

German 3-year-olds intonational realization of information status in spontaneous speech

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Introduction

- For West-Germanic languages:
 - the placement of pitch accent is crucial for the marking of information status
 - a referent that is accented introduces new information into the discourse
 - de-accenting is assumed to refer to already established or given referents.

Introduction

- For English (Pierrehumbert & Hirschberg, 1990)
 - L* accents – in addition to deaccentuation – seem suitable to mark given information.
 - H* is assumed to signal newness.
 - For German (Baumann & Hadelich, 2003)
 - H* the most appropriate marker for new referents.
 - For given referents, listeners judged deaccentuation as most appropriate, whereas H* was least acceptable.
 - deaccentuation and H+L* were judged equally appropriate for accessible referents
- no dichotomy of accented vs. deaccented.

Introduction

- wide examination about the intonational encoding of discourse referents in adults
- evidence about children's competence in this area is scarce

Wieman (1976)

- spontaneous two-word utterances (5 children 1;9 - 2;5)
- In adjective + noun combinations like “Blue Man”, the noun
 - was accented when mentioned for the first time
 - deaccented when already active (“Man. Blue man”)
- similar findings for noun + locative combinations
- only seven examples in the entire study

MacWhinney & Bates (1978)

- 3, 4 & 5 year-old children
- usage of accentuation to mark the informational status of discourse referents.
- triplets of pictures with increasing Givenness
- 3 y.o. used accentuation on the new referent rather than on a referent that was already introduced
- no significant age-difference
 - use of accentuation for a distinction between new and given is already acquired at the age of three

deRuiter (2010)

- Do children use the same pitch accents as adults
- 5 & 7 year old children in a picture story telling task
- Newness: realized with an accent
- Givenness: lack of accent

- Interestingly, not every already mentioned referent was treated as given
 - accessible referents were realized similar to new ones

- children of this age are in fact sensible to the status of target referents within a discourse – and they use intonation to mark this.

Introduction

- Children accent new, but not given information in their own utterances (e.g. Baltaxe, 1994; MacWhinney & Bates, 1978, Wieman, 1975)
 - within one intonation unit
 - children were experienced with language
 - no detailed and/or useful phonological or phonetic analyses
 - stress is an equal term for all kinds of accentuation
- nothing is known about the types of pitch accent (including deaccentuation) or other prosodic features that young children use

Design

- children's (2;6 years & 3 years) and adult's intonational marking of the informational status of discourse referents
- picture book - task
- manipulation of the occurrence of a target referent
 - either inactive (and thus new)
 - already established into the discourse and given

Design

- 4 target referents:
- *Möwe – seagull*
- *Biene – bee*
- *Eule – owl*
- *Igel – hedgehog*
- well known by young children
- disyllabic with a sonorant segmental make-up to facilitate pitch analysis
- no switch form in declination.

Design

warm-up:

- “surprise-bag” with 8 different items

practice phase:

pictures containing:

- single items
- causative actions in order to elicit SVO-sentences

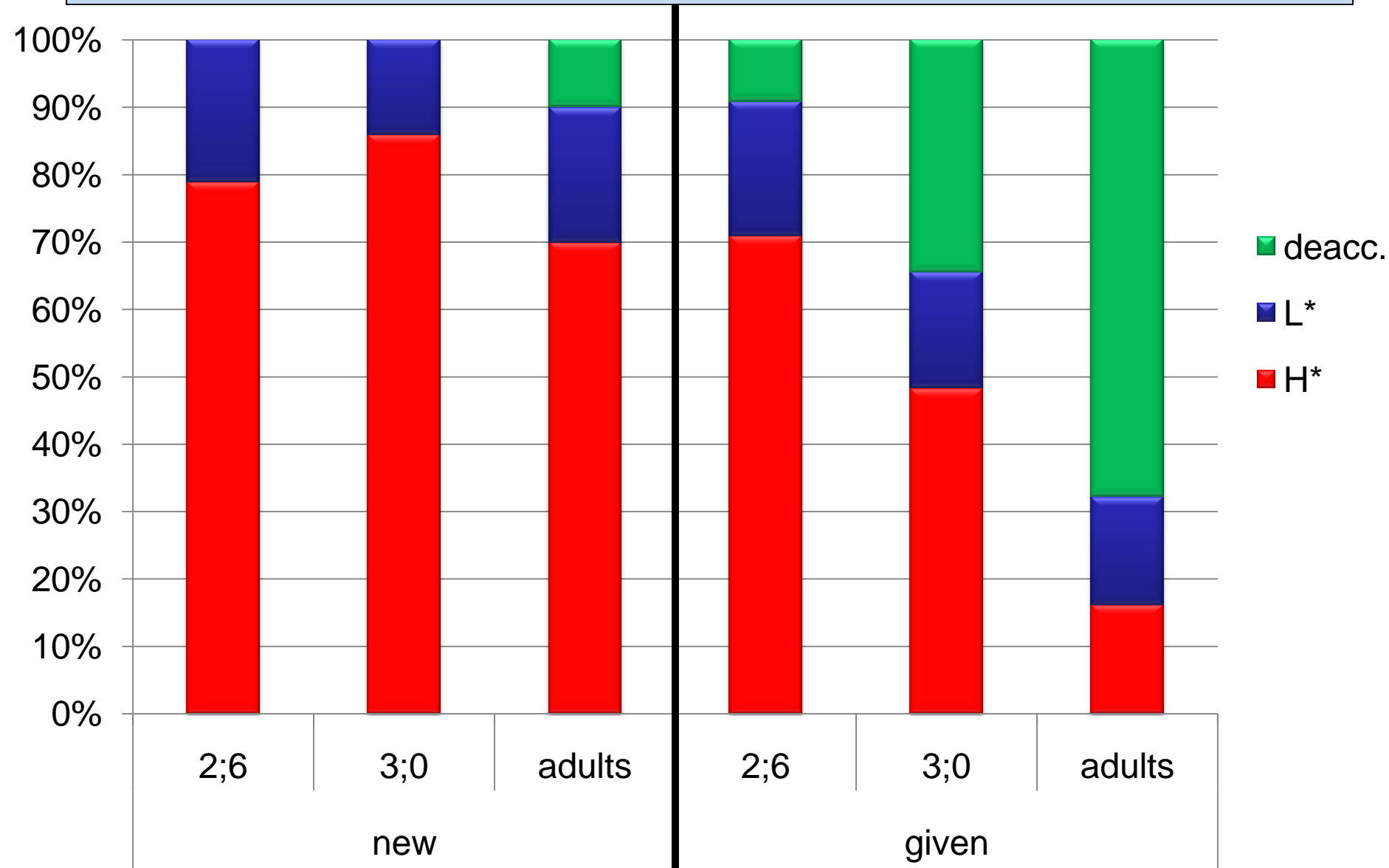
test phase:

- “real” picture book
- the experimenter said as less as possible in order to let the child talk about the pictures

Codings

- separation of those intonation units in which the target referent occurred
- only natural and spontaneous utterances
- first uttered within the discourse = “new”
- utterance after this activation = “given”
- intonational realization (H*, L*, deaccentuation) of target referents
- pitch range = local F0-min & F0-max
- digitized and annotated using the EMU Speech Database System & GTobl

Results



Summary

- New information: adults & both children age-groups behave similar
- Given information:
 - adults deaccent given information, but not children
 - instead, children treat given information as if they were new (by accenting them)
- But, older children de-accent given information more than the younger children

Summary

- why do younger children not de-accent given information while older children do???
- Imitation of the input ???

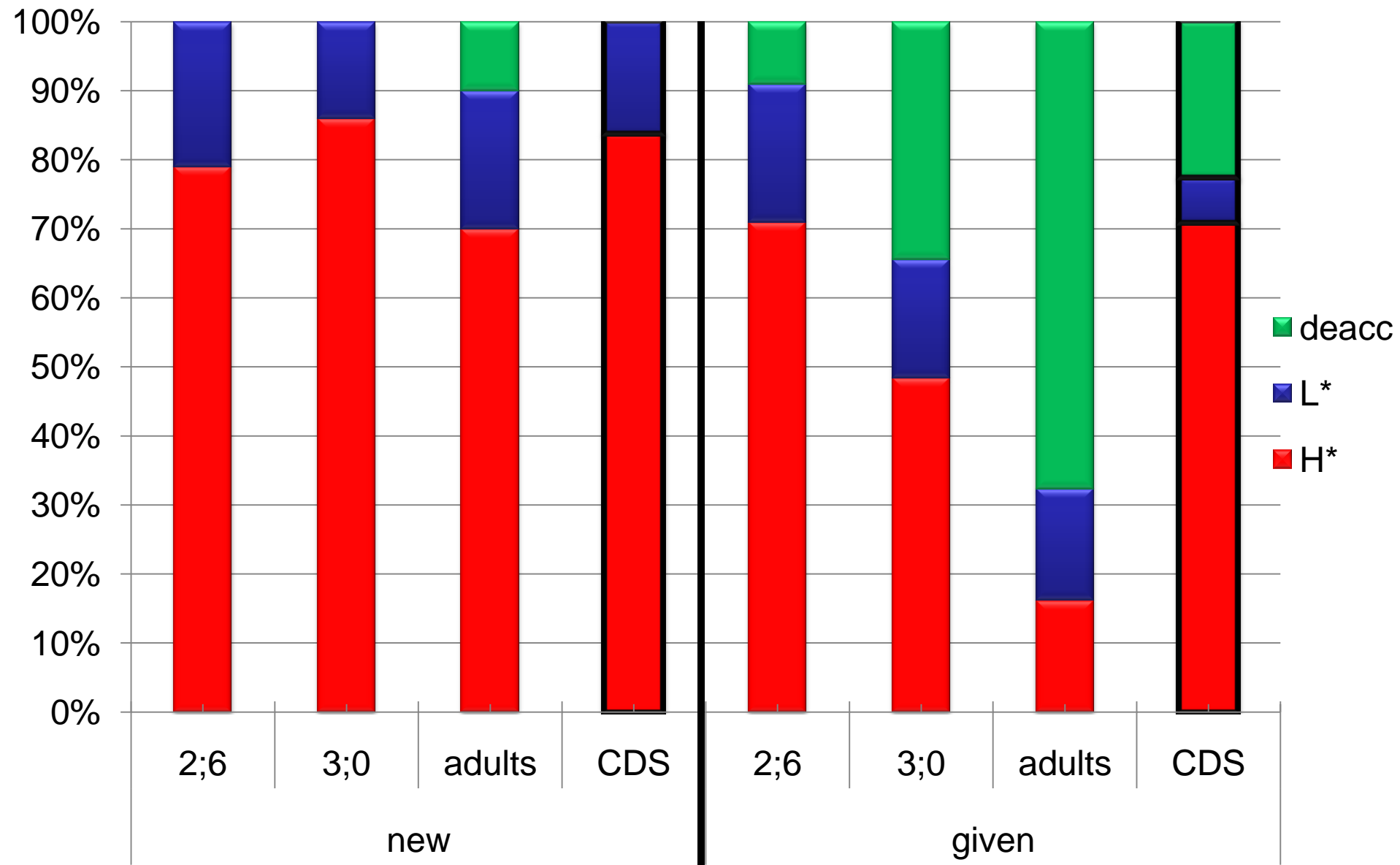
Summary

- Accenting given information is a characteristic of motherese
 - high pitch, exaggerated intonation contours (e.g. Fernald 1984)
 - even when words are already known or mentioned for a second time (e.g. Papousek, Papousek & Haekel 1987, Fernald & Mazzie 1991)
- children seem to “learn” the usage of their speech organs
- investigation and comparison of adult’s intonational realization when directed to their children

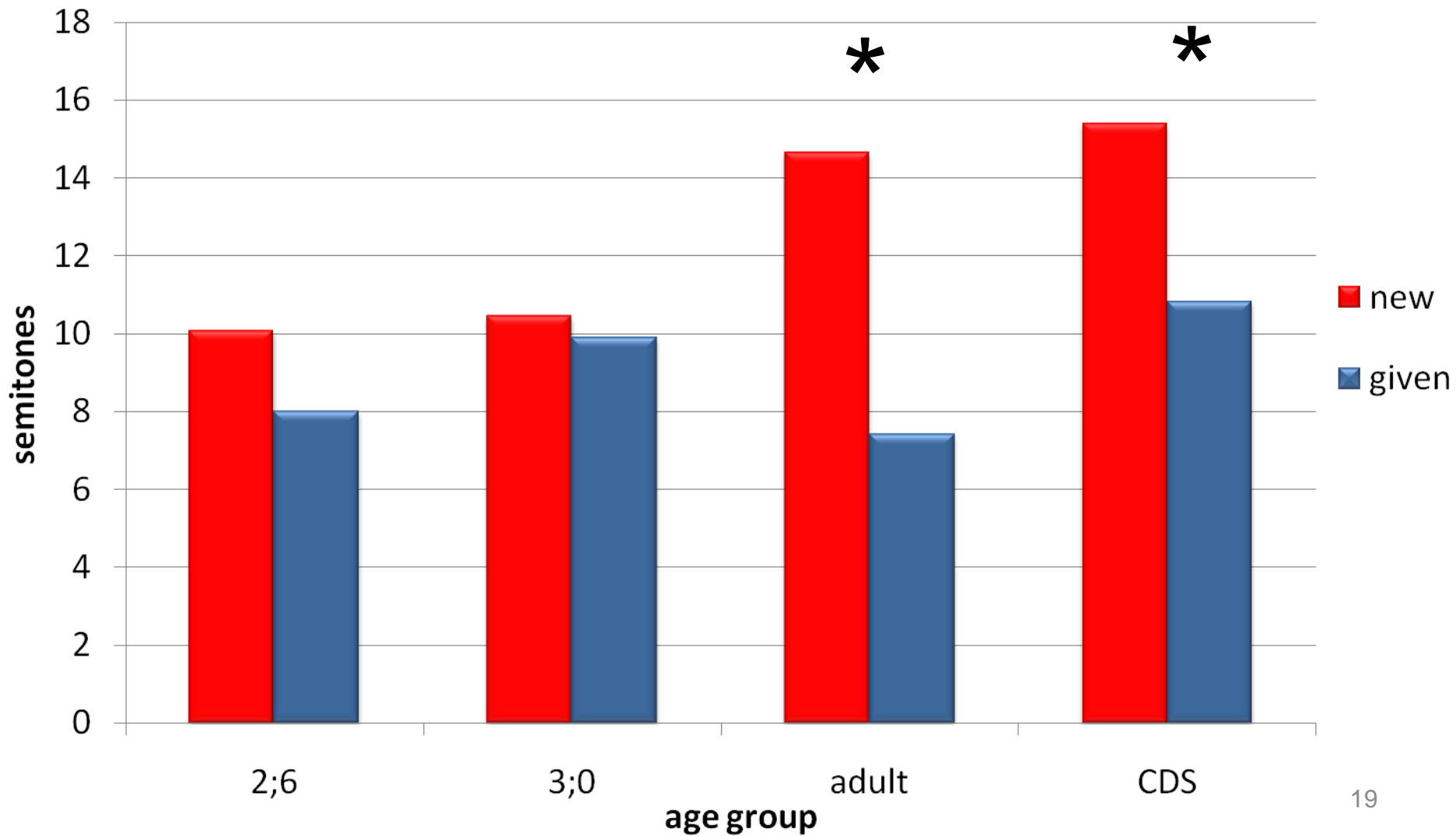
Design

- Eight parents (1 father, 7 mothers) of 2 y.o. children (range 2;0 - 2;6, mean=2;3)
 - grown up in the same dialectal environment as participants from study 1
- Materials and design were the same as in Study 1

Results



Results – Pitch Range



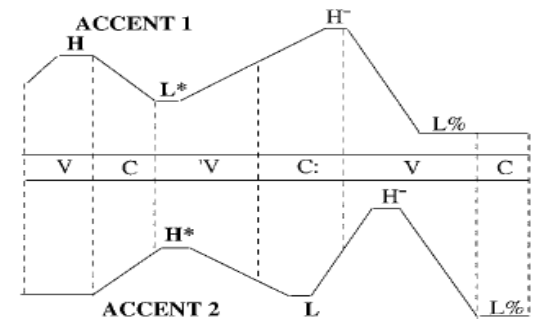
Summary

- New information: similar in all of the tested groups
- Given information: adult – adult differs from CDS
 - less high pitch accents and more deaccentuation
 - In CDS parents behave vice versa – identically to the 2;6 year olds
- it seems plausible that young children's intonational behavior is highly dependent on the input (and develops with age)

Discussion

- What develops?

(1) form-function mapping / imitation

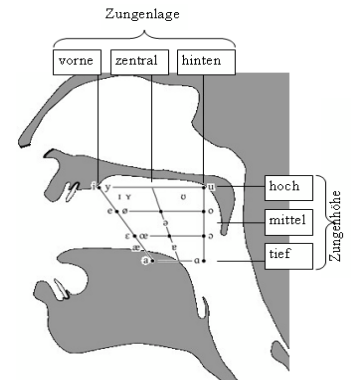


- younger children are hearing something different from the older children (speech directed to them vs. speech around them)
- both are learning the use of intonation from the language they concentrate on (see deRuiter, 2010)

Discussion

- What develops?

(2) lack of control over the speech organs

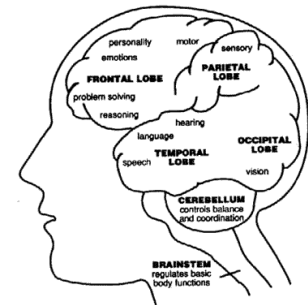


- children in the late two-word stage acquire the use of accent placement and accent type to mark focus, but, due to difficulty with pitch control, their performance is not yet adult-like (see Chen, in press).

Discussion

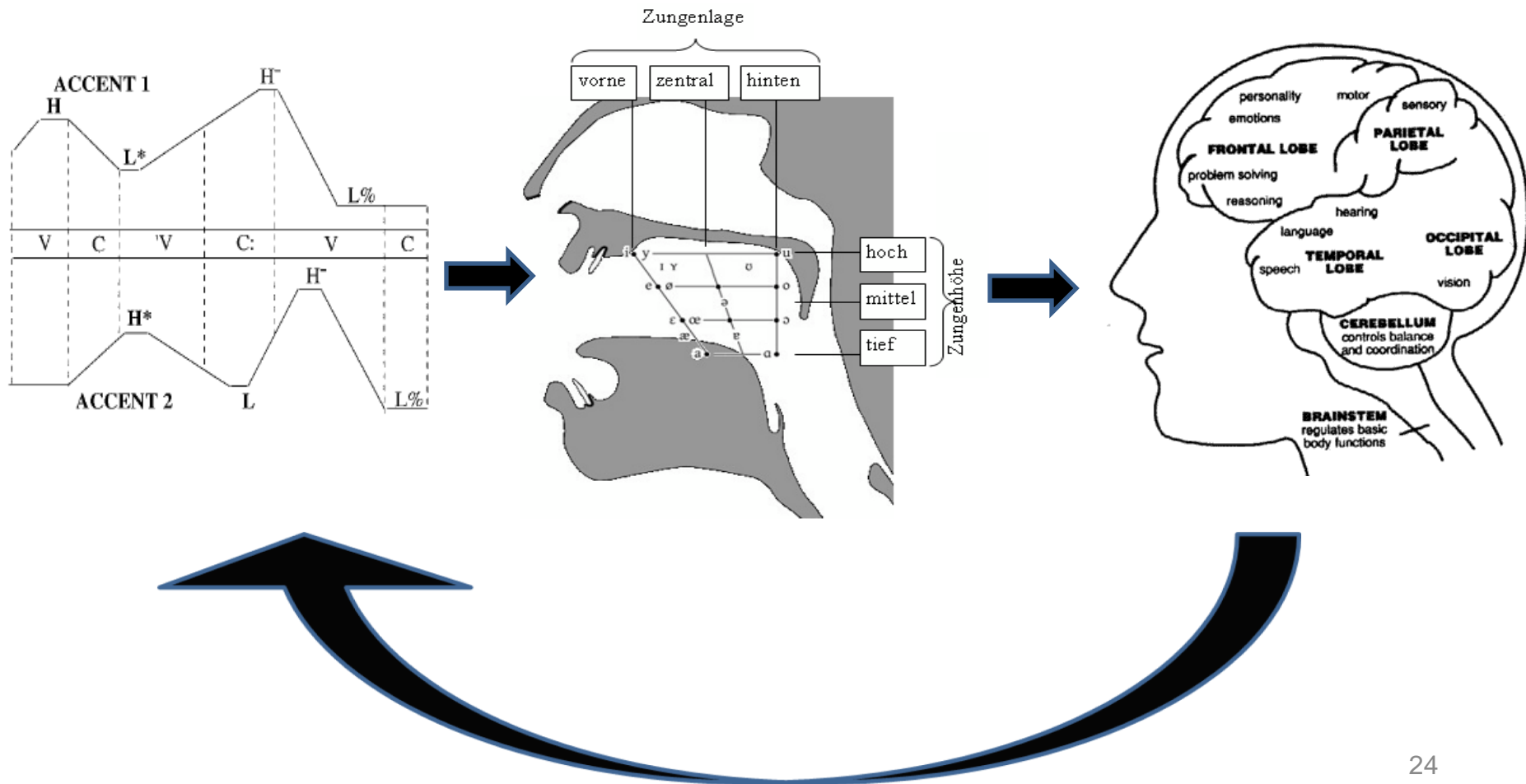
- What develops?

(3) cognitive abilities



- the informational status of target referents is based on the speaker's assumptions about the cognitive accessibility of referents in the mind of the listener (e.g., Givón, 1990; Vallduví, 1992; Lambrecht, 1994)
- the speaker needs to have an understanding about what I know, what you know, what is given and what is new for the other participant(s) of a conversation (see e.g. Moll & Tomasello, 2007)

Discussion



Thank you...