

## 1 Introduction

- **Focal prominence** is realized prosodically with **higher F0** (and longer duration) in Germanic languages (Cooper et al. 1985, Breen et al. 2010, Engl.; Baumann et al. 2006; Féry & Kügler 2008, Germ.).
- However, lower tonal scaling with increased focal prominence has been observed in Italian (Gili-Fivela 2008) and Akan (Kügler & Genzel 2012).
- On the basis of impressionistic data, Liberman & Pierrehumbert (1984) state that  
"increasing the local prominence on a L\* accent causes it to scale downward" (p. 218)
- **Prominence acts local** – global raising of pitch register may influence L tone scaling in the opposite direction (L & P 1984:233)

## 2 Research Question

- Does focal prominence always induce a locally higher tonal scaling of pitch accents in German?  
Or does the effect of focal prominence depend on the type of pitch accent?

## 3 Hypothesis / Predictions

- H1: Focal prominence causes global raising of pitch register  
➤ Higher scaling of Low and High tones
- H2: Focal prominence causes a local change in tone scaling  
➤ Higher scaling H tones, lower scaling a Low tones

## A production study – Lingo (linguistic bingo), and pilot data on list intonation

### 4 Lingo

- Interactive task (bingo) to elicit low/rising pitch accents in yes/no questions
- Items: matching / non-matching colored forms (cf. Krahmer & Swerts 2001)
- Activity: **Instructor:** calls for coordinates (A1 – blue triangle) (cf. Fig. 1)  
**Participant:** "Kannst du mir ein blaues Dreieck geben?" (Can you give me a blue triangle?)

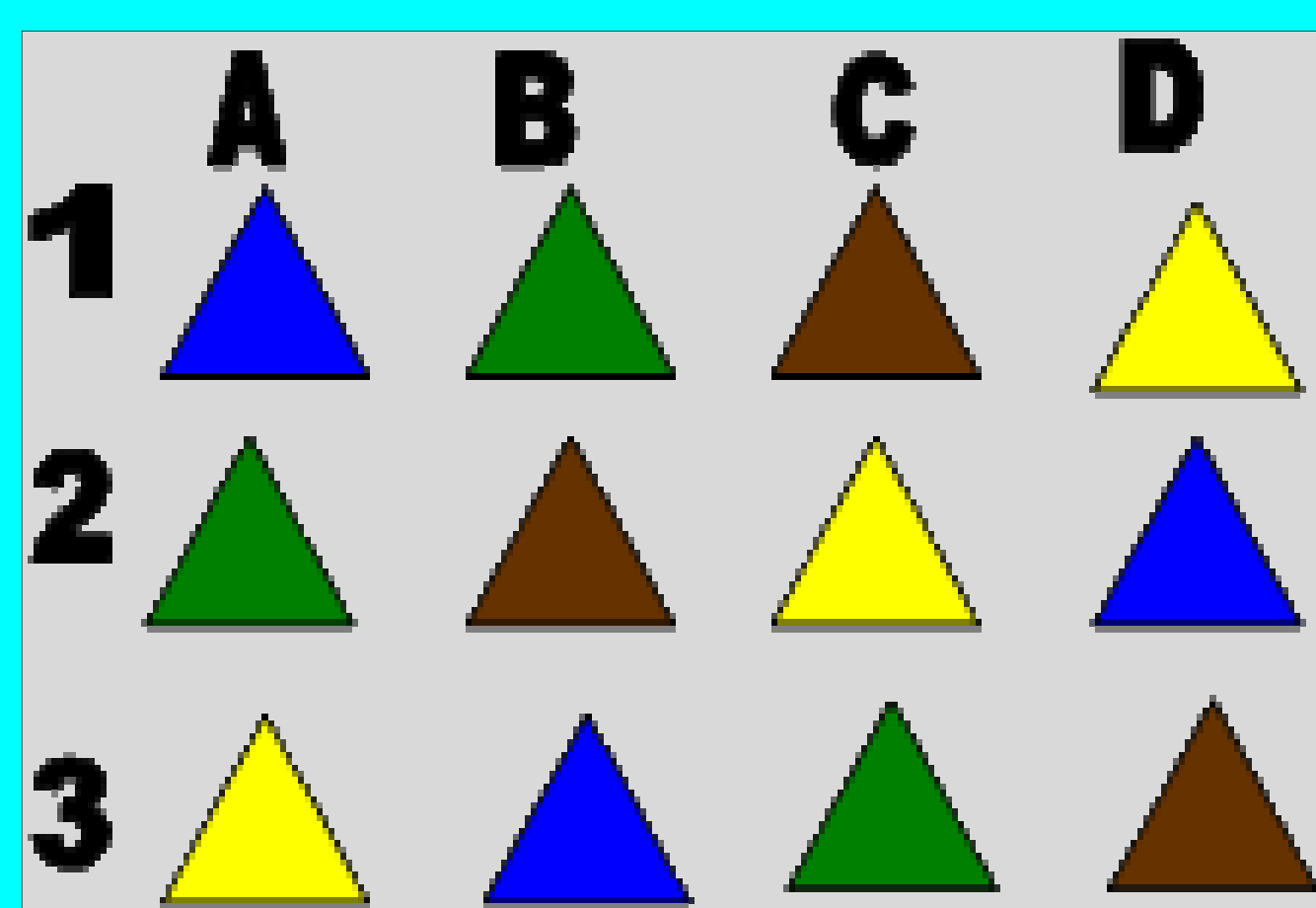
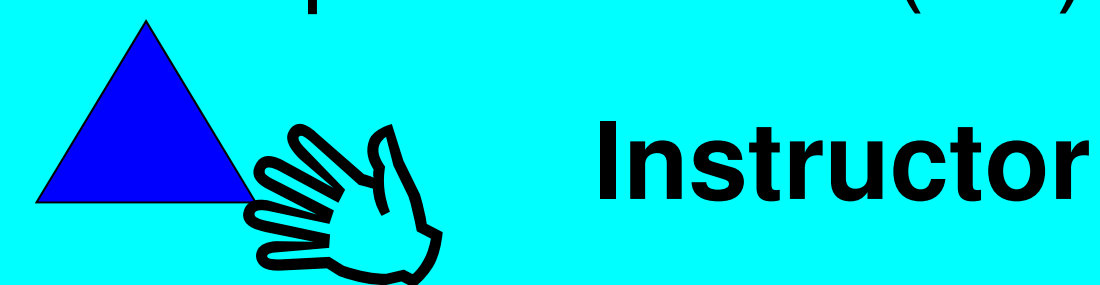
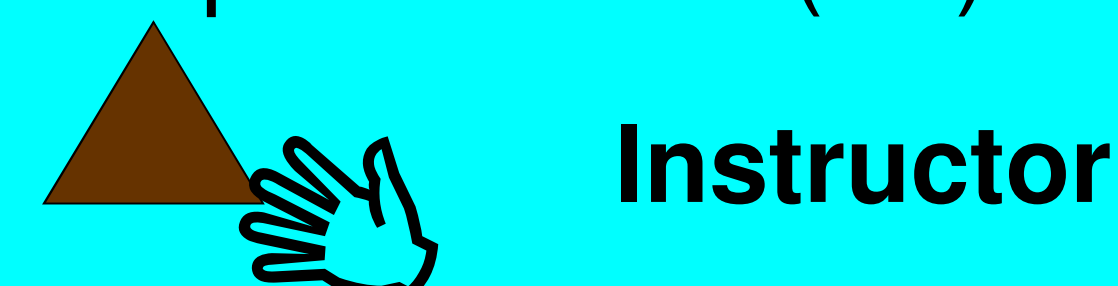


Figure 1. Lingo ticket.

- Elicitation of neutral prominence (A1):



- Elicitation of focal prominence (A1):



**Participant**  
"Can you give me a **blue** triangle?"

- **Target structure:** Kannst du mir ein blaues Dreieck geben?  
L\*H H%

### 5 List intonation

- Lists – rising L\*H pitch accents (cf. Grabe 1998)
- Elicitation of neutral – focal prominence

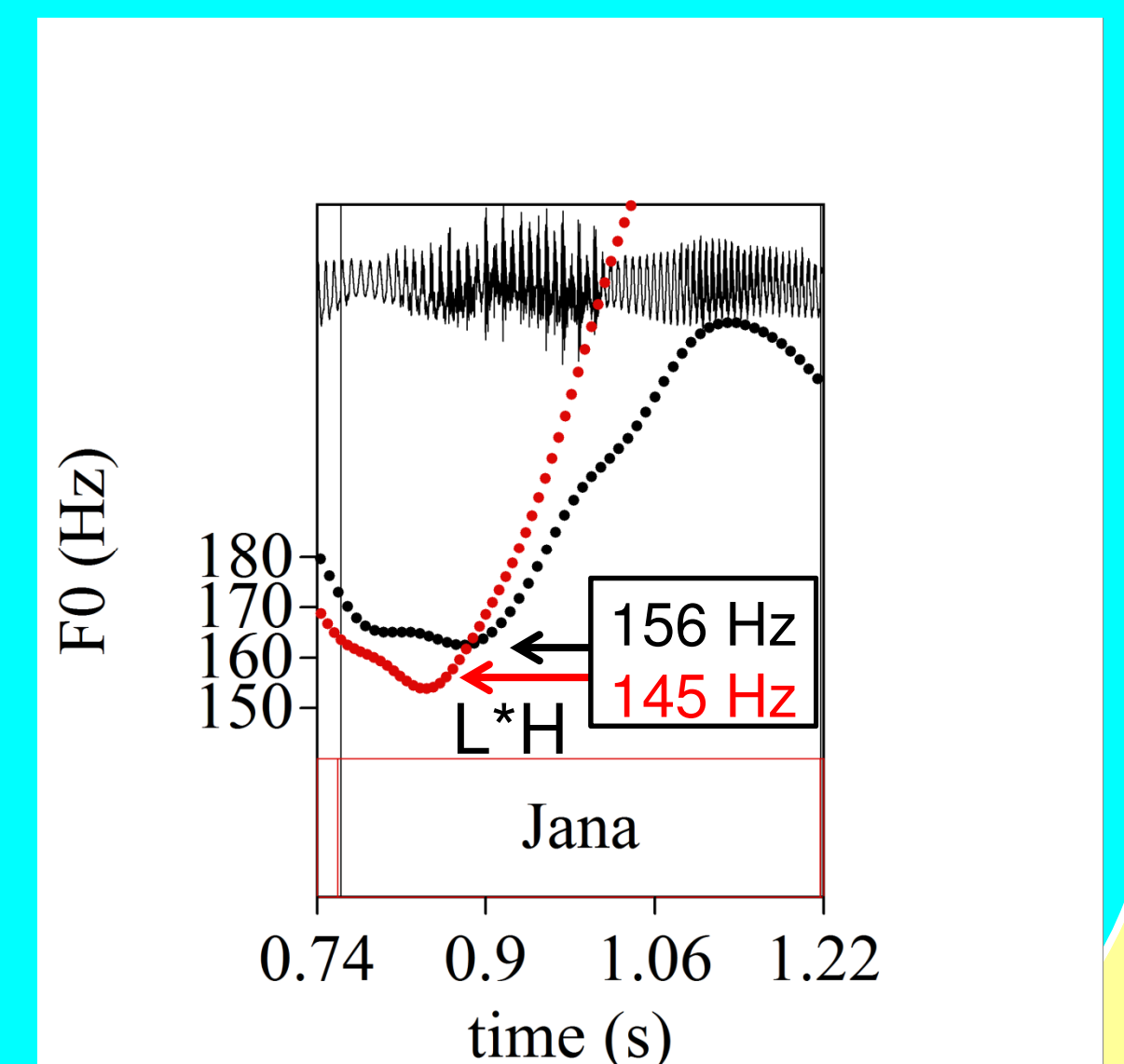
**A:** Wer kommt zu Deiner Party?  
'Who is coming to your party?'

**A:** Kommen zu Deiner Party  
Paula, Martin und Jule?  
'Will Paula, Martin and  
Jule come to your party?'

L\*H L\*H L\*H H%

**B:** Zur Party kommen **Jana**, Martin und Jule,  
wenn es nicht zu spät wird.  
'Jane, Martin, and Jule will come to the party  
if it won't be too late.'

Figure 2. F0 on target item.  
Black = neutral, red = focal  
prominence



### 6 Results

- F0 analysis of L\* in Hz
- Linear mixed effects model with speaker (5) and item (12) and repetition (2) as random factors (slopes & intercepts) and focus condition as fixed factor (Bates et al. 2013)
- Mean F0 averaged across speakers and items:  
neutral focal prominence  
184.2 Hz 174.8 Hz

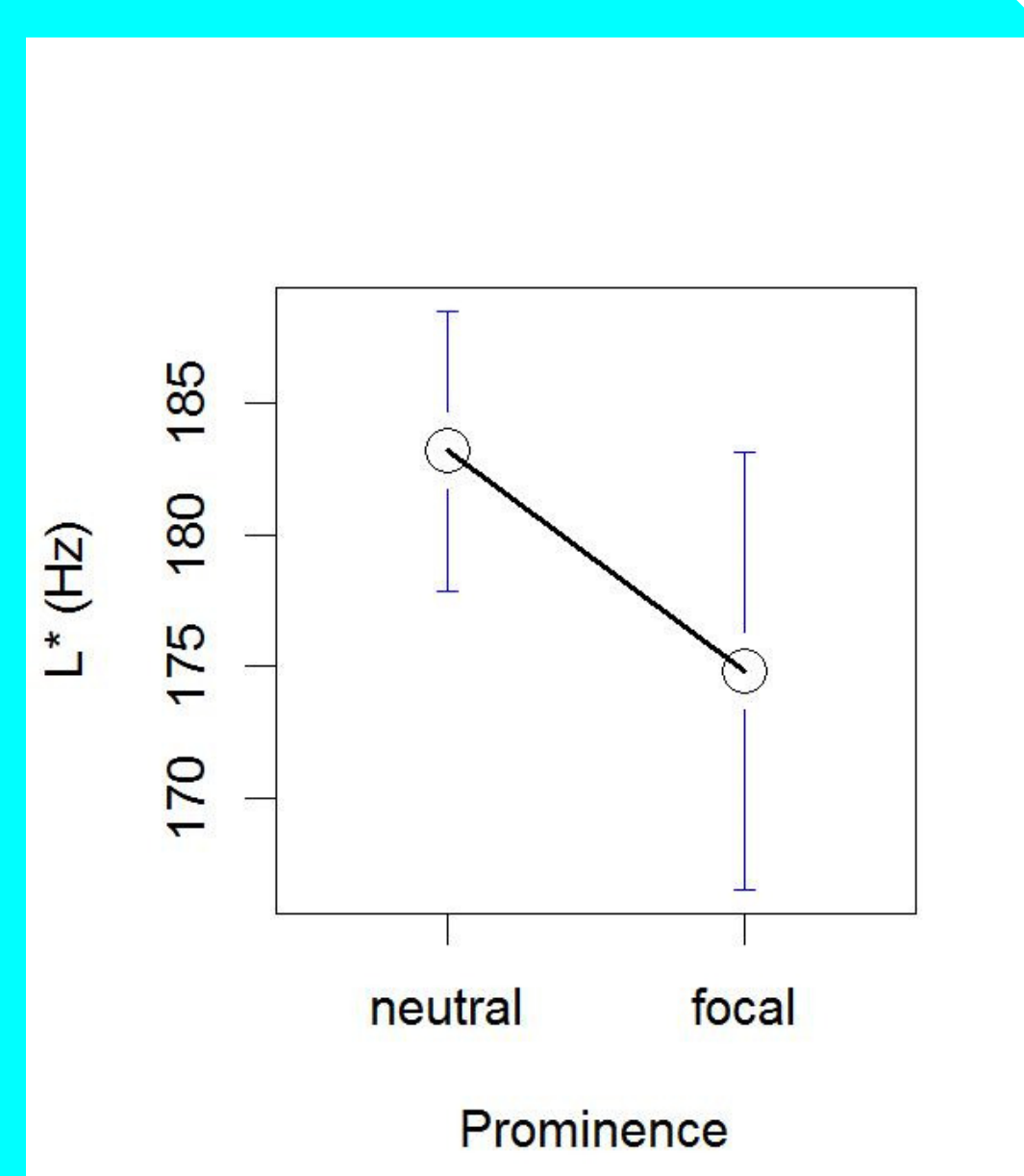


Figure 3. Mean F0 of L\* between neutral and focal prominence.

- **Significant lowering of L\* accent in focus (SE 4.358, t = -2.188).**

### 7 Conclusion

- Confirmation of H2: Focal prominence induces a local change in tone scaling. Low tones are scaled lower (Fig. 4), cf. Liberman & Pierrehumbert (1984:218).
- Information structure affects the pitch register, i.e. the scaling of pitch accents (cf. Féry & Ishihara 2010).
- Type of pitch accent is relevant – focus as enhancement of tonal category: H tones are scaled higher (e.g. Féry & Kügler 2008), L tones are scaled lower.

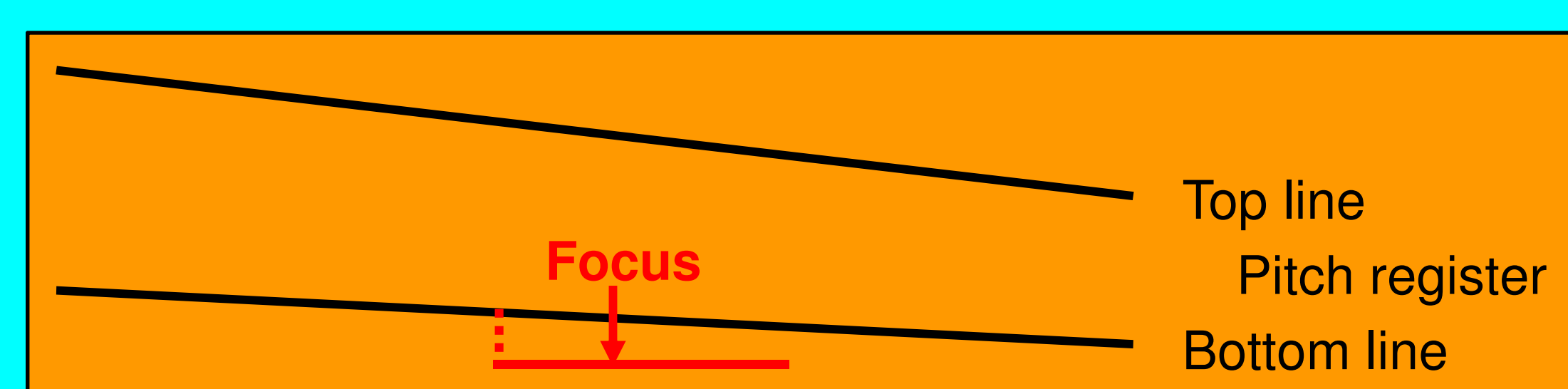


Figure 4. Effect of focus on bottom line of pitch register.

- H tones after the L\* accent seem to be raised – be it a trailing H tone and/or a H%
- Perceptual relevance of lower scaling ?

## References

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