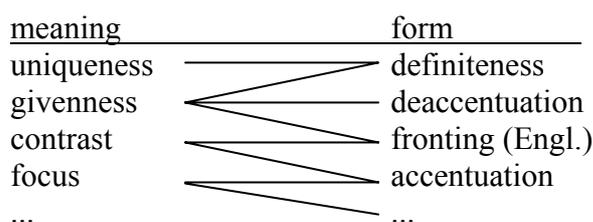


**Contrastive topics in English and German –  
a case study in contrastive information structure analysis**

**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.



- 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?*

B: [*My* [*SISter*]<sub>Focus</sub>]<sub>Topic</sub> [*studies MEDicine*]<sub>Focus</sub>,  
and [*my* [*BROther*]<sub>Focus</sub>]<sub>Topic</sub> *is* [*working on a FREIGHT ship*]<sub>Focus</sub>.

➤ 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!").

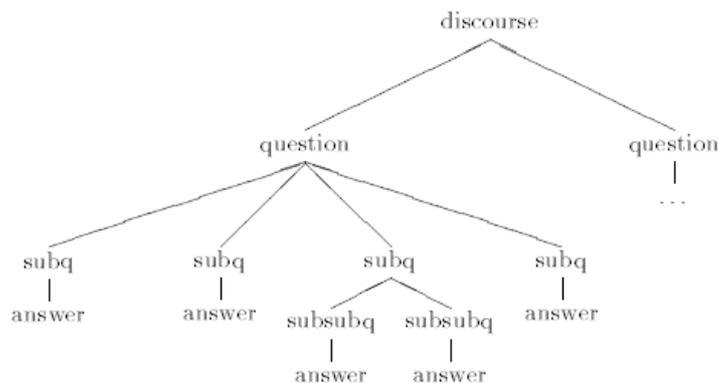


Diagram 1: Büring's (2003) d(iscourse)-trees

- 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*.

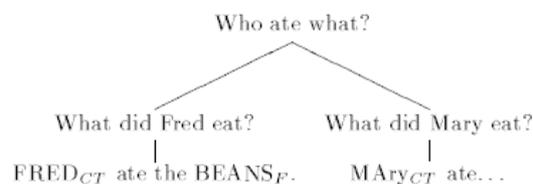


Diagram 2: An example of a 'strategy'

- *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**’:
- (2) 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 \MUSS das Buch \NICHT mögen(, aber man \KANN).*  
one must the book not like but one can  
‘You don’t \HAVE to like the book, but you \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>SUB-INF...</sub>
- 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>SUB-INF ...</sub>
- ‘Context-changing’ contrastive topics (contrastive topics actively modify the CG)
- (7) A: *What is your daughter doing?*  
B: [*My younger daughter studies medicine*]<sub>SUB-INF ...</sub>

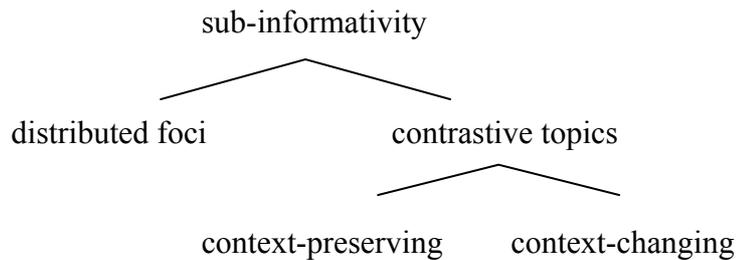


Diagram 3: Types of sub-informativity

- Difference between ‘context-preserving’ and ‘context-changing’ (contrastive) topics: ‘context-preserving topics’ are under discussion, but are summarized in a single term (‘your parents’ ≡ {‘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’ [√] 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 √ and \, 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 √JÜNgere Tochter studiert Medi\zin...*  
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’.

## 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)



(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.*

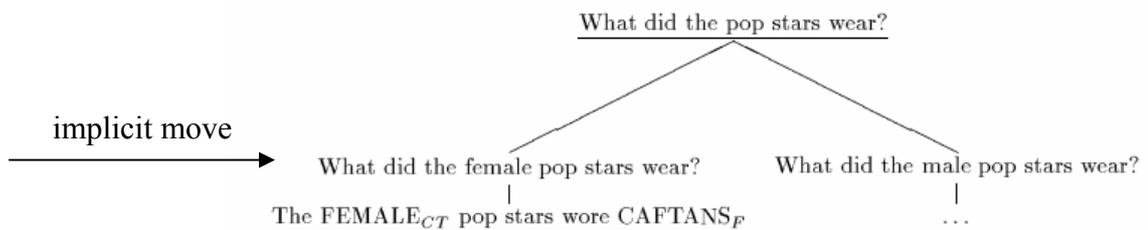
B': *The \FEMale pop stars wore \CAftans.*

(29) implicit move

A: *What did the pop stars wear?*

B: *The \FEMale pop stars wore \CAftans.*

B': *#The female pop stars wore \CAftans.*



- 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’).

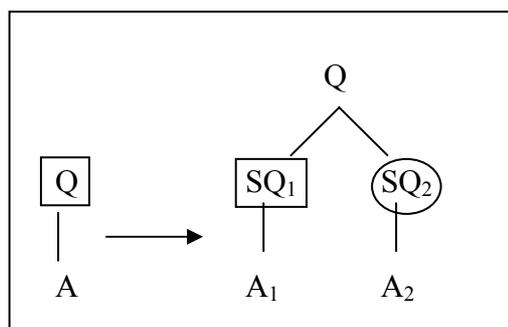


Diagram 4: ‘Move insertion’

- 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: *Ma\RIA hat den Schatz im \SILbersee gelesen.*  
 Maria has the treasure in.the Silver Lake read

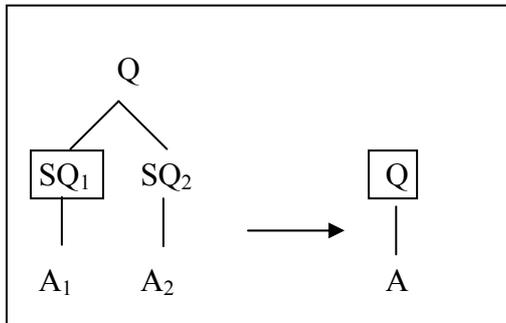


Diagram 5: 'Move deletion'

- 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*  
 my younger daughter studies medicine and  
*meine \ÄLtere Tochter arbeitet auf einem \FRACHTschiff*  
 my older daughter works on a freight ship

'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 ge\SEhen, ihn \SELBST aber noch \NICHT.*  
 his wife have I already seen him himself though still not

'I've seen his \wife, but not Karl him\SELF.'

## 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).

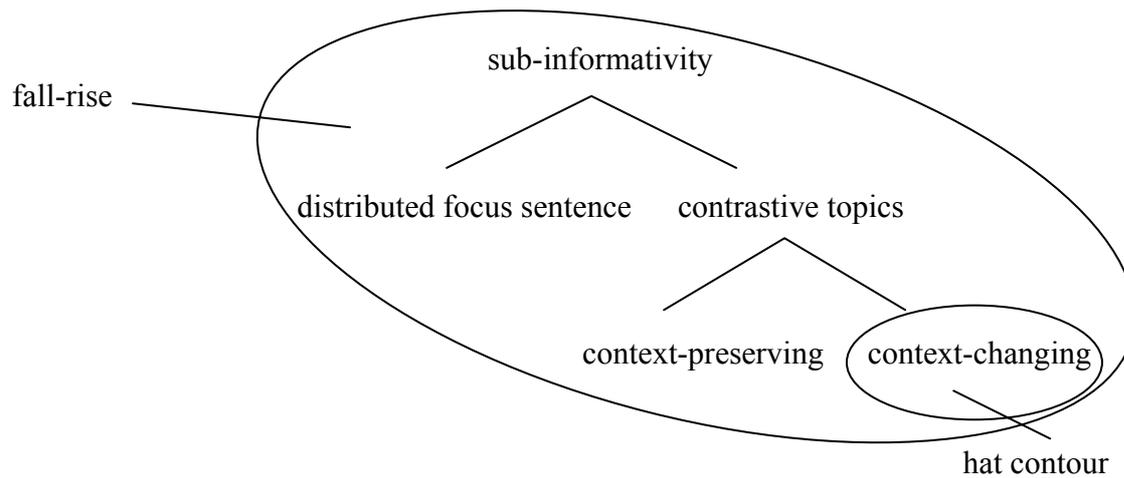


Diagram 6: Types of sub-informativity and prosodic marking in English and German

- 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?

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