1 Introduction

1.1 Contrastive linguistics and contrastive information structure analysis

- Contrastive linguistics as the complement of language typology among the comparative branches of linguistics: very few languages are compared very thoroughly (e.g. across grammatical sub-systems and at a high level of detail; e.g. Hawkins 1986).
- DFG-funded project on English-German comparison (FU Berlin, König, Gast, Haas; 2008-1010).
- Topics prominent in contrastive studies of English and German: phonology, morphology, syntax, tense and aspect, grammatical relations (cf. König & Gast 2007).
- Understudied topics: word formation, aspects of higher-level syntax (e.g. finite complementation), information structure (for English and German!).
- Contrastive information structure analysis as a major challenge.
- Three main reasons:
  1. Poor empirical basis; accessibility of data is a major issue (e.g. spoken corpora, phonologically annotated corpora); judgements gained through introspection or elicitation are often rather vague; the interpretation of (esp. intonational) data is always a matter of debate.
  2. Some notional information-structural categories are hard to define ('topic’, ‘contrast’, ‘aboutness’, etc.); it is difficult to find a tertium comparationis on a purely notional basis.
  3. The mapping from function to form is often many-to-many; this makes it even more difficult to identify and define information structural categories across languages.

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- Main question discussed in this talk:
  How are contrastive topics encoded prosodically in English and German?

- Hypothesis (in very general terms):
  There are differences in the level of generality at which contrastive topics are prosodically marked as such: English treats them on a par with other instances of the more general relation of ‘sub-informativity’, whereas German has an intonational contour (the ‘hat contour’) which is only used for (specific types of) contrastive topics.

- A point for discussion:
  How could such a hypothesis be tested empirically?
2 What is (the ontological status of) a contrastive topic?

- Several answers are possible:
- Krifka (1998, 2007): Contrastive topics are constituents with a (prosodically realized) focus feature that have been topicalized (‘Spec-CP movement’, ‘contrastive topicalization’).

(1) A: What do your siblings do?

- Contrastive topichood as a property of constituents
- Jacobs (1997): I-topicalization as a sentence (or utterance?) level property: “...i-topicalization reflects the presence of an illocutionary operator inducing predication and certain restrictions on information structure” (Jacobs 1997: 91).

- Contrastive topicality as a property of sentences or utterances
- Büring (1997, 2003): Contrastive topics indicate the presence of open questions (with specific properties) in the discourse environment.
- Discourse as a hierarchical structure: ‘D(iscourse)-trees’, which abide by certain well-formedness conditions such as ‘Informativity’ (‘Don’t say known things, don’t ask for known things!’) and Relevance (“Stick to a question until it is sufficiently resolved!”):

![Diagram 1: Büring’s (2003) d(iscourse)-trees](image)

- Some terminology:
  - Each node in a d-tree is called a move.
  - Any subtree of a d-tree which is rooted in an interrogative move is a strategy.

Who ate what?

Fred ate the beans answers only one of the questions in the strategy. There is an alternative question (What did Mary eat?) that differs from the question immediately dominating Fred ate the beans only in terms of the topic denotation.

- In other words, contrastive topics indicate that there is an open question which is an ‘aunt’ of the sentence itself, in the relevant d-tree.
Contrastive topicality as a relation between a proposition and the ‘strategy’ containing that proposition (a discourse-level entity).

- A term for that relation: ‘**sub-informativity**’:

1. A declarative sentence S is **sub-informative** relative to a strategy Q iff S does not answer all questions in Q.

- Two levels of analysis: ‘constituent level’ (‘contrastive topics’), ‘sentence level’ (‘I-topicalization’, ‘sentences with contrastive topics’).
- Both levels are potentially relevant, but note: depending on the specific analysis chosen, different sets of data will be considered.
- For instance, ‘distributed focus sentences’ (answers to [‘matching’] multiple Wh-question, cf. (3)) will not be included under a constituent-level definition, as they do not contain topics; they can, but need not be included under a sentence-level definition (e.g. Büring 2003 vs. Jacobs 1997):

(3) A: Who read what?  
B: John read the bible and Mary read the newspaper.

- Sentences with non-referential topics will be included under a sentence-level definition; they can, but need not be included under a constituent-level definition (depending on the definition of the term ‘topic’; cf. Frey 2000).

(4) Man \(\notin\text{MUS}S\) das Buch \(\notin\text{NICHT m"ogen}\), aber man \(\notin\text{KANN}\).  
one must the book not like but one can  
‘You don’t \(\notin\text{HAVE}\) to like the book, but you \(\notin\text{CAN.}\)’ (Jacobs 1997: 122)

- What are we to base our comparison on?
- General observation: higher-level entities (e.g. propositions, question-answer pairs, etc.) are better *tertia comparationis* than lower-level entities (participants, predicates, operators, etc.).
- The notion of ‘sub-informativity’ will be used as a third of comparison. (Distributed focus sentences and non-referential topics are thus included.)

3 Three types of ‘sub-informativity’

- ‘Distributed foci’: the answer to a question (a ‘matching question’ in terms of Krifka 2001) is distributed over more than one sentence; each of the sentences is sub-informative.

(5) a. multiple Wh-question:  
A: Who read what?  
B: [John read the bible]_{SUB-INF}...  
  b. rephrased as a single Wh-question:  
  For which pairs \(<x,y>\) does it hold that \(x\) read \(y\)?

- ‘Contrastive topics’: more than one topic-comment relation is established.
- ‘Context-preserving’ contrastive topics (subsume sets of topics; ‘topics of laziness’)

(6) A: What are your parents doing?  
(What is your mother doing and what is your father doing?)  
B: [My father works on a freight ship]_{SUB-INF} ...

- ‘Context-changing’ contrastive topics (contrastive topics actively modify the CG)

(7) A: What is your daughter doing?  
B: [My younger daughter studies medicine]_{SUB-INF} ...
sub-informativity

\[\text{distributed foci} \quad \text{contrastive topics} \]

context-preserving    context-changing

Diagram 3: Types of sub-informativity

- Difference between ‘context-preserving’ and ‘context-changing’ (contrastive) topics: ‘context-preserving topics’ are under discussion, but are summarized in a single term (‘your parents’ \(\equiv\) {‘your father’, ‘your mother’}); context-changing topics are newly established (as topics) by the speaker (‘x’s daughter’ vs. {‘x’s younger daughter’, ‘x’s older daughter’}).

4 Indicating contrastive topicality: the hat contour and the fall-rise accent

- English: Jackendoff (1972), Bolinger (1986), Steedman (1991), etc.: fall-rise accent as a contrastive topic marker in English.

  The fall rise “may thus be thought of as marking WHAT THE SENTENCE IS ABOUT... However, the tune does something more. The presence of a pitch accent also marks some or all of the open proposition as emphasized or contrasted with something mentioned or regarded by the speaker as implicated by the previous discourse and/or context.” Steedman (1991: 275)

  (7) A: *What are your sisters doing?*
  B: *My /YOUNger sister studies /MEDicine...*

- German: Féry (1993), Jacobs (1982, 1997), Büring (2005), Steube (2003), Büring (2006), etc.: I-contour (‘root accent’ \(\sqrt{}\) plus falling focus accent) as a contrastive topic marker:

  Jacobs (1995) … points out that the intonational contour involved should … be described as a slight fall followed by a rise on the first accent, and a fall on the second. He symbolizes these two accents by \(\sqrt{}\) and \(\text{\_}\), and calls it “root contour”. This seems to be indeed the intonational target, although the first accent can be realized by /, especially in allegro speech. (Krifka 1998, fn. 9)

  (8) B: *What is your daughter doing?*
  A: *Meine \(\sqrt{}\)JÜNgere Tochter studiert Medizin...*
  my younger daughter studies medicine

- Null hypothesis: The English fall-rise accent and the German hat contour have similar or even identical functions.

- My hypothesis: The English fall-rise accent and the German hat contour are not equivalent. The fall-rise accent is a general indicator of ‘sub-informativity’, whereas the hat contour marks ‘context changing contrastive topics’.

4
5 The distribution of the fall-rise accent

- In general, the distribution of the fall-rise accent is much broader than that of the hat contour (or the ‘root accent’ within the hat contour).
- Use with sentence-initial adverbials, with a relatively neutral function (though perhaps more emphatic than a plain rise-accent):
  
  (9) Un\FORtunately, | he can’t \COME.
  (10) Un\FORtunately, | he can’t \COME.
  (11) He \CAN’T \COME, | unfortunately.

  (12) a. In the /KITchen | you’ll find a sur\PRISE.
      b. In the √KITchen | you’ll find a sur\PRISE. (Tench 1996: 83)

  [(12)a.] and [(12)b.] represent a typical case of marked theme ..., but whereas the rise in [(12)a.] merely leads on to the major information, the fall-rise in [(12)b.] highlights the theme itself. (Tench 1996: 83)

- Fall-rise accent as the sole sentence accent (expresses some kind of ‘reservation’):
  
  (13) It’s √CHEAP. (reservation: ‘but that’s not the only thing that’s true about it’)
  (14) It √LOOKS expensive. (reservation: ‘but is it really?’)
  (15) √WELL... (well is meaningless; speaker signals that information is missing)

- Tench (1996: 84):
  It is generally agreed that such uses of the fall-rise indicate some kind of implication. Halliday once glossed the meaning as ‘there is a but about it’... [emphasis original]

  Also ‘incompleteness’, ‘up-in-the-airness’ (Bolinger); ‘uncertainty as to the relevance of a speaker’s contribution’ (Ward & Hirschberg 1985); etc.

- Assumption: When used on topics (or topic-like constituents), the English fall-rise accent indicates ’sub-informativity’: the speaker signals that s/he is aware that there are open questions (in the strategy).

- Fall-rise accent can be used with all types of sub-informativity distinguished above:
  
  (16) Distributed focus sentences
    A: Who ate what?
    B: √FRED ate the √BEANS...
  (17) Context-preserving topics
    A: What do your parents do?
    B: √My FATher works on a FREIGHT ship...
  (18) Context-changing topics
    A: What is your daughter doing?
    B: My √YOUNger daughter studies √MEDicine...

- Note: only in context-changing topics (as in (18)) is the fall-rise accent obligatory!

6 The distribution of the hat contour

- Important: distinguish the ‘genuine hat contour’ from combinations of accents which, under specific circumstances or for independent reasons, resemble the real thing.
- The ‘fake hat pattern’:
  ...is a sequence of two completely linked pitch accents, the first of which is a high prenuclear pitch accent (H*) which is derived from an underlying H*L. The second is a falling (H*L) nuclear tone ... The voice remains (or can remain) on a high level between the two pitch accents ... (Féry 1993: 149-50)
Distribution of the (genuine) hat contour is much more restricted than that of the (English) fall-rise accent.

It is hardly ever used on non-contrastive adverbials or as the sole sentence accent:

\[ ?\text{Unglücklicherweise kann er nun doch nicht kommen.} \]

‘Unfortunately, he can’t come.’

\[ \text{NAJA...} \]

‘Well…’

The distribution is restricted even in cases of sub-informativity.

Jacobs (1997): the I-contour is inappropriate with distributed foci:

\[ \text{Wer hat wie auf das Buch reagiert?} \]

‘How did who react to the book?’

a. /Löffler hat es empfohlen, /Karasek hat es verrissen.

Löffler has it recommended Karasek has it pulled.to.pieces

b. #/Löffler hat es empfohlen, /Karasek hat es verrissen.

‘Löffler recommended it, Karasek trashed it.’ (Jacobs 1997: 99)

Jacobs (1997: 99) with respect to (22): “The b-version is at least unusual; it is associated with additional pragmatic components of meaning” [my translation]; to my ears, it sounds ‘hyper-informative’ (‘Don’t treat me like an idiot!’).

Alternative intonations:

\[ \text{a. /Löffler hat es empfohlen, /Karasek verrissen.} \]

\[ \text{b. /Löffler hat es empfohlen, /Karasek hat es verrissen.} \]

Krifka (1998): the hat contour also sounds odd in cases of (what I call) ‘context-preserving (contrastive) topics’:

\[ \text{What about Maria and Hans. What did they read?} \]

a. Maria hat den Schatz im Silbersee gelesen

Maria has DET treasure in.the silver.lake read

und Hans den Winnetou.

and Hans DET Winnetou.

b. Maria hat den Schatz im Silbersee gelesen

Maria has DET treasure in.the silver.lake read

und Hans den Winnetou.

‘Mary read The Treasure of the Silver Lake, and John Winnetou.’

“This sentence [(24)b.] is bad, presumably because it does not satisfy Büring’s criterion – that there must be alternatives for the contrastive topic for which the truth value of the sentence is still disputable”.

Note: the original Jackendoff examples also sound awkward (‘hyper-informative’) when translated into German and pronounced with a (‘genuine’) hat contour:

\[ \text{What about Fred? What did he eat?} \]

A: Well, what about Fred? What did he eat?

B: /Fred ate the beans.
(26)  A: Nun, was ist mit Fritz? Was hat er gegessen? 
    B: √ Fritz hat die Bohnen gegessen:
    B': Fritz hat die Bohnen gegessen.
    B'': /Fritz hat die Bohnen gegessen.

- The only type of sub-informativity where the hat contour sounds impeccable (to my ears) is the one of ‘context-changing topics’:

(27)  A: Was macht deine Tochter? ‘What is your daughter doing’? 
    B: Meine √ JÜNGere Tochter studiert Medi√ZIN... my younger daughter studies medicine...

- Assumption: The hat contour is only used in cases of ‘context-changing topics’ (compatible with most of the examples generally discussed in the relevant literature).

7 Explicating ‘context-changing topics’: D-trees and ‘tree modification’

- Büring (2003): ‘explicit’ vs. ‘implicit’ moves in d-trees:

(28)  no implicit move
    A: What did the pop stars wear? (I mean...) What did the √FEMALE pop stars wear? 
    B: The female pop stars / they wore √CAFTans. 
    B': The √FEMALE pop stars wore √CAFTans.

(29)  implicit move 
    A: What did the pop stars wear? 
    B: The √FEMALE pop stars wore √CAFTans. 
    B': #The female pop stars wore √CAFTans.

**Diagram 4: ‘Move insertion’**

- In (specific) cases of ‘context-changing’ contrastive topics, the speaker modifies the strategy (as construed by the other interlocutor) by inserting an implicit move into the tree (‘move insertion’).
• In other cases, the speaker modifies the tree by taking a level of questions away (‘move deletion’):

(30) A: *What novels by Karl May did Hans and Maria read?*

B: *Maria hat den Schatz im Silbersee gelesen.*

Maria has the treasure in the Silver Lake read

Diagram 5: ‘Move deletion’

• There are several types of ‘move insertion’: ‘corrective topics’, ‘metonymical topic shift’, etc.
• ‘Corrective topic’:

(31) A: *Was macht eigentlich deine Tochter?*

‘What is your daughter doing anyway?’

B: *Meine jüngere Tochter studiert Medizin, und meine ältere Tochter arbeitet auf einem Frachtschiff.*

‘My younger daughter studies medicine, and my older daughter works on a freight ship.’

• Metonymical topic shift:

(32) (at a party)
A: *Hast du Karl schon gesehen?*

‘Have you seen Karl?’

B: *Seine Frau habe ich schon gesehen, ihn selbst aber noch nicht.*

‘I’ve seen his wife, but not Karl himself’

8 Summary

• Hypothesis: The German ‘hat contour’ is used iff when the speaker modifies the strategy containing the relevant sentence, either by inserting or by deleting a move (or level of moves). The English fall-rise accent has a more general function; it indicates ‘sub-informativity’.
• For instances of sub-informativity other than ‘context-changing contrastive topics’, German uses other accent patterns (probably governed by elsewhere principles).
• Question: How can the hypothesis made in this talk be tested empirically?
• Is it conceivable that such questions can be answered using phonologically annotated corpora or parallel corpora (would they distinguish different types of hat contours)? Or do we need idealized (self-made) data, e.g. in order to get rid of ‘allegro effects’ etc.?
• Can experiments help? What would they have to look like?

Literature


