

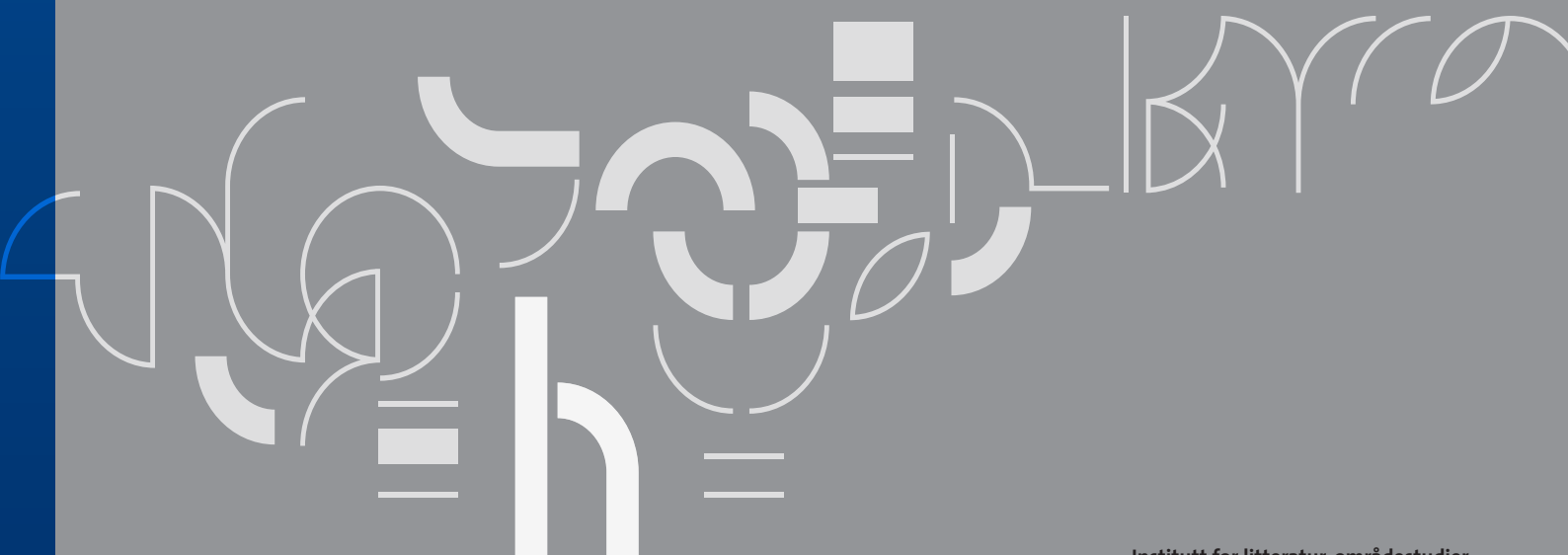


UNIVERSITY OF OSLO
FACULTY OF HUMANITIES



Contrast For Two

Rainer A. Ludwig
Zentrum für Allgemeine Sprachwissenschaft
Berlin



Institutt for litteratur, områdestudier
og europeiske språk

Department of Literature, Area Studies and
European Languages

Contrast For Two*

Rainer A. Ludwig
Zentrum für Allgemeine Sprachwissenschaft
Berlin

ludwig@zas.gwz-berlin.de

Abstract

Bridge accents in German are known for their pragmatic effects. In this paper, these effects are accounted for by a new analysis claiming that bridge accent sentences implicate the possibility of a true statement where both accented elements are replaced by alternatives. This account is compared to the one by Büring (1997) and shown to handle some data in a more accurate way. Finally, an attempt is made to relate the phenomenon intonationally to other phenomena, in particular series and pair-lists, and to show how it could be derived from more basic principles of intonation.

1 Introduction

- (1) Die /WEIBLICHEN Popstars trugen \KAFTANE. (Büring, 1994)
The female pop stars wore caftans

The intonational contour shown in the German sentence (1) (‘/’ indicates a rising pitch accent, ‘\’ a falling pitch accent) is known as *bridge accent*. Sentences with this rise-fall contour underly certain pragmatic restrictions, in particular the following:

- They may not be uttered “out of the blue”;
- they are often used in
 - (typically partial) answers to questions or
 - denials/expressions of demur/objections;
- they “activate” (in a way to be further explored) alternatives to the accented phrases.

*I would like to thank Cornelia Endriss, Uli Sauerland, Peter Staudacher and Michael Wagner for various contributions to this paper. Research was funded by the project CHLaSC (Characterizing Human Language by Structural Complexity) in the FP6 Pathfinder Initiative “What it means to be human” of the European Commission. Parts of this paper are based on my master’s thesis (Diplomarbeit) (Ludwig, 2006).

This phenomenon is often referred to as *contrastive topic* since the constituent bearing the rise accent can be argued to have the information structural category *topic* and is contrasted with its contextually salient alternatives.

An important subclass of bridge accent sentences which will play a role in this article are *scope inversion sentences* like (2). Scope inversion means that a scope bearing operator somewhere in a sentence takes scope over a preceding scope bearing operator. In the examples, scope inversion is given when the negation outscopes the respective quantifier.

- (2) a. /ALLE Politiker sind \NICHT korrupt. (obligatory SI)
 all politicians are not corrupt
 b. /VIELE Politiker sind \NICHT korrupt. (optional SI)
 many politicians are not corrupt
 (Büring, 1997)

Many authors have dealt with the bridge accent/contrastive topic phenomenon. One of the most famous accounts is the one by Büring (1997, 1999). The intent of this paper is to point out a few concerns with Büring's analysis and to present a different account which handles the relevant data better.

The following introductory sections aim to provide a sketch of the phenomenon to be dealt with as well as to range it in a set of related phenomena. I then go through Büring's *topic value analysis* and problematic data in section 2. My own *two-alternative analysis* is then presented in section 3. Section 4 finally seeks to shed some light on the intonatory principles behind the bridge accent phenomenon and has a rather tentative nature.

1.1 A closer look at the intonational contour

The connection between the bridge accent and the pragmatic effects described above is less straightforward than it may seem at first glance. On the one hand, a bridge accent is not the only way to reach those effects, and on the other hand, a rise-fall combination does not necessarily always have exactly those effects. In addition, there can be subtle differences in the intonation which lead to a further diversification of the phenomenon.

Jacobs (1997) observed that the real prototypical intonation for the phenomenon he calls *I-Topicalization* (which is more or less our *contrastive topic*) has not a simple rise '/' on the first accent position, but rather a fall-rise '√', called *root accent*. These two versions are by no means interchangeable; there are cases where one is appropriate but the other is not and vice versa. Space does not allow to go into the details here, so I will mostly ignore the difference throughout this article, but come back to it in sections 1.2.1 and 4.2.

Just as small differences in intonation can make for great differences in meaning and/or felicity, intonations that differ greatly from the bridge contour can be used with more or less the same meaning. All the contours sketched in (3) (and possibly more besides

those) can under appropriate conditions have the effects which have been ascribed to the bridge accent above.

- (3) a. √ALle Politiker sind \NICHT korrupt.
 all politicians are not corrupt
 b. Nicht /AL\le Politiker sind korrupt.
 c. /ALle Politiker \sind /NICHT\ korrupt/.
 d. ALle Politiker sind /NICHT\ korrupt.
 e. Alle Politiker /SIND\ nicht korrupt.

1.2 Other uses of the bridge accent

There are some types of sentences that have a combination of rise and fall accent as their standard way of intonation. Most prominent are conditional compounds (but also other types of compound sentences):

- (4) a. Wenn morgen die /SONNE scheint, gehen wir \SCHWIMMEN.
 If tomorrow the sun shines go we swim
 'If the sun shines tomorrow, we will go for a swim.'
 b. Kommt /ZEIT, kommt \RAT.
 Comes time comes advice
 ('If time comes, advice comes' ≈) 'Time will tell.'

This intonational contour is the same bridge accent as above, and its pragmatic effects seem to be more or less the same (in particular the reference to alternatives). The conditional compounds (4) only differ from (1) in that the former do not have a version *without* a bridge accent (or maybe one of the alternate contours from (3)): they always must have the pragmatics that the bridge accent stands for, and so they always must carry a bridge accent, too — as if to avoid a clash between the pragmatics inherent to the construction and the intonation.

A similar case are sentences with *eigentlich* 'actually'. *Eigentlich* seems to have the reference to alternatives built in so deeply that it is not possible to understand it in a way different from that brought about by the bridge accent. Hence it must obligatorily bear a bridge accent (or again one of its “substitutes”).

- (5) /EIGENTLICH wollte ich ja einen \ROMAN schreiben (, aber ...).
 Actually wanted I yes a novel write but
 'Actually, I was going to write a novel (at first) (, but ...).'

1.2.1 Pair-lists

Multiple wh-questions and questions containing quantifiers have a so-called *pair-list* reading, which has been extensively discussed in the literature (among others, Szabolcsi,

1997). On this reading, the question asks for pairs of individuals/objects that stand in a certain relation, and the answer gives each pair in a separate sentence, where the two members of the pair have a rise accent and a fall accent, respectively — i. e., the sentences have a bridge accent.

(6) Who danced with whom? (With whom did everyone dance?)

/Hans hat mit \Maria getanzt.

Hans has with Maria danced ('Hans danced with Maria.')

/Karl hat mit \Anna getanzt. (...)

Und /Peter hat mit \Lisa getanzt.

Interestingly, in pair-lists, the rising accent cannot be the 'root' fall-rise accent from section 1.1, but must be a simple rise. Also interestingly, pair-lists can be given in a more connected way with different intonation:

(7) /Hans hat mit /Maria getanzt, /Karl hat mit /Anna getanzt, und /Peter hat mit \Lisa getanzt.

Here, all the falling accents except the last one have been replaced by rises. We will come back to these observations with pair-lists in section 4, where the connection between bridge accents and series intonation is discussed.

2 The topic value analysis

The classical analysis of bridge accents was introduced by Daniel Büring and will be called *topic value analysis* here.

Büring (1997) calls 'topic' any constituent that bears a rise accent, and 'focus' a constituent with a fall accent. Without endorsing this terminology, I will sometimes use these terms as shortcuts in the following.

Büring (1997, 1999) builds on Rooth's (1985) alternative semantics to account for the pragmatic effects of the bridge accent. On top of Rooth's focus values, Büring introduces *topic values* which extend the framework in a straightforward way. While the focus value of a sentence is a set of propositions calculated from the ordinary semantic value of that sentence by substituting the focus by suitable alternatives, the topic value of a sentence is a set of sets of propositions calculated from the focus value by substituting the topic by alternatives.

In short, a sentence S (with a bridge accent) has three semantic values: Its *ordinary* semantic value $\llbracket S \rrbracket^o$ (a proposition), its *focus value* $\llbracket S \rrbracket^f$ (a set of propositions), and its *topic value* $\llbracket S \rrbracket^t$ (a set of focus values).

Assuming that the ordinary semantic value of a question is the set of its possible answers

(cf. Hamblin, 1973), Büring (1997, 178) now states the pragmatic effect of the bridge accent as follows (condition (8-a) will only concern us later):

- (8) a. Given a question answer sequence QA , $\llbracket Q \rrbracket^o$ must be an element of $\llbracket A \rrbracket^t$.
 b. Given a sentence A containing a Topic [accent], there must be at least one disputable element in $\llbracket A \rrbracket^t$ after uttering A .

A set of propositions is disputable iff it contains "at least one element $p \dots$ such that both p and $\neg p$ could informatively and coherently be added to [the common ground] CG" (Büring, 1997, 178). In other words, the truth value of p must not yet be known to the interlocutors. Any disputable set of propositions induced in this way by a bridge accent sentence is called a *residual topic* and may be regarded as a question remaining to be answered.

As an example, take (9):

- (9) /HANS mag \FLEISCH.
 John likes meat

The topic value is given informally in (10):

- (10) $\llbracket [_T \text{John}] \text{ likes } [_F \text{meat}] \rrbracket^t = \{ \{ \text{John likes meat, John likes beans, } \dots \}, \{ \text{Fred likes meat, Fred likes beans, } \dots \}, \dots \}$

The first set is the focus value of (9), the other sets are derived by replacing the topic *John* with alternatives. Assume that for Fred it is not known what he likes, then the truth value of e.g. 'Fred likes beans' is open, so the second set in (10) is disputable and can constitute the residual topic: The bridge accent is felicitous.

Thus we have a short strategy for determining whether a bridge accent is licensed on a given sentence: Calculate the topic value, and then look for a proposition of unknown truth value figuring anywhere in that topic value. Such a proposition will render the set containing it disputable, and so this set will constitute a residual topic, which in turn will license the bridge accent. I call this a short strategy because it treats the topic value much like a flat, un-nested list of propositions which can quickly be looked through, rather than such a complex thing as a set of sets. Indeed, the nestedness of the topic value seems to play no role for the purpose of licensing bridge accents.

2.1 Problems of the topic value analysis

Elegant though it is, the topic value analysis makes inaccurate predictions in some cases. One rather famous one is the problem of the last answer as discussed e.g. by Krifka (1999); Umbach (2001). In pair-lists, the last pair still bears a bridge accent, even though after uttering it there will be no more open question, i. e. no residual topic.

Büring (2003), a more discourse-oriented account which nevertheless still makes use of topic values (if called *CT-values* there), solves this problem but not the ones to be discussed below.

Consider a scenario where Fritz is the only person that can have turned on any devices, i. e. there are no alternatives for 'Fritz' in the discourse in (11). Then B's answer is infelicitous:

- (11) A: Which devices did Fritz turn on?
 B: # /FRITZ hat (unter anderem) das RADIO\ eingeschaltet.
 Fritz has among others the radio turned on
 'Fritz turned on the radio (among others).'

The topic value of B's answer contains a proposition like 'Fritz turned on the TV set', given that 'TV set' could be a suitable alternative for 'radio'. The truth value of this proposition is unknown, and so we have a residual topic — the bridge accent should be licensed. But intuitively, the bridge accent suggests alternatives to *Fritz*, which we have excluded in this scenario. Maybe an even clearer example is the pair-list (12):

- (12) # /FRITZ hat das RADIO\ eingeschaltet, und /FRITZ hat
 Fritz has the radio turned on and Fritz has
 den FERNSEHER\ eingeschaltet.
 the TV turned on

Here, the bridge accent is misplaced even if there are alternatives to Fritz, and intuitively this is due to the repetition of the topic 'Fritz'. Again, the topic value analysis would predict the bridge accent to be well-formed here (modulo the last-answer problem mentioned above).

What seems to go wrong in (11), (12) is that the alternatives alluded to by the topic are completely disregarded: The residual topic is just the focus value of the original sentence, with the topic unchanged and alternatives only to the focus being considered, and this seems not to suffice.

Does it suffice then, the question arises, to consider only alternatives to the topic and leave the focus unchanged? It does not, as (13) shows:

- (13) #/FRITZ hat das RA\dio benutzt, und Ma/RIa hat das RA\dio benutzt.
 Fritz has the radio used and Maria has the radio used

This sequence is just as odd as (12),¹ and the obvious reason is the same, *mutatis mutandis*: No alternatives to the focus *Radio* come to play. The fact that there is

¹To be sure, (i) is fine:

- (i) /FRITZ hat das \RADIO benutzt, und /MARIA hat \AUCH das Radio benutzt.

Crucially, the focus accent is on *auch* 'too' here. This means that *auch* in focussed position cancels the

an alternative to the topic generating a residual topic ('Which other persons used the radio?') does not suffice to render the bridge accent felicitous.

Summing up, the data presented here call for an analysis that explicitly makes reference to the alternatives of the focus as well as the topic. Such an analysis will be presented in section 3. But first, let us look at two more issues with the topic value analysis.

2.1.1 Scope Inversion Sentences

The issues presented in this section concern the scope inversion (SI) sentences (2) we saw above, repeated in (14). These are the cases originally discussed by Büring (1997). Recall that sometimes, scope inversion is obligatory, while in other cases it is optional:

- (14) a. /ALLE Politiker sind \NICHT korrupt. (obligatory SI)
 all politicians are not corrupt
 b. /VIELE Politiker sind \NICHT korrupt. (optional SI)
 many politicians are not corrupt

The fact that (14-a) shows obligatory SI, while in (14-b) it is optional, is accounted for by the topic value analysis: The (unavailable) non-SI reading of (14-a), which can be abbreviated as $\forall\neg$, would leave no residual topic, since all alternative statements (where the only alternative to negation is considered to be affirmation, without any special marking) are either entailed or contradicted by the very strong statement $\forall\neg$.

However, (14-a) implicates that there are corrupt politicians: One who utters the sentence with that intonation wants to say that there are indeed corrupt politicians in his opinion, and he only objects to the claim that it is *all* politicians who are corrupt. This “existential implicature” is not explained by the topic value analysis: It leaves open the possibility that there are no corrupt politicians at all.

The second observation concerning SI sentences relates to the connection between focus values and questions. Recall that both are sets of propositions, so a topic value can be seen as a set of questions (this is also encouraged by Büring). A residual topic, as stated above, is one such question taken from a topic value which has yet to be answered.

Now look back at Büring’s discourse well-formedness conditions in (8). Condition (8-a) states that an answer to a question is only legitimate if it contains the question (at least) in its topic value. This means that even if the question is not answered directly or exhaustively, the answer must have “something to do” with the question.

But imagine someone asking (15),

- (15) Are there (any) corrupt politicians?

requirement for a different focus — which undoubtedly lies in the semantics of *auch/too*.

If you are unsure whether there are politicians who are corrupt, but you definitely know about quite a few politicians being absolutely unbribable, you may very well answer (16):

(16) (I don't know, but) /VIELE Politiker sind \NICHT korrupt. (= (14-b))

The intended reading here is of course the reading without scope inversion, so the topic value of (16) is approximately (17) (for a clearer view, (17-b) shows only the relevant part):

(17) a. { {MANY(politician')($\lambda x[\neg\text{corrupt}'(x)]$), MANY(politician')(\text{corrupt}')},
 {ALL(politician')($\lambda x[\neg\text{corrupt}'(x)]$), ALL(politician')(\text{corrupt}')},
 {SOME(politician')($\lambda x[\neg\text{corrupt}'(x)]$), SOME(politician')(\text{corrupt}')},
 {FEW(politician')($\lambda x[\neg\text{corrupt}'(x)]$), FEW(politician')(\text{corrupt}')}, \dots }

b. { {MANY \neg , MANY}, {ALL \neg , ALL}, {SOME \neg , SOME}, {FEW \neg , FEW}, \dots }

But this set does not contain the original question, which was {SOME, \neg SOME}. According to (8-a), then, this question-answer sequence should be ill-formed.

Furthermore, the topic value does not capture the intuitive notion of "residual topic" in this case. Intuitively, the residual topic (or open question) would be something like 'Which exact number/quota of politicians is corrupt?', i. e. (18).

(18) {FEW(politician')(\text{corrupt}'), 17(politician')(\text{corrupt}'),
 1/10(politician')(\text{corrupt}'), HARDLY_ANY(politician')(\text{corrupt}'),
 NO(politician')(\text{corrupt}'), \dots }

We will see below that the two-alternative analysis presented in the next section can actually capture this intuition.

3 The two-alternative analysis

Starting from the observation that a proposition where either only the focus part or only the topic part is replaced by an alternative seems "not to count" for disputability of a set containing it, I propose an account that incorporates this insight at its very heart.

(19) The two-alternative analysis: A bridge accent on a sentence S conventionally implicates that there is a proposition which is

- true in the actual world,
- derived from S by substituting *both* accented elements with *proper* alternatives, and
- not equivalent to $\llbracket S \rrbracket^{\circ}$.

This means nothing else than that in uttering (20), one suggests that there is a group of pop stars *other than female* who wore clothes *other than caftans*.

- (20) Die /WEIBLICHEN Popstars trugen \KAFTANE. (= (1))
 The female pop stars wore caftans

Importantly, the implicated proposition that the two-alternative analysis claims to exist needs neither be uttered in the course of the conversation, nor does the speaker even need to know which exact proposition it is. It suffices that the speaker knows (or is convinced) that there is *some* such proposition. Very often, a bridge accent serves just to indicate this limitedness of a speaker's knowledge, making it clear that the answer or statement given is incomplete information.

Obviously, the problems illustrated in (11) – (13) are solved by the two-alternative analysis, since the insights taken from these examples are explicitly stated there. But also the other issues touched on above are handled by this new analysis.

For the scope inversion data, note first that the two-alternative analysis correctly derives the obligatoriness of scope inversion in (2-a), repeated here as (21):

- (21) /ALLE Politiker sind \NICHT korrupt.

For the $\forall\neg$ reading, the implicated proposition would have to figure (a) some quantifier other than 'all' and (b) affirmation instead of negation. But all those propositions must be false since $\forall\neg$ has just been asserted. The only possible quantifier would be 'no', yielding the proposition $\neg\exists$. But this is equivalent to $\forall\neg$ and thus cannot be the implicated proposition. So the reading without scope inversion cannot be available here.

The scope inversion reading $\neg\forall$ is available, though: It implicates a proposition of the form 'Q politicians are corrupt', where Q is some quantifying determiner. Can Q be 'no'? Then the proposition would be $\neg\exists$, which logically speaking is not an affirmation, but a negation, violating the demand for affirmation as the only alternative to negation. This means that (21) implicates that some non-empty proper subset of the politicians are corrupt — exactly the existential implicature from section 2.1.1, which the topic value analysis could not account for.

Finally, reconsider (16), repeated once again:

- (22) (Are there corrupt politicians? —)
 /VIELE Politiker sind \NICHT korrupt.
 (= (16); non-SI reading suggested by context)

The topic value analysis (a) predicted this to be an ill-formed question-answer sequence and (b) derived residual topics that do not seem to conform to intuition. Note first that the two-alternative analysis has nothing to say about discourse well-formedness, so it leaves point (a) up to a different part of the theory, but in any case it does not

reject the sequence (22). Now what would be its prediction concerning (b)? Again, the implicated proposition is of the form 'Q politicians are corrupt'. But this time, Q might very well be 'no', since the proposition $\text{MANY}\neg$ is logically not a negation but an affirmation ascribing the property of non-corruptness (or "not being corrupt") to a subset of the politicians.² So the implicated proposition derived by the two-alternative analysis will be an answer to the question identified above as the intuitive residual topic, viz. 'Which exact number/quota of politicians is corrupt?'

4 Broader context: series and pair-list intonation

This last speculative section tries to set the intonational contour of the bridge accent in a broader perspective. Certainly, the implicature claimed by the two-alternative analysis cannot be a purely idiosyncratic meaning of this very special bridge contour, but must derive from much more basic intonational principles. I will try to explore some of these in an informal way here.

At first sight, it seems clear that the bridge accent is made up of two building blocks: A rise accent and a fall accent. So it should be informative to first look at these simpler accents in isolation.

Rising accents in German (and many other languages) throughout the literature (e. g. Cruttenden (1986, pp. 99 et seqq.) for English) are linked to what is usually called "openness". The most conspicuous witness to this connection are questions, which are prototypically pronounced with a final rise and are "open" in the sense that they demand for continuation (in the form of an answer), i. e. they typically do not mark the end of a conversation or are at least not intended to. (If a question *is* intended to end the conversation, it is either an invitation to think about the matter or a rhetorical question. In the former case, one could still justly call it open; in the latter case, the usual sense of openness associated with questions is exploited in order to suggest that there really is nothing open about the question at hand.) In a way, questions are "unfinished" propositions, i. e. propositions where some part is missing (if only the truth value or information about the presence or absence of a negation, respectively, as in yes/no questions). So "open" in this sense has about the meaning of "unfinished".

Another way to interpret "open" here is in terms of alternatives: A question is open as to which alternative from a suitable set (the set containing affirmation and negation in the case of a yes/no question) makes the proposition true. In this context it is instructive to look at questions like (23):

²This implies that wide-scope (sentence) negation and narrow-scope (constituent) negation are fundamentally different, but still related notions, and interact in special ways. A deeper discussion would be in place, but is beyond the scope of this paper.

- (23) a. Hat Fritz das Radio eingeschaltet?
 Has Fritz the radio turned on
 'Did Fritz turn on the radio?'
 b. Hat /FRITZ das Radio eingeschaltet?
 'Was it Fritz who turned on the radio?'

In the normal yes/no question (23-a), the rising pitch accent will usually be placed on 'Radio', yielding a wide-focus reading according to German accent rules. There is no presupposition as to whether someone turned on the radio or not. In the cleft-type question (23-b) however, the accent is on 'Fritz', which gives rise to the presupposition that someone turned on the radio. In other words, the openness of the question is reduced to alternatives to *Fritz*. This means that the rise accent makes a reference to alternatives in a non-exclusive, or *open*, way.

By contrast, a falling accent *excludes* the alternatives to its carrier.³ Put differently, it marks the alternative set as *closed*. All in all, the fall accent indeed seems to have the opposite function of the rise accent. We can summarize this in the following table:

(24)	rise accent	fall accent
general meaning:	signals openness	signals closedness
prototypical usage:	questions	answers/assertions
reference to alternatives:	opens alternative set	excludes alternatives
function in discourse:	requires continuation	marks possible endpoint

Now we can risk a look at what rise and fall accent do in combination. The last line of the table suggests a prototypical use for a rise-fall combination: series.

- (25) a. I /came, /saw, and \conquered.
 b. I had a /long, /interesting, and \exhausting week.
 c. It /rained, we went to /Grünerløkka, and the Pope held a \speech.

In series of conjoined constituents, usually all the items except the last one have a rise accent, while the last item bears a fall (see Bolinger (1989, pp. 205 et seqq.)). This holds no matter what the items of the series are: verbs (25-a), adjectives (25-b), whole sentences (25-c) or any other type of constituent.

Now let us look back at the pair-lists we saw in the introduction (section 1.2.1). Actually, these are instances of a more general pattern, namely *tuple-lists*. Other instances would be triple-lists (26) or quadruple-lists (27):

³Only as a default, of course. Focus sensitive operators like 'too', 'only', 'even' and the like modify this meaning, and it would be especially interesting to investigate how they behave in questions. Unfortunately, space does not allow for an adequate discussion in the present paper.

- (26) /Hans hat /Maria ein \Buch gegeben.
 Hans has Maria a book given. ('Hans gave Maria a book')
 /Karl hat /Anna einen \Ring gegeben. 'Karl gave Anna a ring.'
 Und /Peter hat /Lisa einen \Korb gegeben. 'Peter turned Lisa down' (lit. 'Peter gave Lisa a basket.')
- (27) /Hans ist mit /Maria übers /Wochenende nach \Prag gefahren.
 Hans is with Maria over the weekend to Prague gone.
 ('Hans went to Prague with Maria over the weekend.')
- /Karl ist mit /Anna für /einen Tag nach \Paris gefahren. 'Karl went to Paris with Anna for one day.'
 (...)

A sensible analysis would be that the n-tuples in these sentences constitute *multiple* or *multi-part foci*. Then we have another application of the principle that rising pitch means 'open' or 'unfinished' and falling pitch means 'closed' or 'finished', and we can add another line to the table in (24):

- (28) In multi-part foci, only the last part bears a fall accent; all the other parts bear rise accents.

	rise accent	fall accent
multi-part foci:	marks initial focus parts	marks last focus part

But in pair-lists, at least the first rising accent's function seems not to be confined to marking continuation. Rather, it also "opens the alternative set"⁴, as I put it above. The alternatives are then addressed in the other sentences. So a rising accent can have several functions at once, it seems.

Now recall (29), which was demonstrated above:

- (29) In series, the last item bears a fall accent; all the other parts bear rise accents.

	rise accent	fall accent
series:	marks initial items	marks last item

Now pair-lists (tuple-lists) are nothing more than series where each item has multiple foci. But then (28) and (29) are in conflict: Consider the last member (= focus part) of the first pair (= series item). According to (28), it should bear a fall, but according to (29), it should have a rise. Who wins depends on how closely connected the speaker intends the series to be perceived. A simple series like (25-a) can be uttered with fall accents on each item as in (30) with the effect that the items are perceived in a much less connected way.

⁴It does so in a way slightly different from the way it does questions, of course. A more detailed discussion would be in place, but can not be given here.

(30) I \came. I \saw. I \conquered.

In other words, the “usual” series intonation from (29) puts emphasis on the series, while the intonation in (30) emphasizes each single item. And with the same effects, a speaker can use either way of intonation (6) or (7), repeated in (31), for pair-lists. If the series is intended to be perceived as a whole, the series intonation will be superimposed on the intonation curves of the single items and so overwrite the falling accents.

(31) a. /Hans hat mit \Maria getanzt. /Karl hat mit \Anna getanzt. Und /Peter hat mit \Lisa getanzt.
 b. /Hans hat mit /Maria getanzt, /Karl hat mit /Anna getanzt, und /Peter hat mit \Lisa getanzt.

4.1 An explanation?

Can these observations explain the pragmatic effects of the bridge accent in (1) described by the two-alternative analysis? Maybe the bridge accent signals that the sentence is part of an implicit pair-list. At least, this could be the origin of the pattern, which was then conventionalized to the meaning given by the two-alternative analysis. E. g. in the scope inversion sentences from section 2.1.1, an implicit pair-list of which these sentences are part is hard to conceive of. The path of conventionalization just sketched is nevertheless imaginable.

There is still an explanation missing why there must be *two* alternatives, though. The rising accent “opens the alternative set”, so there must be alternatives to the “topic”, alright. But the “focus”? After all, the falling accent is supposed to “exclude alternatives”, so why should it be required that the alternative topic comes with a different focus? The only suggestion I have to offer is a possible implicature based on the Gricean maxim of manner ‘Be brief’: If Fritz and Maria both used the radio, it would be much more economic to say (32-a) than (32-b), and this might be the reason why (32-b) sounds rather bad.

(32) a. Fritz und Maria haben das Radio benutzt.
 Fritz and Maria have the radio used
 b. #/Fritz hat das \Radio benutzt, und /Maria hat das \Radio benutzt.⁵

Now when somebody utters (33), which is the first half of (32-b), a hearer can reason: If the speaker thought that other persons used the radio, too, he could have used a sentence like (32-a). But he didn’t, so other persons will have used other devices.

(33) /Fritz hat das \Radio benutzt.

When this reasoning is conventionalized, we arrive at the two-alternative analysis.

⁵Cf. fn. 1 for the case that the falling accent is on *auch* ‘too’.

4.2 Fall-rise as an emphasized rise

Now, other than objecting that all this is a bit of an oversimplification (which it is, of course, so that objection would be valid for one thing; many details would have to be paid attention to in a serious investigation), one could argue that the pattern in series is not quite the same as the “genuine” bridge accent. We saw in section 1.1 that the prototypical way of pronouncing the bridge accent really has a fall-rise ‘√’ in the first accent position. But in a pair-list, this fall-rise is impossible (see section 1.2.1). But maybe a fall-rise is an emphasized rise? While in pair-lists there is no need for emphasis, a bridge accent sentence standing on its own may well need a more emphatic rise in order to signal that a contrastive effect is intended. And putting a slight fall before a rise indeed does a good job in this respect: It increases the pitch “distance” covered by the rise and contrasts it to its opposite at the same time.

Another domain where a fall-rise accent is used as an emphasized rise is what could be called *incredulity questions*: When a highly unlikely statement is made, a hearer might react by echoing the statement or the unlikely part of it in form of a question, but with a fall-rise instead of the usual rise.

- (34) Stoiber schreibt jetzt für die taz.
 ‘Stoiber now writes for the *taz*.’

Given that Edmund Stoiber is one of the most conservative German politicians and the *taz* is a far-left-wing newspaper, upon hearing (34) one would be very surprised and could ask in an incredulous way (textually this is often reflected by multiple question marks):

- (35) √STOIBER???

5 Conclusion

My main concern for this paper was to show that German bridge accents make reference to alternatives to both of the accented elements, and that proper alternatives to both of those elements are involved in the interpretation of such sentences. Existing accounts, notably the one by Büring (1997), in my opinion pay too little attention to this fact. This is why I took a radically different starting point by wrapping my own theory directly around this observation. In the last section, I then tried to find some independent motivation why this intonation pattern should have come to have this of all pragmatic meanings. Even though not many details have been discussed here, and not all of the assumptions have been motivated thoroughly, I hope that the overall picture is somewhat plausible.

References

- Bolinger, Dwight (1989) *Intonation and its uses: Melody in grammar and discourse*. Stanford University Press, Stanford.
- Büring, Daniel (1994) “Topic”, in Peter Bosch and Rob van der Sandt (eds.) *Focus and Natural Language Processing*, 271–280.
- Büring, Daniel (1997) “The Great Scope Inversion Conspiracy”, *Linguistics and Philosophy* **20**, 175–194.
- Büring, Daniel (1999) “Topic”, in Peter Bosch and Rob van der Sandt (eds.) *Focus — Linguistic, Cognitive, and Computational Perspectives*, Cambridge University Press, 142–165.
- Büring, Daniel (2003) “On D-Trees, Beans, and B-Accents”, *Linguistics and Philosophy* **26**(5), 511–545.
- Cruttenden, Alan (1986) *Intonation*, Cambridge textbooks in linguistics, Cambridge University Press, Cambridge.
- Hamblin, Charles L. (1973) “Questions in Montague English”, *Foundations of Language* **10**, 41–53.
- Jacobs, Joachim (1997) “I-Topikalisierung”, *Linguistische Berichte* **168**, 91–133.
- Krifka, Manfred (1999) “Additive Particles under Stress”, in Devon Strolovitch and Aaron Lawson (eds.) *Proceedings from Semantics And Linguistic Theory (SALT) VIII*, CLC Publications, 111–128.
- Ludwig, Rainer A. (2006) *Information Structure and Scope Inversion*, Master’s thesis (Diplomarbeit), Universität Potsdam, Potsdam.
- Rooth, Mats E (1985) *Association with Focus*, PhD dissertation, GLSA Publications, Amherst.
- Szabolcsi, Anna (ed.) (1997) *Ways of scope taking*, volume 65 of *Studies in linguistics and philosophy*, Kluwer Academic Publishers, Dordrecht.
- Umbach, Carla (2001) “Contrast and Contrastive Topic”, in Ivana Kruijff Korbayová and Mark Steedman (eds.) *Information Structure, Discourse Structure and Discourse Semantics: 13th European Summer School in Logic, Language and Information (ESS-LLI2001) Workshop Proceedings*, 175–188.