

# What the Glak?!

The relative effect of different morpho-syntactic elements on gender classification in Dutch

Bos, J., El Ali, A., Guerreiro, M., de Jonge, M., Miladinovic, C. & Porat, Y.

## Introduction

Dutch nouns are inherently specified for grammatical gender. They can take either common gender (masculine or feminine), expressed by the definite determiner "de", or neuter gender expressed by the definite determiner "het".

The grammatical gender of new nouns can be encoded in different ways using semantic, syntactic and/or phonological information. It is however questionable whether Dutch natives, when relying on morpho-syntactic cues, find adjectives or determiners as better predictors for encoding grammatical gender.

## Aim

Determine the relative importance of different morpho-syntactic frames during grammatical gender encoding of Dutch pseudo-nouns, by comparing the use of two particular morpho-syntactic cues:

- definite determiners
- adjectival inflections

## Method

- 29 native Dutch speakers (mean age = 29 years).
- Joint visual and auditory task:
  - 6 pseudo-nouns (taken from Zekhnini & Hulstijn, 1995) represented by 6 pictures.
  - 12 visual stimuli, each consisting of 2 pictures, manipulated for color, size and location (Fig. 1).
  - The visual stimuli were based on 12 sentences that included 2 pseudo-nouns each. These sentences were presented auditorily alongside the pictures.
  - Pseudo-nouns were preceded by either definite determiner cues, adjectival inflection cues or presented as diminutives (fillers).
- 3 training phases each followed by a forced-choice picture selection task (Fig. 2).
- Final test phase containing a forced-choice DE/HET task, where subjects had to select the appropriate article for each pseudo-noun.

"Een rode glak staat naast het jeer"  
(A red glak is next to the jeer)

"Welke is een speg?"  
(Which one is a speg?)

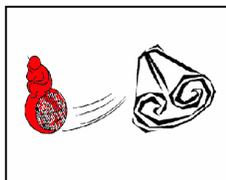


Figure 1. Two pictures shown simultaneously with two pseudo-nouns (auditory).

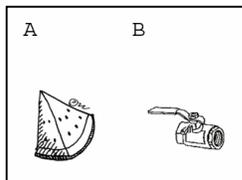


Figure 2. Forced choice picture selection task.

## Results

- All of the nouns were adequately learned by the subjects, as the high level of performance in the third training test shows (Fig. 3).
- In the gender classification test (Fig. 4), no relationship was observed between percentage of correct responses and cue type ( $\chi^2=1.156$ ,  $df=1$ ,  $p>0.05$ ).
- When all words were combined there was a significant learning effect for gender (58.0% correct;  $\chi^2=4.506$ ,  $df=1$ ,  $p<0.05$ ).
- "Glak" was the only pseudo-noun whose gender was learned significantly above chance (79.3% correct;  $\chi^2=11.186$ ,  $df=1$ ,  $p<0.001$ ).
- When "Glak" was excluded the effect for gender learning disappeared (53.8% correct;  $\chi^2=0.837$ ,  $df=1$ ,  $p>0.05$ ).



## Research Question

Do definite determiners provide a stronger cue than adjectival inflections in grammatical gender learning?



## Noun Learning Task

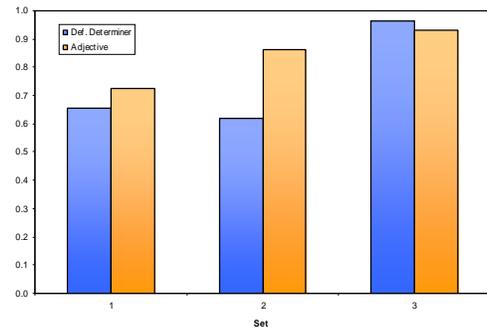


Figure 3. Learning curves of correct nouns, from training test 1 through training test 3, as a function of cue type.

## Gender Classification

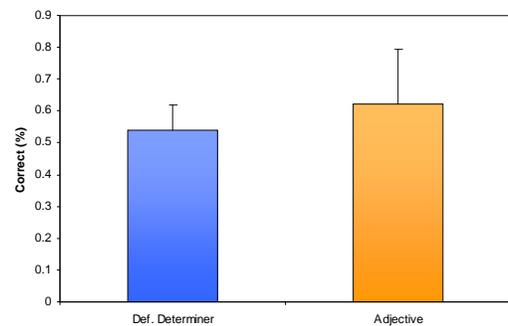


Figure 4. Percentage of correct responses in the gender classification test.

## Conclusions

- There is no difference in gender prediction when using adjectival inflections or definite determiners as cues.
- In accordance with Zekhnini & Hulstijn (1995), these findings suggest that gender is not automatically encoded when learning a noun.
- In order to correct for any non-arbitrariness of the pseudo-nouns, their gender could be counter-balanced across groups (e.g., "de glak" vs. "het glak" and "een groen loor" vs. "een groene loor").
- Future research could be conducted with other syntactic cues like demonstratives and relative pronouns, as well as with non-native speakers of Dutch and children.

## References

- Kelly, M.H. (1996). The Role of Phonology in Grammatical Category Assignment. In J.L. Morgan & K. Demuth (Eds.) *Signal to Syntax: Bootstrapping from Speech to Grammar in Early Acquisition* (pp.249-262). Mahwah, NJ: Lawrence Erlbaum Associates.
- Pérez-Pereira, M. (1991). The Acquisition of Gender: What Spanish Children tell us. *Journal of Child Language*, 18, 571-590.
- Zekhnini, A. & Hulstijn, J. H. (1995). An Experimental Study on the Learning of Arbitrary and Non-Arbitrary Gender of Pseudo Dutch Nouns by Nonnative and Native Speakers of Dutch. *Toegepaste Taalwetenschap in Artikelen*, 53, 121-136.