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### Volume 100

On Information Structure, Meaning and Form:  
Generalizations across languages  
Edited by Kerstin Schwabe and Susanne Winkler

## On Information Structure, Meaning and Form

Generalizations across languages

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## Notes

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1. As far as I-phrases are concerned, no unique syntactic construction can be found with which they coincide. For this reason, no constraint similar to StressXP is offered here. An I-phrase, like a P-phrase, is uniquely headed.
2. Another way to explain the accent on *him* in (7a) is in terms of nested foci, as in Féry and Samek-Lodovici (2006). The *wh*-constituent *who* triggers an extra-F-mark inside of the VP, and this extra-F-mark renders *him* more prominent than the verb, see below for the relevant constraint.
3. See also the so-called Second Occurrence Focus (SOF) sentences, as discussed in Beaver et al. (2004) and in Féry and Ishihara (2005), which present a slightly different challenge for the theory presented here. SOF is realized with a pitch accent prenuclearly, but is subject to deaccenting postnuclearly.
4. Frey (2004b) also claims that the word order of (20b) can be found in a sentence in which *seine Tochter* is not contrastive. In this case, scrambling has applied first, and in a second step formal movement. This case is not considered here, but I assume that the prosodic structure of such a sentence is similar to the one of (20a).
5. Thanks to Shin Ishihara and to the anonymous reviewer for pointing this out.
6. The anonymous reviewer points out that in a topic prominent language like Romanian, *fish* in the same context would be topicalized and the negative quantifier could move to the sentence-initial structural focus position immediately following the topic.

## Types of topics in German and Italian\*

Mara Frascarelli and Roland Hinterhölzl

This paper investigates the phonological and syntactic realization of topics in German and Italian. Based on a detailed intonational and syntactic analysis of corpus data, it is shown that topics are not fully recursive (*contra* Rizzi 1997), but fall into three types that are distinguished phonologically and realized in different syntactic positions. We argue that there is a systematic correlation between discourse roles and grammatical properties of topics which is encoded in a strict hierarchy of functional heads in the C-domain.

## 1. Introduction

This paper investigates information structure (henceforth, IS) in Italian and German, focussing on the correlation between the syntactic and phonological realization of topics and their discourse properties. In particular, we will analyse the connection between discourse roles and formal properties in sentences containing multiple topics. A comparative analysis of the properties of topic constituents in German and Italian is particularly interesting from a typological point of view: these languages differ in a number of parameters (head-complement parameter, V2 property, pro-drop, clitic resumption and morphological Case marking) that make the identification of discourse-related common properties an important issue for the definition of language universals.

According to current assumptions, topics are licensed in a specific extra-sentential maximal projection – the *Topic Phrase* (TopP) – for which different locations have been proposed in the literature. Rizzi (1997) indicates two topic fields in the left periphery of the sentence, one above and one below the *Focus Phrase* (FocP).<sup>1</sup> As for right-dislocated topics, Cecchetto (1999) and Belletti (2004) support the existence of a lower TopP node, just above the VP. Topic positions are indicated in (1) below:

$$(1) \left[ {}_{\text{TopP}} \text{TOPIC}^* \left[ {}_{\text{FocP}} \left[ {}_{\text{TopP}} \text{TOPIC}^* \left[ {}_{\text{IP}} \left[ {}_{\text{TopP}} \text{TOPIC}^* \left[ {}_{\text{VP}} \dots \right] \right] \right] \right] \right] \right]$$

Though movement is generally assumed to derive topic constructions, we claim – following Frascarelli (2000, 2004b) – that an analysis of topicalization in terms of movement cannot be maintained for *clitic-resumed* topics, which are *merged* directly in

TopP positions – cf. relevant discussion in section 3.1. The asterisk in (1) indicates that the TopP projection can be iterated. Indeed, in cases of multiple topics, free recursion of the TopP projection is generally assumed:

there can be an indefinite number of topics [...] [we] assume an adjunction analysis for topic, under the usual assumption on the reiterability of adjunction [...] No interpretative problem arises in the case of a recursion of Top: nothing excludes that a comment [...] may be articulated in turn as a topic-comment structure, so that topic phrases can undergo free recursion. (Rizzi, 1997: 295, 297)

Topics, however, do ‘different things’ and, at least, three types of topics should be distinguished: (a) *aboutness topic*: “what the sentence is about” (Reinhart 1981, Lambrecht 1994); in particular, a constituent that is “newly introduced, newly changed or newly returned to” (Givón 1983: 8), a constituent which is proposed as “a matter of standing and current interest or concern” (Strawson 1964); (b) *contrastive topic*: an element that induces alternatives which have no impact on the focus value and creates oppositional pairs with respect to other topics (Kuno 1976b, Büring 1999); (c) *familiar topic*: a given or accessible (cf. Chafe 1987) constituent, which is typically destressed and realized in a pronominal form (Pesetsky 1987); when a familiar topic is textually given and d-linked with a pre-established aboutness topic, it is defined as a *continuing topic* (cf. Givón 1983).

Given these different discourse properties, let us consider example (2), from the LIP corpus (cf. De Mauro et al. 1993), in which three topics are present in the left periphery of the sentence, namely, the direct object (DO) *questo*, the subject *io* and the indirect object (IO) *ai ragazzi*:<sup>2</sup>

- (2) *La situazione è questa: l'insegnante come ho detto ai ragazzi è in maternità ha una gravidanza difficile e sta usufruendo di quella legge particolare della maternità anticipata per ora ha avuto un mese io penso che non tornerà però lei m'ha detto ah di non dirlo ancora ai ragazzi perché per motivi suoi- comunque io signora penso di chiudere l'anno [...] questo comunque io ai ragazzi non l'ho detto direttamente.*

‘This is the situation: the teacher, as I told students, is pregnant, she’s having a difficult pregnancy and she is now having benefit from a specific law that allows for an early maternity-leave. So far, I was given one month of teaching supply. I don’t think she is coming back this year, however she told me not to tell students, because- well, she has her reasons. However, I think I will keep the class till the end of the year [...] anyway I did not tell this fact to students directly.’

*Questo, io ai ragazzi non l' ho detto direttamente.*

this I to.the boys not it(CL) have.1SG told directly

‘I did not tell that fact to my students directly.’

The speaker is a teacher who is talking with the mother of one of his students (his ‘*ragazzi*’) about a difficult situation concerning his temporary position in the school. As we can see, the IO *ai ragazzi* is the familiar topic of the conversation: it is mentioned

at the beginning of the text and then repeated several times. On the other hand, the topicalized subject *io* has a contrastive value, since the teacher wants to stress that, as for him, he is not going to tell anything to his students (since he was asked to keep it secret). Finally, the DO topic *questo* displays aboutness and, in particular, it marks a shift in the conversation to focus the addressee’s attention on that particular point.

In this paper we will show that discourse properties have structural correlates both in phonology and in syntax. In other words, evidence will be provided that different types of topic show different intonational properties and are realized in a specific order in the CP-system. A free recursion analysis will thus be refuted and a hierarchy will be proposed in which different functional projections are distinguished in terms of prosodic and syntactic properties. In particular, we will argue that the following types of topics are distinguished systematically in the syntax and phonology of both languages and are hierarchically ordered as given in (3):

(3) *Topic hierarchy*

Shifting topic [+aboutness] > Contrastive topic > Familiar topic

*Shifting topics* can be best characterized following Givón’s (1983) definition as topics that are newly introduced or newly changed to; contrastive and familiar topics are defined as given above.

In the following sections, we will show that shifting topics can unequivocally be characterized as aboutness topics. A question arises concerning the status of *continuing* topics which, according to Reinhart’s (1981) definition, should also count as aboutness topics, but, as we will see, are realized as familiar topics. The tricky issue of the proper treatment of continuing topics will be discussed in section 5.3. We will also show that a movement approach is not tenable for some types of topic and discuss the relevance of clitic-resumption in this respect. Finally, the examination of contexts will also show that topics are not always given elements (66% in the LIP Corpus – cf. Frascarelli 2000). So, drawing on Chafe’s (1987) activation states, topics will be distinguished in terms of a) *active*, b) *semi-active* and c) *inactive* expressions (cf. also Prince 1981 for a discussion of degrees of givenness).

## 2. The intonation of topic constituents in Italian

In this section we examine the particular intonational contours that are associated with different types of topics to convey different discourse meanings. The *pitch accents* types that will recur in the course of this paper are based on Pierrehumbert’s (1980) work and further developments in which tunes are described as sequences of low (L) and high (H) tones determining the shape of the F<sub>0</sub> contour.<sup>3</sup> In this perspective, all pitch accents render prominent the material with which they are associated, regardless of the type of the accent in question. Tones are also assigned to phrase-final syllables.

These are the so-called *boundary tones*, marking the end of Intermediate Phrases (indicated by the symbol ‘~’ after the relevant tone) and Intonational Phrases (indicated by ‘%’). While pitch accents have a prominence-lending function on stressed syllables, boundary tones delimit prosodic edges. In this paper we focus on the question of which pitch-accents are associated with topics.

The intonational analysis of Italian topics is based on a corpus of spoken data: 100 minutes of conversations among friends and interviews with language students (corpus Bonvino, 2003), from which we have extracted a total of 103 sentences. The acoustic analysis has been developed using the Winpitch program, on Windows NT. The corpus includes six speakers (five women and one man), aged 20-35 (Roman variety), whose tone properties are given in Table 1 below (MMV and MXV indicate, respectively, the minimum and maximum mean value of F0):

Table 1.

	BASELINE (MMV)	PEAK (MXV)	PITCH RANGE	OUT OF (NR SENTENCES)
A (FEM)	173	234	61	35
B (FEM)	155	201	56	9
C (FEM)	137	174	38	24
D (FEM)	136	195	59	15
E (FEM)	121	152	31	12
F (MAS)	103	125	22	8

## 2.1 The interpretation of tonal events

Our corpus shows that topic constituents in Italian are always made prominent by pitch accents, which differ according to their discourse roles. In particular, we can identify three tonal events associated with topic expressions, namely  $L^*+H$ ,  $H^*$  and  $L^*$ .

### 2.1.1 The $L^*+H$ contour

Every time a new topic is introduced in the conversation, it is signalled by a rise in the F0 contour that is aligned with the tonic vowel in its full extension and reaches its peak on the post-tonic syllable. According to the specific framework we are using, this kind of tonal event can be described by means of the complex tone  $L^*+H$ . We therefore associate this tone with aboutness that mark a shift in the ongoing conversation.

In order to provide an illustration of this contour and the discourse function associated with the relevant topic, let us consider example (4) below. Here, a student (speaker A) is giving her opinion about the material of a self-learning course she applied for in the Language Center. For quite a long time she talks in general terms (also lamenting about the amount of work included in the course). Then, at a certain point,

she interrupts this kind of narration and proposes a new topic (i.e., an element that was not previously mentioned). The new topic is the DO *l'ultima unit* ('the last unit') which is resumed by the clitic *la* in the sentence. The speaker introduces this topic in order to announce that, despite the general difficulty, she is working on it at the moment:

- (4) *Il materiale era tantissimo quindi all'inizio l'ho fatto tutto di corsa cercando di impiegarmi il tempo che dicevate voi magari facendolo un po' superficialmente pur di prendere tutto- **l'ultima unit la sto facendo** l'ho lasciata un po' da parte perché ho ricominciato il ripasso...*

'The material was quite a lot, so at the beginning I did it in a rush, trying to do it all in the time that you had fixed, maybe a little superficially, so as to do everything- **I'm doing the last unit now**, I put it aside before because I had started to go through the program again...'

*l'ultima unit la sto facendo.*

the last unit it(CL) be.1SG do.GER

'I'm working on the last unit.'

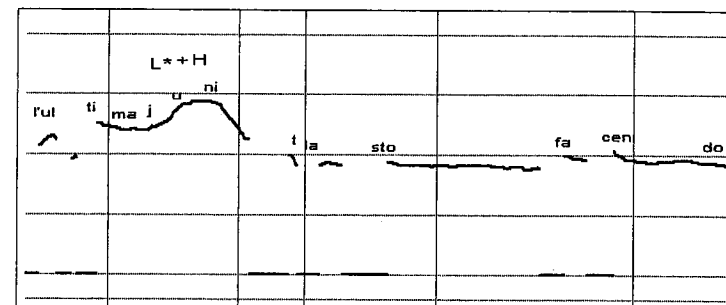


Figure 1.

As we can see, the pitch accent on the topic phrase *l'ultima unit* marks a turning point in the conversation. The topic-shift is signalled by a sharp rise on the tonic syllable – the diphthong [ju] – and likewise by a sharp fall after it. Indeed, the topic clearly forms an independent intonational phrase: its right edge is marked by F0 resetting and followed by a rhythmic break i.e. a short pause. The predicative part of the sentence *la sto facendo* is then maintained on a low range for the relevant speaker – cf. Table 1 – no particular peaks can be noticed, as is the case for broad focus sentences in Italian (cf. D'Imperio 2002, Frascarelli 2004a).<sup>4</sup>

## 2.1.2 The H\* contour

The H\* tone characterizes a contrast between two (or more) topics as far as some specific (new) information is concerned. A fine illustration of this particular topic type is given in (5), in which a student (speaker D) is talking about her skills with foreign languages, overtly contrasting English with French:

- (5) *Le lingue in particolare non c'ho un metodo particolare perché ho avuto una storia travagliata soprattutto con l'inglese [...] col francese benissimo: ho fatto tre anni di medie avevo raggiunto un buon livello secondo me riuscivo a vedere un film in inglese ho avuto sempre problemi con i professori.*

'I don't have a particular method with languages because I had a troubled story, especially with English [...] with French, it was perfect: I studied it for three years at school, I reached a good level I think, I could also see movies in original version- while in English I always had problems with professors.'

*in inglese ho avuto sempre problemi con i professori.*

in English have.1SG had always problems with the professors

'In English, I always had problems with professors.'

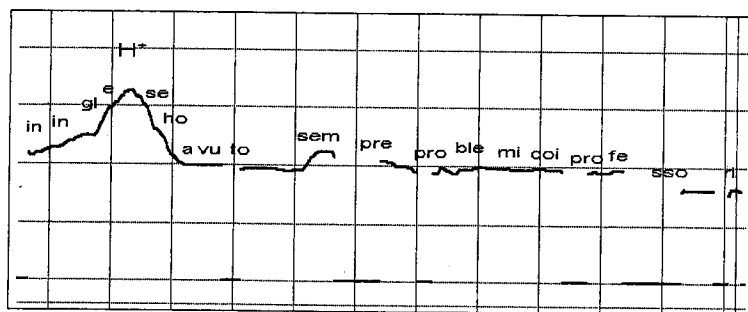


Figure 2.

Observe the intonational contour associated with the PP-topic *in inglese*. Similarly to *l'ultima unit* in (4), it is marked by a prominent rise and followed by a low boundary tone. The alignment, however, is very different from that which we saw on *l'ultima unit* in Figure 1: in the latter the highest F0 point is reached on the post-tonic vowel, while in Figure 2 the pitch accent extends all over the tonic vowel obtaining a typical H\*-contour. The rest of the sentence forms a separate intonational phrase, with a peak on the adverb *sempre*.

## 2.1.3 The L\* contour

The L\* tone is present with familiar topics, that is, with elements that are part of the already established information. They are introduced at some point of the conversation and then repeated for topic continuity or as an afterthought.

Consider, for instance, example (6) below. As the context makes clear, the DO *la conferma* represents a familiar element, which is introduced by the student (speaker B), resumed by the interviewer and finally repeated, as a right-hand topic by the student:

- (6) *B: io dovevo studiare le regole qui e lì fare solo esercizio, invece mi aspettavo di trovare dei punti a cui far riferimento ogni volta per vedere la regola, questo mi è mancato praticamente per avere la conferma di ricordare tutto insomma; A: comunque quelle domande ti davano la conferma che avevi capito; B: magari non me la - non riesco a darmela da sola la conferma.*

'B: I was supposed to study rules here and do the exercises there, while I expected to find some outlines I could refer to, at any point, to check the relevant rule, this is what I missed, to check that I could remember everything; A: however those questions gave you the possibility to check your understanding; B: well, maybe I cannot make this check on my own.'

*non riesco a darmela da sola la conferma.*

not can.1SG to give-to.me(CL)-it(CL) alone the check

'I cannot make this check on my own.'

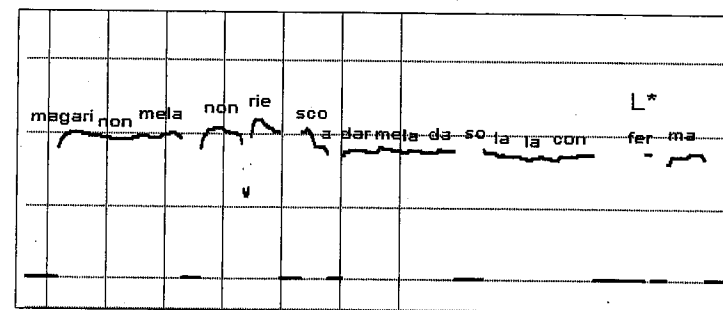


Figure 3.

As we can see, the tonic vowel of the DO-topic *la conferma* is realized with a low tone (170Hz), which is very close to the speaker's baseline (cf. Table 1). Nonetheless it is superior to the lowest value of this utterance, that is reached before the topic itself i.e. on the post-tonic vowel of *sola* -160Hz - which marks the edge of the comment. The right-hand topic, therefore, is not a part of the intonational phrase constituted by the preceding sentence, but an independent intonational unit with its own L\*-pitch accent.

It is important to underline that, though familiar topics are typically realized in Italian as right-hand topics, the L\*-tone characterizing them is not to be considered as a (physiological) consequence of their final location. Familiar topics are low in any position, as is shown in the example to be discussed in the following section.

#### 2.1.4 A case of multiple realization

To conclude the presentation of the different tonal events, let us consider sentence (7). A student (speaker D) is talking about English courses in general and, at the very end, about her relation to English in particular:

- (7) *Era tutto molto nuovo nel senso che comunque la lingua inglese attraverso i programmi sul computer diciamo [...] comunque l'inglese risultava anche facendolo da solo più interessante [...] io, inglese non- premetto non l'avevo mai fatto.*

'Everything was very new to me in the sense that I had never studied English through computer programs [...] and through self-learning English appeared more interesting to me [...] I must say that I had never studied English before.'

*Io, inglese [...] non l' avevo mai fatto.*  
 I English not it(CL) have.PAST.1SG never done  
 'I had never studied English before.'

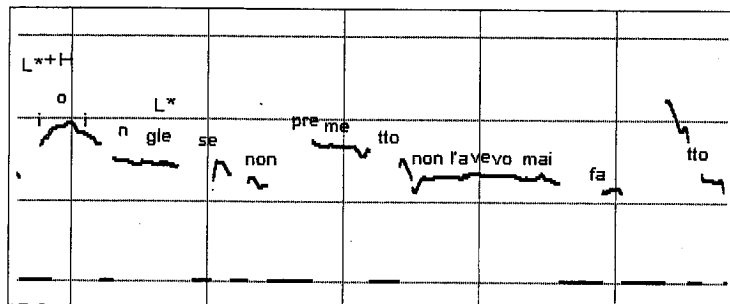


Figure 4.

The intonational contours associated with the constituents *io* and *inglese* show that they are completely different topic types though they are both located in the left periphery. *Inglese*, a DO resumed by the clitic *lo*, is a familiar topic: it is introduced very early in the interview and then repeated as a continuing topic. The subject-topic *io*, on the other hand, marks a shift in the conversation: the speaker is still talking about English but, at that point, she changes the aboutness topic. She wants to comment on her personal relation to that language. Accordingly, *io* is characterized by an intonational

rise that reaches its highest point on the post-tonic vowel (like the topic illustrated in Figure 1). The F0 on *inglese*, however, stays on a low range and is rather flat (like *la conferma* in Figure 3).

#### 2.2 Tonal events on topics: conclusions

The examples discussed show that the tonal event associated with a topic does not depend on its category: diverse constituents including pronouns can be merged in Topic position and be marked by an intonational rise when they indicate a shift or a contrast in the discourse (cf. also the sample sentences in section 3). On the other hand, full DPs can be realized with a low tone if they are familiar topics. Sentences (4) to (7) also show that the realization of a topic is neither influenced by its prosodic weight – *io* is lighter than *inglese* in (7) – nor by its position within the sentence – a familiar topic is marked as L\* in either periphery of the sentence. We can thus conclude that the tonal event of a topic is only dependent on its discourse role.

As for boundary tones, the intonational contours illustrate that shifting topics as well as contrastive ones are always marked by a final lowering which typically signals the end of a prosodic phrase with a declarative illocutionary force. In general, F0 resetting and rhythmic/tonal breaks show the presence of an intonational phrase boundary between the topic and the rest of the sentence.<sup>5</sup>

Comparing these results with other intonational analyses for different languages, it is interesting to note that the H-tone is generally associated with items that are *new* in the discourse. This is perfectly consistent with its presence in topics marking a shift. On the other hand, the L-tone normally marks items the speaker wants to be salient, “but not to form part of what the speaker is predicating in the utterance” (Pierrehumbert and Hirschberg, 1990: 291). In other words: L-marked items are not used to add information to the hearer’s beliefs. This also fits with their present association with familiar topics.

As for their analysis in terms of activation states, our corpus shows that shifting topics can be newly introduced or semi-active constituents. Contrastive topics are generally active elements, even if the contrast can also be raised by accessible elements. Only familiar topics are always connected with active referents. This is consistent with their status of given/accessible elements that can serve for referential continuity.

### 3. The syntax of topics in Italian

In section 2, evidence has been provided for a specific and systematic correlation between discourse and intonational properties of topic constituents. According to the intonational (and discourse) properties we have distinguished, the 103 topics of our Italian corpus can be divided into 38 shifting topics (ST), 25 contrastive (CT) and



40 familiar topics (FT). Their location in either periphery of the sentence, their rigid order in multiple topic constructions,<sup>6</sup> and their interaction with other types of constituents in the CP-system (i.e. focus and *wh*-constituents) will be discussed below. Consider the following sample sentences:

- i. *per esempio il CD-rom invece non l' avevo mai visto.* ST  
for example the CD-rom instead not it(CL) have.PAST.1SG never seen  
'So, for instance, I had never seen a CD Rom before.'
- ii. *Brava non me lo dirà mai.* ST  
bravo not to.me(CL) it(CL) say.FUT.3SG never  
'He will never say 'brava' to me.'
- iii. *Io, una cosa che ho trovato positiva, è stata la comprensione.* ST, CT  
I one thing that have.1SG found positive be.3SG been the comprehension  
'As for me, something that I considered as positive was the comprehension part.'
- iv. *Rispetto agli altri materiali, come ti sei trovata?* ST, WH  
with respect to-the other materials how you(CL) be.2SG found  
'As for the other materials, how did you like them?'
- v. *Quello ANCHE SUL QUESTIONARIO l' ho scritto.* ST, FOC  
that also on-the questionnaire it(CL) have.1SG written  
'I wrote that also ON THE QUESTIONNAIRE.'
- vi. *Io TUTTO pensavo fuorché di parlare alla radio.* ST, FOC  
I all think.PAST.1SG except of to speak at-the radio  
'I could imagine EVERYTHING but speaking on the radio.'
- vii. *Io, inglese non l' avevo mai fatto.* ST, FT  
I English not it(CL) have.PAST.1SG never done  
'I never studied English before.'
- viii. *Cioè il senso generale lo capisco.* CT  
that is to say the sense general it(CL) understand.1SG  
'I mean I understand the general meaning.'
- ix. *Invece a lei non l' ha presa come speaker.* CT  
instead to her not her(CL) have.3SG taken.FEM as speaker  
'On the contrary he didn't choose her to be the speaker.'
- x. *Io francamente questa attività particolare non me la ricordo.* CT, FT  
I frankly this activity particular not to.me(CL) it(CL)  
remember.1SG  
'Frankly, I don't remember that particular activity.'

- xi. *L' ha sempre tirato fuori lui, il discorso.* FOC, FT  
it(CL) have.3SG always taken out he the discourse  
'It is HIM who always took this topic.'
- xii. *E su questa, loro - i gladiatori lottavano.* FT, FT  
and on this they the gladiators fight.PAST.3PL  
'And gladiators, they would fight on this.'
- xiii. *io non ho mai saputo come si dicevano sti sentimenti in inglese.* FT, FT  
I not have.1SG never known how IMP say.PAST.3PL these feelings in English  
'And I had never learnt how these sentiments were called in English.'

As we can see, in multiple realization, the three topics types we have identified are located in a specific order. This means that sentences can host multiple topics which are located in different peripheral positions. However, it is not the case that just any kind of topic can occupy any position.

In particular, shifting topics occupy the highest topic position in the left periphery. Note specifically that this type of topic is located in a higher position with respect to *wh*- and focus constituents, which compose the so-called *operator field* (Rizzi 1997) in the left periphery of the sentence – cf. (iv) to (vi). Familiar topics, on the other hand, occupy the lowest Top-projection. They are located lower than contrastive and focus constituents and can be realized in either periphery – cf. (x) to (xiii), while the right periphery seems to be excluded for shifting and contrastive topics. Contrastive topics finally are located between shifting and familiar topics and, like the former, precede operators.

As far as topic recursion is concerned, our corpus clearly shows that shifting and contrastive topics are not recursive – a sentence can only contain one shifting and one contrastive topic – and they can only be located in the left periphery. Familiar topics, on the other hand, allow multiple realizations in either periphery, consistent with the fact that different elements can be part of the accessible information. Given that shifting topics represent aboutness topics, this means that a sentence, though it may contain several topics, can license at most one aboutness topic. In the light of the examined Italian data, we propose the following hierarchy for topic constituents in the CP-system:

$$(8) \left[ \text{ShiftP}_{[+aboutness]} \left[ \text{ContrP} \left[ \text{FocP} \left[ \text{FamP} \left[ \text{IP} \right. \right. \right. \right. \right. \right. \right. \right. \right.$$

### 3.1 Merge, move and clitic resumption

In recent works Frascarelli (2000, 2004b) has argued for extra-sentential merge of clitic-resumed topics restating (with some major differences) a hypothesis originally put forth by Cinque (1990). According to this analysis, a topic is base-generated in the C-domain and connected with its thematic role (if any) through binding an IP-internal pro.<sup>7</sup> Several pieces of evidence is given in Frascarelli (2004b) to support this claim,

including scope, binding and minimality effects. Consider, for instance, the anti-reconstruction effects for Principle C in (9a). As we can see, coindexing between the topic-internal R-expression *Leo* and the pronominal subject *lui* is grammatical in (9a). But if we merge the relevant DP in argument position, the sentence we obtain becomes ungrammatical (9b):

- (9) a. *La mia foto con Leo, lui non l' ha ancora mostrata.*  
 the my picture with Leo he not it(CL) have.3SG still shown.FEM  
 'My picture with Leo, he, hasn't shown it yet.'  
 b. \**Lui non ha ancora mostrato la mia foto con Leo.*

It is thus clear that the topic in (9a) is not derived via movement from the IP-internal position shown in (9b) since reconstruction would yield a Principle C effect. On the other hand, if the topic is merged in TopP position, Principle C is not at issue because the DP *Leo* is not c-commanded by the subject pronoun *lui* (cf. Frascarelli 2004b for further details).

Given Frascarelli's analysis, which we assume, it is now important to consider whether merge applies for all three topic types we have distinguished so far. Merge must be assumed to shifting and contrastive topics, since they are always clitic-resumed in our corpus. On the other hand, the situation is not immediately clear as far as right-hand familiar topics are concerned. They can be iterated and clitic-resumption seems to be optional with them. Consider, for instance, sentence (10) below (from the LIP corpus) in which the right-dislocated DO *un colpo di telefono* is not clitic-resumed in the sentence:<sup>8</sup>

- (10) *Non ti preoccupare, faccio io, un colpo di telefono.*  
 not you(CL) worry make.1SG I a ring of telephone  
 'Don't worry: I will make a phone call.'

To provide a solution to this problem, consider the following contrast:

- (11) a. *Darò ogni libro, al suo, autore.* (i = j, i ≠ j)  
 give.FUT.1SG everybook to-the his author  
 b. *Gli darò ogni libro, al suo, autore.* (i ≠ j)  
 to.him(CL) give.FUT.1SG everybook to-the his author

In both (11a-b) the IO *al suo autore* is a familiar topic, realized in the right periphery of the sentence with a L\* tone. According to the present analysis, they both occupy the Fam-projection with IP moving across it (see (16) in section 3.2 below). However, the interpretation of these two sentences is very different. In particular, sentence (11a) – in which the topic is not clitic-resumed – is ambiguous since it admits both a distributive and an individual reading for the *autore*. On the other hand, the distributive interpretation is excluded for sentence (11b), in which the right-hand topic is resumed by a clitic in the sentence. This contrast shows that non-clitic-resumed topics are recon-

structed within the sentence for interpretation, while clitic-resumed topics are merged in extrasentential position so that QPs cannot scope over them at LF.

Let us consider additional data that support the merge analysis for clitic-resumed and movement analysis for non-clitic-resumed (familiar) topics by further analysing their binding properties:

- (12) a. *Maria<sub>k</sub> ha presentato [ad ogni ospite]<sub>j</sub> [il suo<sub>i</sub> vicino di tavolo]* (i = j, i = k)  
 b. *Maria<sub>k</sub> ha presentato [il suo<sub>i</sub> vicino di tavolo] [ad ogni ospite]<sub>j</sub>* (i ≠ j, i = k)  
 Maria have.3SG introduced the his/her table-mate to every guest

As is shown in (12), the order of complements affects binding conditions. It is therefore worth noticing that topicalization affects binding in a different way, depending on the presence of clitic-resumption. Consider the familiar topic *il suo vicino di tavolo* in the sentences below:

- (13) *Maria<sub>k</sub> ha presentato [ad ogni ospite]<sub>j</sub> [il suo<sub>i</sub> vicino di tavolo]* (i = j, i = k)  
 (14) *Maria<sub>k</sub> lo<sub>m</sub> ha presentato [ad ogni ospite]<sub>j</sub> [il suo<sub>i</sub> vicino di tavolo]<sub>m</sub>* (?i ≠ j, i = k)  
 Maria him(CL) have.3SG introduced to every guest the his/her table-mate

The contrast offered by (13)-(14) shows that when the DO-topic is not resumed by a clitic both the IO and the subject can bind the possessive *suo*, while when a clitic is present (as in (14)) IO-binding for *suo* is only marginally accepted. This proves that the DO-topic in (13) is reconstructed within IP for interpretation (obtaining the same ambiguous reading as in (12a)), while reconstruction does not apply in (14). Note that the individual reading in (14) cannot be forced by the presence of the object clitic, or the case in (12b) remains unexplained. Scope requirements are relevant here<sup>9</sup> and the marginal possibility of a distributive reading in (14) can be explained through IP-inversion (see discussion on (16) below).

We can thus conclude that there is no optionality in clitic-resumption, but two ways of realizing Italian familiar topics: non clitic-resumed familiar topics are moved to FamP from an IP-internal position and reconstructed for interpretation, while clitic-resumed familiar topics are merged in FamP. Since only familiar topics can be iterated, it is feasible to assume that there can be more than one Fam-projection in the left periphery of the sentence. This represents a major difference between familiar topics, on the one hand, and shifting and contrastive topics, on the other. The latter can only be merged in the C-domain and are not recursive.

### 3.2 The derivation of right-hand topics

The analysis of Italian data shows that clitic-resumed right-hand topics are also merged in the left periphery of the sentence and that their right-peripheral position is derived through IP-inversion, rather than by right-adjunction – cf. also Drubig (this volume) for remnant IP-movement to derive right-peripheral focus. Apart from independ-

ent, theory-internal, considerations which exclude right-adjunction in principle – cf. Kayne (1994) –, a right-adjunction analysis can be shown to be inadequate also from an empirical point of view. Such an analysis predicts that a right-hand topic c-commands IP-internal material in the rest of the sentence. This prediction, however, is not borne out as is shown by sentences like (15), in which coindexing between the right-hand topic *lei* and the DP-subject *Maria* does not yield a violation of Principle C:

- (15) *Sicuramente Maria<sub>i</sub> partirà presto, lei<sub>i</sub>.* (i = j)  
 certainly Maria leave.FUT.3SG soon she  
 'For sure, Maria will leave soon.'

Additional support for IP-inversion to derive right-topicalization is given by minimality effects (cf. Frascarelli 2000, 2004b), scope and binding properties. In this respect, let us resume sentences (13)–(14). In (13) both the quantified IO *ad ogni ospite* and the familiar (non clitic-resumed) DO-topic *il suo vicino di tavolo* are merged in the VP: in this construction the possessive *suo* can be bound both by the subject DP *Maria* and by the QP *ad ogni ospite*. This is expected since both constituents c-command the object DP, hence they qualify as possible binders<sup>10</sup>. Binding and scope properties, however, are completely different in a construction that presents the DO *il suo vicino di tavolo* as a clitic-resumed right-hand topic (cf. (14)). In this case the subject DP *Maria* is the preferred (and, for some speakers, the only possible) binder for the possessive *suo*. This is strong evidence that a right-hand topic is *not* moved to a “lower TopP projection” and then reconstructed for interpretation since, in that case, scope properties should be the same as in (13), contrary to facts (see note 9).

Scope properties of right-hand topics, on the other hand, are immediately explained in the light of an analysis merging topics in the left periphery and inverting the IP. After IP-inversion the topic is c-commanded by the whole sentence containing both the subject *Maria* and the QP *ad ogni ospite*. Since *Maria* is the highest nominal constituent within the sentence, it is the only element that can c-command out of the fronted clause (cf. Kayne 1994) and thus induces the preferred reading on *suo*:

- (16) [<sub>GP</sub> [<sub>IP</sub> *Maria<sub>k</sub> lo ha presentato [ad ogni ospite<sub>j</sub>]*] [<sub>TopP</sub> *il suo<sub>i</sub> vicino di tavolo*] *t<sub>IP</sub>*]  
 (?i ≠ j, i = k)

As for the specific functional projection in which right-hand topics are located, intonational evidence shows that it must be FamP: right-hand topics are always marked by a L\* tone. This implies that IP-intraposition must target a projection that is higher than FamP and is called GP – cf. Poletto and Pollock (2004) for Ground Phrase (GP) in (17):<sup>11</sup>

- (17) [<sub>ShiftP</sub> [<sub>ContrP</sub> [<sub>GP</sub> [<sub>IP</sub> [<sub>VP</sub> [<sub>DP</sub> (*cl<sub>k</sub>*) [<sub>NP</sub> *e<sub>k</sub>*]]]]] [<sub>FamP</sub> TOPIC<sub>k</sub> *t<sub>IP</sub>*]]]]

We propose that an EPP feature in the C-domain triggers the IP-inversion which derives right-hand topic constructions. This feature must be checked by the IP to yield new interpretative options, i.e. scope or discourse-related properties. This is in line with Chomsky's (1995b, 2004) proposal that the *dislocation property* is implemented to

satisfy some specific interface conditions. Indeed, the discourse properties of left- and right-hand topics are quite different. The ungrammaticality of (19), for instance, shows that right-hand topics cannot convey contrast (or aboutness): only familiar elements can be found in that position.

- (18) *Io ho due fratelli: Luigi<sub>i</sub> lo<sub>j</sub> vedo spesso,* (i = j, k = l)  
 I have.1SG two brothers Luigi him(CL) see.1SG often  
*mentre Mario<sub>k</sub> non lo<sub>i</sub> vedo mai.*  
 while Mario not him(CL) see.1SG never  
 'I have two brothers: Luigi, who I see often, and Mario, who I never see.'
- (19) \**Io ho due fratelli: lo<sub>i</sub> vedo spesso Luigi<sub>j</sub>, mentre non lo<sub>k</sub> vedo mai, Mario<sub>i</sub>.*  
 (i ≠ j, k ≠ l)

The crucial role of IP-inversion in conveying a different meaning is also clearly shown in the following sentences (taken from the LIP corpus):

- (20) *Non è questione che il tempo<sub>i</sub> non te l'<sub>j</sub> ho dato,*  
 not be-3SG question that the time not to.you it(CL) have.1SG given  
*io te l'<sub>k</sub> ho dato il tempo<sub>i</sub>.* (i = j, j = k, k = l)  
 I to.you it(CL) have.1SG given the time  
 'The point is not that I didn't give you time. I DID give you time.'

In (20) the same constituent – the DO *il tempo* – is topicalized twice by the speaker, though with very different effects. In the first part of the sentence *il tempo* is the point at issue – the aboutness topic (the *questione*). In the second part of the utterance, *il tempo* is repeated as an afterthought, i.e. it is a familiar topic. As for the predicative part of the sentence (*te l'ho dato*), it clearly has a broad focus meaning in the first clause, while the verb gets a contrastive value in the second part. It is thus plausible to assume that IP-movement targets a projection in the C-domain to meet some interface requirement concerning focus and contrast. We can thus conclude that IP-inversion provides a connection between syntactic configuration and information structure.<sup>12</sup>

### 3.3 Contrast: an interplay between focus and topic

It is worth noting that contrastive topics and (contrastive) foci never co-occur in the same sentence (cf. the sample sentences in section 3) and that the tonal event characterizing contrastive topics is exactly the same as the one for (contrastive) foci in Italian (cf. Frascarelli 2004a) and other languages (Frota 2000, D'Imperio 2002), namely H\* – cf. note 4.

This similarity in PF interpretation seems to suggest that contrast is not an inherent property of either focus or topic constituents (cf. Molnár 2002, Vallduvi & Vilkkuna 1998), but a functional feature that is licensed in an A'-position in the C-domain, where either a topic is merged in or a focus can move to. Of course, when checking this feature, topic and focus maintain their semantic and syntactic properties. Consequently, a focus – giv-

en its quantificational nature – identifies a variable excluding other values for it, while contrastive topics do not have quantificational properties and only need to be opposed to some other topic. Indeed, the notion of topic is incompatible with the idea of contradiction, which is typically associated with contrastive foci. Contradicting a statement entails the negation of some part of it and topics are always outside the scope of negation.<sup>13</sup>

### 3.4 Rizzi (1997) and the topic-focus/wh relation

As introduced in Section 1, Rizzi (1997: 295) argues for a recursive TopP above as well as below the FocP. He claims that both the topic-focus and the focus-topic order are acceptable:

- (21) a. *Credo che domani, a Gianni, questo gli dovremmo dire.*  
 'I think that tomorrow, to Gianni we should tell him this.'  
 b. *Credo che domani, questo, a Gianni gli dovremmo dire.*

The analysis of spoken corpora confirms that the two orders are indeed possible. It is important to underline, however, that the two topics in (21a-b) have different informational roles. Given the present analysis, we predict that in sentence (21a) the IO *a Gianni* is a shifting topic, while in (21b) it can only be interpreted as a familiar topic. We thus conclude that the two topics discussed in sentences (21a-b) by Rizzi are not the same type of topic and that TopP is not a freely recursive projection. Rizzi (1997: 298) also excludes the co-occurrence of a contrastive focus and a *wh*-constituent in the left periphery of the sentence. The LIP corpus supports this claim, showing that contrastive elements preceding *wh*-constituents must be topics. In this respect, let us consider (22):

- (22) *Accedono semplicemente per un concorso interno senza titoli senza niente non sanno cos'è un quadro non sanno i pigmenti che cosa sono!*  
 'They get in by an internal competition without qualifications without anything they do not know what a frame is, they do not know what pigments are!'

The context makes it clear that *i pigmenti*, which precedes the *wh*-constituent, is not a genuine focus, but a contrastive topic. It does neither exclude any variable nor negate a former presupposition. It creates an oppositional pair with respect to another element – specifically with *un quadro*. Sentence (22) provides additional evidence that the syntactic locus for contrast is higher than the positions hosting focus and *wh*-constituents. It also shows that contrastive topics are merged in an A<sup>1</sup>-position in the C-domain, since minimality effects do not arise with the operator-chain connected with the focus.

To conclude, the syntactic analysis of topics in Italian provides evidence for a topic hierarchy in the C-domain and shows that clitic resumption is crucial to distinguish between merged and moved topics. This allows for a typological connection between the derivation of topic constructions and the availability of clitic resumption in a language. These results are supported by German data, as is shown in the following sections.

## 4. The intonation of topic constituents in German

In this section, we report on the results of our corpus analysis of topic realization in German. As we will see in detail below the evidence from German confirms the findings based on Italian data, namely the fact that topics that serve different information-structural roles are realized differently both phonologically and syntactically.

### 4.1 The corpus

The data are taken from the corpus of Irene Forsthoffer (FU-Berlin), who provided the digital recordings and the transcripts of radio-conversations. The corpus consists of conversations between a caller and a presenter about different subjects suggested by daily politics. One such subject concerned the events around the wreckage of the Russian submarine "Kursk" collected in the Putin file and another concerned the affair between the former CDU party leader Schäuble and the international weapon dealer Karl Heinz Schreiber collected in the Schäuble file. Out of these files, we extracted and analyzed a total of 120 sentences (utterances). In Table 2 we provide some statistical data about the pitch range of the various speakers:

Table 2

SPEAKER	BASELINE (MMV)	PEAK (MXV)	PITCH RANGE	OUT OF (NR SENTENCES)
A (FEM, presenter)	122	176	54	25
B (MAS)	95	140	45	18
C (MAS)	86	110	24	19
D (FEM)	144	241	97	17
E (MAS)	85	123	38	11

### 4.2 The analysis

Our corpus shows that topics in German also display different contours according to their information-structural contribution to the sentence. In particular, we found three different contours that express topicality, namely (a) L+H\*, found in 27 sentences (30%), (b) L\*+H found in 9 sentences (10%), and (c) L\* found in 61 (60%) sentences. 42 of the last-named ones are realized with a flat intonation – cf. 4.2.3 below.

#### 4.2.1 The L+H\* contour

The L+H\* contour is associated with constituents that figure as the topic of the subsequent passage. Thus, it can be identified as the contour that marks aboutness topics.

Recall that this type of topic is associated with the contour  $L^*+H$  in Italian (cf. section 2.1.1). In contrast to Italian, the German corpus only displays DPs being marked with this contour. No PPs or other categories were found marked with this contour.

In the German data, this contour is crucially connected with shifting topics. So, every time a new topic is proposed in the conversation, this is indicated by this special rise that has its peak at the end of the tonic vowel. Let us consider the two cases given in (23):

- (23) C: *Ich mein nich unbedingt dass es putin schadet- das muß nicht dasselbe sein aber ich glaube dass das- dass der nationalstolz also das viel beschowerene äh- zusammengehörigkeitsgefühl [...] das ja aus des zarenzeit mehr oder weniger heraufberschworen wird von- von den medien [...]* A: *Putin hat gemerkt ähm: da habe ich mich falsch verhalten.*

'C: I do not necessarily mean that it should harm Putin. This need not be the same thing. But I believe that the- that the national pride in fact the much talked about sentiment of belonging together [...] which is more or less invoked out of the times of the tsars by the media. [...] A: Putin has realized ehm I did the wrong thing in this situation.'

- (a) *dass der Nationalstolz.*                      (b) *Putin hat gemerkt ...*  
       that the national pride                      Putin have.3SG noticed ...  
       'that the national pride.'                      'Putin has realized...'

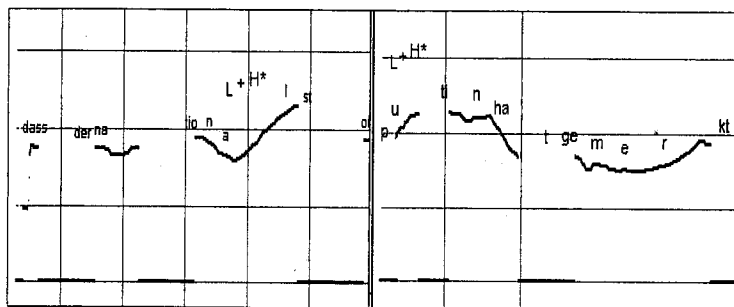


Figure 5 a-b.

In this passage, the conversation shifts from the previously introduced topic *Putin* to the *national pride* of Russians (speaker C) and back to *Putin* (speaker A). As the figures in 5 show, each topic-shift is indicated with the  $L+H^*$  contour, with the peak being reached late in the tonic syllable. In conclusion, this type of topic is associated with a rise in both languages, which differ, however, in the alignment of the H tone: while in German the H tone is associated with the tonic vowel, it is associated with the onset of the post-tonic syllable vowel in Italian.

#### 4.2.2 The $L^*+H$ contour

This contour, that in Italian is associated with aboutness topics, seems to be associated with contrastive topics in German, with the contrast often being implicit in the conversation. The PF interface thus realizes contrast in a very different manner in German than in Italian.

In fact, the intonation of contrastive topics in Italian is crucially connected with contrastive foci (cf. section 3.3 above). On the other hand, in German contrast seems to be associated with familiar topics that show an L-tone, as we will see below. The implication we can draw is that in the absence of clitics, focus and contrastive topics must be distinguished intonationally, in German.

From an informational point of view, contrastive topics can either induce a topic-shift or fail to do so. To illustrate the latter, consider the following utterance (speaker E) taken from the Schäuble-file:

- (24) *dass er [Schäuble] sagt er hat das geld bekommen und hat es der Schatzmeisterin Baumeister gegeben während Schreiber sagt er hat es der Schatzmeisterin äh Brigitte Baumester gegeben un Schäuble sagt jetzt...*

'That he says he has received the money and has given it to the treasurer Mrs Baumeister while Schreiber says he has given it to the treasurer – Brigitte Baumeister and Schäuble now says...'

*während Schreiber sagt...*  
 while Schreiber say.3SG  
 'while Schreiber says...'

In this sequence the main topic of conversation is *Schäuble*, and *Schreiber* is introduced with a contrastive statement. But *Schreiber* does not constitute the topic of the subsequent passage, which remains *Schäuble*, as is indicated by the fact that the original topic is picked up in the following sentence by the DP *Schäuble* with a flat intonation.

On the other hand, in the following sequence, the interviewed person (speaker B) introduces *Putin* as a topic in the conversation, in contrast to the topic proposed by the presenter, and *Putin* remains the major topic of the ensuing conversation:

- (25) A: *wird die u-boot katastrophe die russische gesellschaft verändern – das ist meine frage heute – guten morgen.* B: *guten morgen – ja hat Putin einen fehler gemacht?*

'A: Will the disaster with the submarine change the Russian society – this is my question today- good morning. B: Good morning- yes, did Putin make a mistake.'  
*ja hat Putin einen Fehler gemacht.*  
 yes have.3SG Putin a.ACC mistake made  
 'Yes, did Putin make a mistake.'

The intonational curves of the examples (24) and (25) are given below. As we can see, the peak in the contour of contrastive topics is reached on the post-tonic vowel.

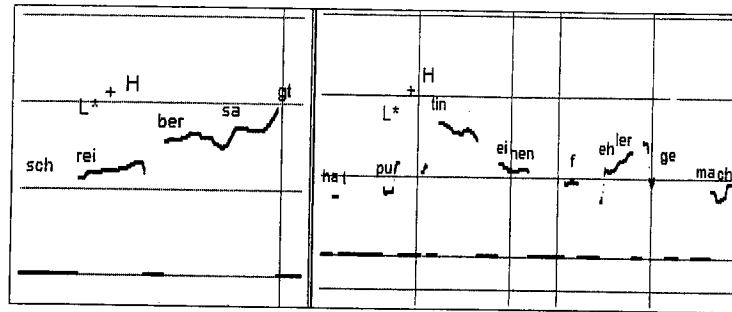


Figure 6 a-b.

#### 4.2.3 The L\* contour

Like in Italian, continuing topics and familiar elements are realised with an L\* tone. Often, however, elements that are previously mentioned and phonologically light, in particular pronouns, do not form an independent prosodic unit in German and are integrated into the intonational phrase of the main predicate. In this case they are realised with a flat contour. For this reason, we consider the flat realisation as a phonetic variant of the L\* tone and only refer to the latter in the phonological description of this type of topics.

It is important to note that in German only constituents mentioned in the previous context can be realised as flat, while elements that are part of the common ground of speaker and hearer but not mentioned in the previous context are typically realised with the L\* tone. This is illustrated in (26). There the topic of the conversation *Putin* is picked up with the deaccented pronoun *er* by speaker A. The topical DPs *die Wetterkarten* and *die Norweger*, on the other hand, have not been mentioned in the previous context. However, they must be considered as part of the common ground within a discussion about the events and their causes in the accident of the Russian nuclear submarine “Kursk”, which happened a couple of years ago. Both DPs are realised with the L\* tone and do not change the topic, which remains *Putin*.

- (26) *er [Putin] muss sich beraten lassen von seinen fachleuten – die ham ihn belogen [...] ich meine die wetterkarten lassen sich nachprüfen – daß dort schlechtes wetter herrschte... auch wenn die norweger jetzt was anderes sagen.*

‘He must accept advice from his experts—they have lied to him. I mean the meteorological maps can be checked. that there was bad weather.. even if the Norwegians now claim something different.’

*auch wenn die Norweger jetzt was anderes sagen.*  
 even if the Norwegians now something else say.3PL  
 ‘Even if the Norwegians say something different now.’

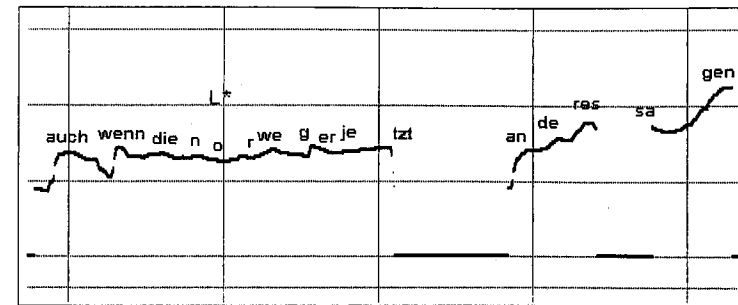


Figure 7.

From a syntactic point of view, familiar topics can be located either in the left or in the right periphery of the sentence. In the left periphery, they occupy a high position in the CP-system, as is also shown by their position with respect to the sentential adverbs *lediglich*, *tatsächlich* and *jetzt* in (27). In the right periphery, they are extraposed constituents and typically serve as afterthoughts.

- (27) a. *oder hat er (L\*) sich lediglich anders verhalten.*  
 or has he himself only differently behaved  
 ‘or is it simply the case that he behaved differently?’  
 b. *auch wenn die Norweger (L\*) jetzt was anderes sagen.*  
 even if the Norwegians now something different say.3PL  
 ‘even if the Norwegians claim something different now.’  
 c. *dass der Mann (L\*) tatsächlich ein Interesse dran hat.*  
 that the man indeed an interest in it has  
 ‘that the man indeed has an interest therein.’

Even though monosyllabic continuing topics are typically realised with a flat contour, they may also be realised with an L\* tone when they are phrased separately for emphasis. The example (28a) below illustrates a case in which the pronoun *er*, that continues the topic previously introduced, is realised with a flat contour, while in (28b) the pronoun *er*, continuing the established topic *Putin*, carries an L\* tone:

- (28) a. *Putin (L+H\*) ist an allem schuld [...] er (FLAT) hat sich anders verhalten*  
 Putin is for everything responsible he has himself differently behaved  
 ‘Putin is responsible for everything [...] he behaved differently.’  
 b. *ja hat Putin (L+H\*) einen Fehler gemacht...*  
 yes has Putin a.ACC mistake made  
 ‘Yes, Putin made a mistake...’

... oder hat er (L\*) sich lediglich anders verhalten  
 or has he himself just differently behaved  
 ... or has he just behaved differently.'

While pronouns guaranteeing topic continuity are typically deaccented or carry an L\* tone when emphasized, we also found a small number of instances in which they carry the accent of an aboutness topic. A case in point is illustrated in (29):

- (29) *Putin* (L+H\*) *ist an allem schuld* ...  
 Putin is for everything responsible  
 'Putin is responsible for everything...'  
 ... *er* (L+H\*) *wird dann sicher auch sehr gelernt haben*  
 he will then certainly also very learned have  
 ... he certainly must also have learned a lot then.'

The pronoun *er* in (29) continues the established topic *Putin* but is itself marked with a topic-contour as if it were to introduce a new topic. We can accommodate this occurrence of a superfluous topic-marking by assuming that speakers can make use of two different devices to achieve topic continuity. The primary and most economic device consists in establishing a discourse topic marked with the L+H\* tone and resuming this topic with deaccented pronouns thereafter until a new topic is introduced, again marked with an L+H\* tone, as is illustrated in (30a). The second device is to iterate the marking of the established topic (T) in each of the ensuing comments (C) on it – cf. (30b). It must be considered a marked option which may be used for special emphasis.

- (30) a. T1 C1, C2, C3; T2 C1, C2 ... unmarked option  
 b. T1C1, T1 C2, ...; T2 C1, T2 C2 ... marked option

Finally, we were interested in the manner in which constituents are phonologically marked when picking up or referring back to entire facts rather than to pre-mentioned individuals. In other words, the question was whether expressions other than individual-denoting DPs can function as sentence topics in the discourse. It is conceivable that in the case of a discussion about the accident of the "Kursk", the fact that the Norwegians offered help and that the Russian officials refused any help can function as a discourse topic. In fact, cases in which a whole sentence is picked up with the pronoun *das* occur rather frequently, but we did not find a single case in the corpus in which such a pronoun is marked with an L+H\* tone. This implies that facts and events cannot function as aboutness topics in a sentence. For instance, the pronoun *das* in (31) uttered by speaker A is realized with a flat contour despite its referring to a fact that could be considered a valuable discourse topic – the fact denoted by the embedded clause *that it will harm Putin*:

- (31) *Ich mein nich unbedingt dass es putin schadet – das* (FLAT) *muss nicht dasselbe sein.*  
 'I do not necessarily mean that it will harm Putin – this is not necessarily the same (thing).'

## 5. The syntax of German topics

In the syntactic analysis of German topic expression we would like to concentrate on the following issues. First, we are interested in whether German topics are ordered in the same way as Italian ones. Secondly, the question arises what type of movement is involved in the derivation of German topics. Thirdly, the data discussed above raise the question of how continuing topics should be treated in a framework assuming that discourse properties are signaled uniformly phonologically and syntactically. Continuing topics are aboutness topics in terms of their discourse properties, but they are treated as familiar topics by syntax and phonology. Finally, we address the question of how the German V2-property should be accounted for in an approach assuming various functional projections in the C-domain.

### 5.1 The order of topics

Contrary to Italian, the German corpus does not provide conclusive and sufficient evidence for a specific ordering of the different topic types. We only found three examples containing multiple topics. Furthermore, the example (32) which seems to contain an aboutness and a contrastive contour is inconclusive. It is not even clear whether the sequence *wir alle im Westen* is to be treated as a single constituent or not.

- (32) *also das wichtigste wäre, dass wir alle* (L+H\*)  
 hence the most-important would be that we all  
*im Westen* (L\*+H) *jetzt nicht in den Reflex verfallen...*  
 in the West now not into the reflex fall  
 'Hence, the most important thing would be that we all in the West do not automatically behave...'

More data have to be considered before we can make any firm and reliable judgments about order restrictions of topic elements in German. However, based on the assumption that syntactic and phonological properties are not independent of each other, we assume that a particular topic contour signals a particular syntactic position of this topic. Since German topics display three different intonational contours, we conclude that they occupy three different syntactic positions which – in the absence of any direct evidence from the German corpus – are supposed to display the same order as topics in Italian do.<sup>14</sup>

### 5.2 The derivation of topic constituents in German

Hinterhölzl (2004a) argues that familiar topics undergo A-movement. It is proposed that familiarity, next to scope, is a trigger for scrambling and that this feature is checked by

movement into the specifiers of dedicated functional projections above sentence adverbs. Furthermore, it is argued that both types of features are checked via A-movement.

A prerequisite for the analysis of German scrambling as A-movement is to explain how minimality effects that block A-movement of one argument across another (cf. scrambling in Dutch and object shift in Scandinavian) can be circumvented in German. In Hinterhölzl (2006) a unified minimality condition is proposed that blocks movement of an argument across a categorically non-distinct argument in German, Dutch and Scandinavian alike and it is argued that the particular Case that German has, namely one that distinctively marks grammatical functions, contrary to Case in Icelandic, renders DP arguments categorically distinct. In conclusion, Case can be treated as one type of license that allows for arguments to be freely ordered according to their discourse properties (as is argued in Section 3.1 clitic pronouns provide another instance of such a license).

If scrambling is analyzed as A-movement that occurs in order to check a pragmatic type of feature, then it is necessary that A-movement is extended to check features other than Case. Hinterhölzl (2004a) proposes that movement checking a non-operator feature counts as A-movement. This derives the well-known fact that scrambling of deaccented material is strictly clause-bound, as is illustrated in (33a) below. Only contrastive topics can undergo long distance movement, as is illustrated in sentence (33b) that is taken from Haider and Rosengren (1998). This implies that contrastive topics are licensed via A'-movement. In the account of Hinterhölzl (2004a) this would follow if contrastive topics can be argued to involve an operator feature of some sort. But we remain agnostic with respect to the operator status of contrastive topics.

- (33) a. \* *Gestern hat niemand die Maria geglaubt, dass er einladen wird.*  
 yesterday has nobody the Maria believed that he invite will  
 'Yesterday nobody believed that he will invite Maria.'
- b. *dass just diese Frage alle glaubten, dass sie unbedingt beantworten müssten*  
 that exactly this question all believed that they absolutely answer must  
 'that exactly this question everyone believed he absolutely had to answer'

In contrast to Italian, German aboutness topics must be assumed to be derived through movement. Unlike Italian aboutness topics, they show Principle C effects which can be explained in terms of reconstruction. Compare the ungrammatical (34) with the parallel Italian case in (9) in which coreference is possible.<sup>15</sup>

- (34) \**Mein Bild von Leo<sub>i</sub> hat er<sub>i</sub> wahrscheinlich Maria nicht gezeigt.*  
 my picture of Leo has he probably Maria not shown  
 'My picture of Leo<sub>i</sub> he<sub>i</sub> has probably not shown to Maria.'

What type of movement is involved in the licensing of aboutness topics? Frey (2000, 2004a) argues that the preposing of "sentence topics", as he calls them, has many properties in common with scrambling. More specifically he shows that sentence topics cannot undergo long distance movement. If these topics are derived by (non-Opera-

tor) A'-movement, as is proposed by Rizzi (1997) and Grewendorf (2002a), it is not clear what blocks the derivation in the example (35) adopted from Frey (2000). Hence we will assume that aboutness-topics in German are derived by A-movement as well.

- (35) \**dass Eva dem Hans<sub>i</sub> wahrscheinlich glaubt [t<sub>i</sub> helfen zu müssen]*  
 that Eva the Hans.DAT probably believes help to must  
 'That Eva Hans probably believes to be obliged to help.'

### 5.3 The proper treatment of continuing topics

Let us now address the question of how continuing topics can be analyzed in our approach. According to Reinhart's definition of an aboutness topic given in the introduction, continuing topics should – like shifting accented topics – count as aboutness topics, since sentences containing a continuing topic are most naturally interpreted as providing further comments on the pre-established topic that is continued. However, as we have seen above, the phonology in both German and Italian and the syntax in Italian treat them differently from shifting topics, as is illustrated in (36) below. While Reinhart's definition of aboutness differentiates between elements forming the topics of utterances in the discourse and other familiar elements in the clause, syntax and phonology crucially distinguish between shifting and all other kinds of topics, whether they continue a pre-established topic or simply represent other elements familiar from the context, as is illustrated in (36):

- (36) *shifting topics* vs. *non-shifting topics* (including continuing topics)  
 Syntax: high topic field vs. low topic field  
 Phonology: rising intonation vs. non-rising intonation

In this respect, the syntactic evidence from Italian is crucial since it indicates that continuing topics are not interpreted as aboutness topics that are simply deaccented due to their familiarity. Then, we would expect them to precede *wh*- and focussed elements, like topics with the L\*+H tone do, whereas they follow these elements, like other familiar topics do.

There are two possible solutions to this problem. The first option is to reject Reinhart's (1981) definition as too broad and to restrict the notion of aboutness to shifting topics employing Givón's (1983) definition of aboutness as topics that are newly introduced or newly changed to. In this approach, continuing topics are to be characterized as familiar topics that refer to a pre-established aboutness topic but are not aboutness topics by themselves. This approach constitutes the simplest solution to the problem described above because it allows to assume that the presence of aboutness topics always implies the typical partition in topic and comment, while continuing topics – like familiar topics – in general are typically integrated into the intonational domain of the comment.

The second option is more complicated, but let us see what it takes to assume that Reinhart's definition is the relevant definition after all. In this approach, continuing



topics must be treated as familiar topics that are assigned an aboutness feature. Then, one solution is to assume that this feature assignment is a matter of interpreting the sentence as providing a comment on a pre-established aboutness topic. This process would occur in the interpretative component and would thus be inaccessible to the syntax-phonology interface. Note, however, that this account is cumbersome given that the aboutness feature must also be treated as a formal feature that is visible to the syntax-phonology interface: a shifting topic that involves an already given element and a familiar topic are only distinguished by the aboutness feature that triggers a different phonological and syntactic realization on shifting topics. A state of affairs in which a feature is, in one case, purely interpretational and has formal correlates in another case is certainly unwanted.

The solution within this approach must be to assume that the aboutness feature is a syntactic feature and that topic categories are compositional. Since the aboutness feature is intrinsically related with shifting topics, compositional topics must somehow be associated with the syntactic position of the latter. In Minimalism, the grammar provides two mechanisms to link a constituent with a feature in a higher functional head: Move or Agree.

Topics in German can now be analyzed in the following way. Familiar topics, including continuing topics, are marked with the L tone. The aboutness feature is a formal feature that is encoded in the highest topic position. This head also assigns a phonological feature – the H tone – which carries the meaning ‘new *x*’. This phonological feature is assigned to shifting topics, which therefore receive the interpretation *new aboutness topic*. Continuing topics are also associated with the aboutness feature through Agree. However, since they are realized in a lower position in the C-domain, they are not assigned the H tone and thus share the L tone with other familiar topics. Like the latter, they are interpreted as *non-new topics* – as topics that have a discourse antecedent.<sup>16</sup> Evidence for this assumption is provided by contrastive topics. We have seen in Section 4.4.2 that they can induce a topic shift or fail to do so: this shows that contrastive topic can also be associated with the aboutness feature located in the highest topic head.

In conclusion, we think the second option is superior and propose the following hierarchy of topic constituents in German and Italian, in which shifting topics are analyzed as being composed of an aboutness feature and a phonological feature (H) meaning ‘new *x*’, whereas continuing topics, by being linked with the aboutness feature, are analyzed as non-new aboutness topics (the FocP projection is only relevant for Italian since there is no evidence for a left-peripheral focus position in German):<sup>17</sup>

(37) Topic Hierarchy				
Syntax	[ShiftP [+aboutness]	[ContrP [FocP	[FamP* {continuing; familiar}	[ <sub>IP</sub>
Phonology	H		L	

#### 5.4 V2 and the functional structure in the C-domain

In this section, we address the question of how the proposed structure of the German C-domain in (37) can be reconciled with the V2-constraint. In principle, there are two types of possible solutions for this problem. A) One could assume that the verb always lexicalizes the highest functional head in the C-domain that is activated. This would mean that – depending on their information structural roles – clauses come in different sizes. In this account, a clause containing a shifting topic would be larger than a clause with a familiar topic, with the verb moving into different functional projections in each case. The other possibility is B) to assume that the verb always moves to the same functional head that has a phonological EPP-feature. This head occurs even higher than the functional projections responsible for licensing topics in (37) and can be identified with the head expressing Force. One can then assume that it is this position in which a complementizer is merged and to which the finite verb is moved in V2-clauses, as is illustrated in (38). The highest specifier in the clause will then count as an A'-position, since the corresponding head hosts an operator feature (clausal Force).

- (38) V2-C – aboutness topics – contrastive topics – familiar topics – S-adverbs  
– subject

How can we distinguish between these two approaches? The first approach can be discarded immediately since it makes wrong predictions about word order. It predicts that in a sentence with a shifting topic, no other material can precede this topic. It is very easy to find or construct examples that prove the contrary. (39a) is a constructed and completely natural example in which a frame adverbial precedes an aboutness topic marked with the L+H\* tone. (39b), which is taken from the corpus, shows that a situational adverbial *da* may precede a familiar topic that continues the topic established in the matrix clause.

- (39) a. *Gestern hat der Hans (L+H\*) die Maria getroffen.*  
yesterday has the Hans the Maria met  
'Yesterday Hans met Maria.'  
b. (*Putin hat gemerkt da (L\*) hab ich (L\*) mich falsch verhalten.*  
Putin has realized here have I myself wrongly behaved  
'Putin realized in this situation I behaved wrongly.'

In the second approach, these data are unproblematic given that the highest specifier in the clause can, and must, be filled by a constituent capable of satisfying the EPP-feature phonologically; that is, any single constituent that can be extracted or fronted via A'-movement.

## 6. Conclusions

To summarize, we have shown with a detailed intonational and syntactic analysis of Italian and German corpus data that topics are not freely recursive – *contra* Rizzi (1997). Alternatively, we argued that according to their discourse pragmatic roles, topics fall into three types that are distinguished phonologically and are realized in different syntactic positions. We showed that there is a systematic correlation between discourse roles and grammatical properties of topics, which is encoded in a strict hierarchy of functional heads in the C-domain, as is illustrated in (37).

Furthermore we argued that the interpretation of topics is compositional. In this approach shifting topics can be characterized as new aboutness topics while continuing topics are properly characterized as non-new aboutness topics, explaining why they are treated by syntax and phonology on a par with familiar topics. Our corpus data show that only one constituent per clause can have an aboutness function. We therefore reject Frey's (2000, 2004a) claim that a clause can contain several aboutness topics. Also the mere existence of shifting topics directly militates against the assumption that sentences can contain multiple aboutness topics: that the grammar provides a category that marks the shift from one aboutness topic to another presupposes that there is only one aboutness topic per clause.

While the two languages distinguish the same types of topic, they differ considerably in their syntactic realization. We can assume that the different topic realization in the two languages is dependent on the specific means the individual grammar provides. As to the free ordering of constituents according to their discourse properties, one requirement seems to be that the grammatical functions of constituents must be identifiable. Above we have argued German uses Case to identify the grammatical function of topics. Therefore, if there is no operator feature involved, German topics can be derived by undergoing A-movement from their base position into the respective licensing position in the C-domain. Italian displaying multiple topics which are ordered according to their discourse properties predominantly uses clitics to identify topics, as we have seen. Since clitics are related with *pros* in argument position (cf. Kayne 1994), a co-referent topic can only be merged in an A'-position – given that a pronoun cannot be locally A-bound. However, if a topic is not clitic-resumed, it shows reconstruction effects and the properties of A-movement as in German – cf. also Hinterhölzl & Pili (2004).

While we have been able to shed some light on the realization of shifting topics, continuing topics, and familiar topics and shown that they are phonologically encoded in a similar way in the two languages, the analysis of contrastive topics the realization of which also differs categorically in the two languages awaits further research.

## Notes

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1. For the position of topics in the left periphery, see also Benincà (2001) who slightly modifies Rizzi's (1997) proposal.
  2. Here and in the following examples, we mark in boldface the constituent(s) which are later topicalized. The sentence at issue (underlined in the context) is given in detail.
  3. Pierrehumbert's system – generally known as ToBI – was elaborated for transcribing the intonational patterns and other prosodic aspects of English utterances. ToBI transcription was subsequently extended as a general framework and adapted for different varieties and languages (cf. Marotta 2000 for Italian and Grice & Baumann 2002 for German).
  4. As is argued in Frascarelli (2004a), broad focus sentences are characterized by a downgrading contour, marked by a final H+L\* tone. Narrow focus, on the other hand, is marked as H\* both for its informational and contrastive value.
  5. These results confirm the prosodic analysis provided in Frascarelli (2000).
  6. Multiple topics are in fact rather rare in spoken corpora. Sequences of three topics have been found in only two cases (out of 1476 topics) in the LIP corpus and there is no occurrence in the Bonvino (2003) corpus. Sequences of two topics are more common, but far from high frequency. As we will show, the limitation imposed on the number of topics is not to be attributed to memory, but to *discourse and structural conditions*.
  7. As discussed in Rizzi (1994), an A'-bound *pro* is a *pro* which acts as a *variable*. Hence, a *pro* must be locally A'-bound by a non quantificational element to be *identified* and must be *formally licensed* by a clitic pronoun. We thus follow Kayne (1994) in assuming that clitics enter the computation as D<sup>0</sup> heads having the *pro* as their sister NP. The A'-binder (i.e., the topic) may be connected with an *argument* clitic-headed DP, but not necessarily, as is shown by sentences like *stupido, lo è di certo* ('a stupid, he is for sure'), in which the clitic pronoun *lo* resumes the *predicative AP* *stupido* (which is merged in topic position).
  8. Note that the possibility of an object *pro* in (10), connected with the familiar topic, is independently excluded by the fact that null objects in Italian are only allowed for generic readings (cf. Rizzi 1986).
  9. As is well known, an Operator can only be the antecedent of an anaphor it c-commands. Hence, a QP must have scope over pronouns to bind them (whereas this is not necessary for non quantified DPs).
  10. A binder in the extralinguistic context is, of course, also possible.
  11. For the purposes of the present paper, the GP node simply indicates a functional projection in the C-domain hosting IP-movement.
  12. Interestingly, in the corpora examined right-topicalization is crucially connected with verb focussing, yes/no questions and (postverbal) subject focussing, that is to say, with structures that plausibly imply IP-(remnant) movement to a position higher than FamP.

13. Consider, for instance, the following contrast:

- (i) a. *Non ho dato un libro a Gianni*    b. *Non gli<sub>k</sub> ho dato un libro, a Gianni<sub>k</sub>*  
       'I didn't give a book to Gianni.'    'I didn't give a book, to Gianni.'

Sentence (ia) negates the whole predication (which is new information), while in sentence (ib) the IO-topic *a Gianni* is excluded from the scope of negation (meaning that 'I have given something to Gianni, which is not a book').

14. It is possible that contrastive topics occupying A'-positions occur in a higher position than shifting topics which occupy A-positions in German (cf. Frey 2004b for some discussion).

15. An anonymous reviewer points out that the binding properties of the Italian example in (9a) correspond to those of a hanging topic construction in German (cf. (i)). Note, however, that the anti-reconstruction effect also appears in examples like (ii), in which the DO-topic *la mia foto con Leo* is preceded by the hanging topic *Maria*. Given that a sentence can contain no more than one hanging topic (cf. Benincà 2001), the remark is mute.

- (i) *Mein Bild von Leo<sub>k</sub>, er<sub>k</sub> hat es Maria wahrscheinlich nicht gezeigt.*  
       my picture of Leo, he has it Maria probably not shown  
 (ii) *Maria, la mia foto con Leo<sub>k</sub>, lui<sub>k</sub> non gli<sub>j</sub>' ha ancora mostrata.*  
       Maria, the my picture with Leo he not to.her(cl)-it(cl)has yet shown

16. When a speaker moves a continuing topic into the position of the aboutness topic, we derive the marked option of marking topic continuity as given in (30b) above.

17. We assume that focus is realized in situ in German (cf. Hinterhölzl 2004b, Frascarelli 2005). If the focus constituent is displaced, this displacement is due to other factors (contrast or prosodic emphasis).

## The Korean particle *nun*, the English fall-rise accent andthetic/categorical judgements\*

Jorunn Hetland

In this paper the effects of applying the particle *nun* in Korean sentences are compared to the effects of using the fall-rise pitch accent in English. It is argued that both phenomena are orthogonal to the topic-comment distinction on sentence level. By using accented *nun*-phrases in Korean – and by using fall-rise accents in English – the speaker conveys that the addressee will find some relevant alternative to the marked constituent within his knowledge store. This function is shown to be independent of the topic-comment distinction in both languages.

### 1. Introduction

This paper focuses on the information-structural status of Korean *nun*-phrases and compares them to a phenomenon which has been the subject of much discussion and many controversies in modern work on information structure, the fall-rise contour of English sentences, the tone described by Pierrehumbert and Hirschberg (1990) as (L+)H\*LH%: a rising or high pitch accent, followed by a low phrase accent and a high boundary tone. As for Korean *nun*-phrases, I shall argue that these are truly ambiguous in information-structural terms: there is no one-to-one-relation between the so-called topic particle *nun* and topicality in the aboutness sense of the term. Accented *nun*-phrases may act as topics, as part of the comment, and even as the *core* of the comment in categorical as well as inthetic sentences. A similar ambiguity applies to the fall-rise accent (also called the 'B-accent') of English sentences.

English has – in the tradition going back to Li and Thompson (1976) – been characterised as a *subject-prominent* language: English sentence structure is seen as dominated by the subject-predicate dichotomy, cf. Li and Thompson's example in (1):

- (1) *John hit Mary.*  
       [Subject] [Predicate]

(Li and Thompson 1976: 459)