabic/Berber</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Joseph</td>
<td>3;2 Moroccan Arabic/Berber</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Romy</td>
<td>3;2 Sranan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anthony</td>
<td>3;5 Sranan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nicole</td>
<td>3;6 French</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stefano</td>
<td>3;10 Sranan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jehiel</td>
<td>3;9 Akan/Ewe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soraya</td>
<td>3;3 Moroccan</td>
</tr>
<tr>
<td>2L1/L2, age 3;0 - 3;10</td>
<td></td>
<td>Daphne</td>
<td>4;11 Akan/Ewe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Serwa</td>
<td>5;0 Akan/Ewe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Damien</td>
<td>5;2 Russian-Sranan</td>
</tr>
<tr>
<td>2L1/L2, age 4;11 - 5;2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total n=3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nabil</td>
<td>10;5 Moroccan Arabic/Berber</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dilek</td>
<td>9;3 Turk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Samir</td>
<td>10;2 Moroccan Arabic/Berber</td>
</tr>
<tr>
<td>L1 Dutch, age 3;5 - 3;9</td>
<td></td>
<td>Patrick</td>
<td>3;5 Dutch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Joyce</td>
<td>3;9 Dutch</td>
</tr>
<tr>
<td>L1 Dutch, age 5;2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ravian</td>
<td>5;2 Dutch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thom</td>
<td>5;2 Dutch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jesse</td>
<td>5;2 Dutch</td>
</tr>
<tr>
<td>L1 Dutch, age 9;6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Serge</td>
<td>9;6 Dutch</td>
</tr>
</tbody>
</table>

---