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Filling the German vorfeld in written and spoken discourse*

The sentence-initial position (vorfeld) in German is filled in accordance with discourse structural consideration. Several types of elements compete for this position. Their distribution can be modelled by Stochastic Optimality Theory. It is filled in general by phrases that have at least one of the following functions: scene-setting elements, contrast, topic. In conflict cases the functions are ranked scene-setting >> contrast >> topic. In dialogic discourse other considerations play a role, too, such as the explicit marking of origo (deictic center) and rhetorical relation. Two additional constraints, DANN-VORFELD and SUBJECT-PRONOUN-VORFELD, can be fit in; the ranking including those would be dann, scene-setting >> subject-pronoun, contrast >> topic. After insertions, the re-introduction of the topic is sensitive to which of the participants started the insertion: topics re-introduced by another participant than the one starting the insertion pattern rather with contrastive elements.

1. Introduction

In the history of German linguistics, the field model of German clause structure has proven to offer a remarkably accurate description. The field model in the form as it can be found in introductory works such as Grewendorf et al. (1987) is schematized in Figure 1.

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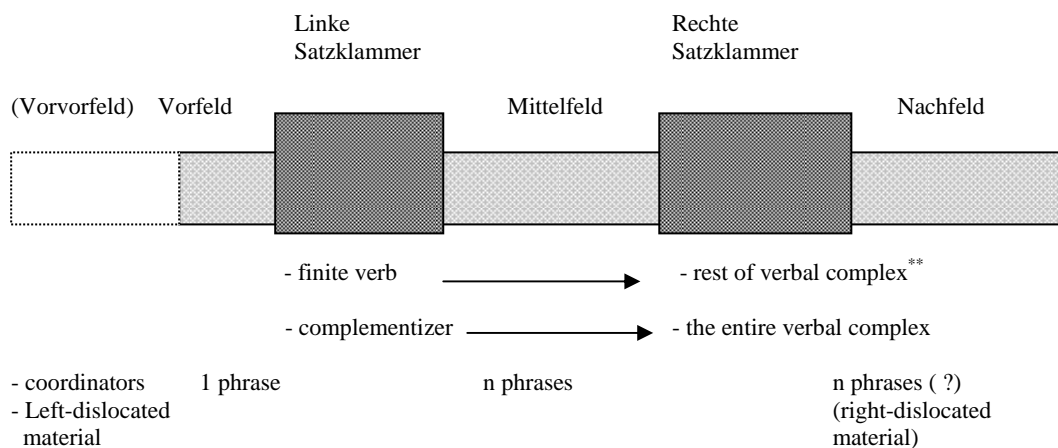


Figure 1: Field model

We are interested mostly in the *vorfeld*. There are no syntactic constraints on what can stand in the *vorfeld* (apart from the requirement that it is normally only one phrase), such that we can conclude that the decision about what ultimately stands in the *vorfeld* is due to discourse structural requirements. I have argued elsewhere (Speyer 2008) that *vorfeld*-movement can be modelled accurately as constraint interaction in the sense of Optimality Theory (OT; Prince & Smolensky 1993). *Vorfeld*-movement in declarative clauses (*nota bene*: I do not refer to operator-driven *wh*-movement in

questions) is not necessarily a process that takes place in narrow syntax, as the semantic effects on Logical Form (LF) are negligible,¹ but seems to be a surface-oriented phenomenon, possibly taking place in the early stages of Phonetic Form (PF). If this is so, it is legitimate to use a surface-oriented approach, such as Optimality Theory. Section 2 briefly summarizes the *vorfeld*-facts in written discourse as exposed in Speyer (2008). Section 3 applies these findings to dialogical, spoken discourse, thus investigating how speaker interaction influences the question of *vorfeld*-movement. A short summary ends the paper in section 4.

2. Written discourse

I report here on the ‘second corpus’ used for Speyer (2008). The corpus consisted of 501 V2-declarative sentences of subliterary prose (newspaper articles, essays in concert programs, essays for reading on the radio). These genres were chosen because they all represent a middle stylistic level (what you might call ‘utility prose’, texts that are produced for a special, ephemeral occasion and are therefore unlikely to delve into literary refinement, but are at the same time aimed to be easily readable), and because the texts are easily obtainable. The questions of concern for us are: what can stand in the *vorfeld* in the first place, and what are the preferences?

auch einen Schritt zur Reform der Bundeswehr

also a step to-the reform of-the federal army

‘Minister of Defence Peter Struck (SPD) proposed his

program for cutting expenses yesterday. He sees it also as a

step towards a reform of the Federal Army.’

(StZ 1,1-2)

(2) [_{contr.} *Bisherige sozialdemokratische Vorzeigeminister*] *wollen*

Former social-democrat present-ministers want

nicht mehr über sich verfügen lassen. [_{contr.} *Clement*]

not more over themselves order allow Clement

verabschiedet sich, [_{contr.} *Struck*] *lehnt den Posten*

takes-leave himself Struck declines the post

des Außenministers ab(...) [_{contr.} *Schröder*] *selbst hat*

of-the foreign minister ptc. Schröder himself has

eine andere „Lebensplanung“. [_{contr.} *Manche*] *werden*

another life-plan. Some become

gar nicht mehr genannt

ptc. not more mentioned

Set M:M= Bisherige soz.dem. Vorzeigemin.; M = { ...,

Clement, Struck, Schröder, ... }

‘Former social-democrat prominent ministers do not want to

be available any more. Clement leaves. Struck turns down the

post of foreign minister. Schröder himself has another life-plan. Some are not mentioned at all.'

(FAZ 1, 3-7)

(3) *Erstmals haben am 11.September gesellschaftliche Akteure*

first-time have at 11 September communal actors

international zugeschlagen... [scene An diesem Tag] fand

internationally struck on this day took

der erste Angriff im Weltbürgerkrieg statt.

the first attack in-the world-civil-war place

'On September 11 non-governmental agents have struck for

the first time internationally... On this day the first attack in

the global civil war took place.'

(L2, 15-16)

We see in Table 1 that scene-setting elements are very often moved to the vorfeld, whereas contrastive elements are moved there somewhat less often and topics, finally, comparatively rarely. The frequencies have been derived by counting all sentences which contained a topic / contrastive element / scene-setting elements and putting these numbers into relation with the number of sentences in which these types of elements actually stand in the vorfeld. Figure 2 illustrates Table 1.

@@Insert table 1 here

Table 1: Frequency of elements in the vorfeld, written discourse

	<i>Topic</i> ³	<i>Contrast</i>	<i>Scene-setting</i>
Sentences with element	360	102	77
of those with element in VF	90	73	69
%	25	72	90

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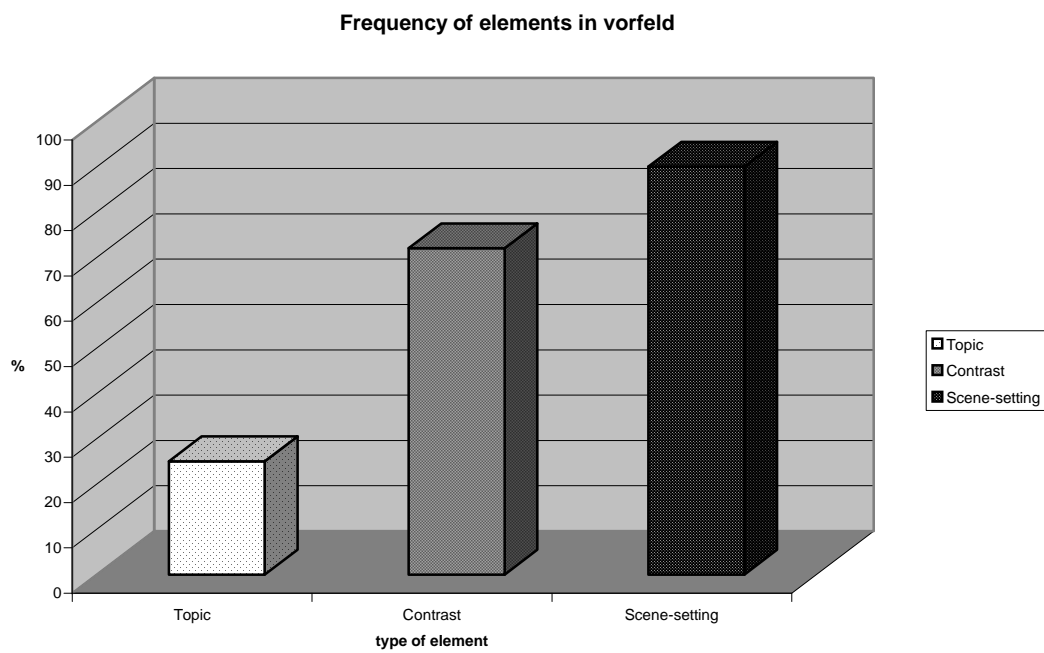


Figure 2: Frequency of elements in the vorfeld, written discourse

2.2 *How do these elements compete?*

What happens now if the sentence contains more than one element that could be moved into the *vorfeld*? As, normally, only one of them can move to the *vorfeld*, these elements have to compete with each other for movement-placement. Tables 2 through 5 show in whose favour the competition is decided for each case. Table 2 gives the numbers of cases in which a topic and a contrastive element occur in the same sentence, illustrated by ex. (4). We have 32 sentences which show this configuration. In 20 of them, the contrastive element is the one that occupies the *vorfeld*, whereas the topic stands later in the sentence. In 9 of them, the situation is reversed and it is the topic that is in the *vorfeld*. That means that in about two third of the cases the contrastive element has ‘won over’ the topic, and we can interpret this in such a way that contrastive elements are preferred over topics as *vorfeld*-fillers. The remaining tables work similarly, only with different types of potential *vorfeld*-fillers. Table 5 shows the very infrequent case that a sentence contains all three elements that are potential *vorfeld*-fillers. On the whole, we note that if a scene-setting element is involved, it is this that is selected as a rule; if no scene-setting element is present, there is a higher tendency for contrast cases to be selected than for topics.

@@Insert table 2 here

@@Insert table 3 here

@@Insert table 4 here

@@Insert table 5 here

Table 2: Topic + Contrast (ex. 4)

	<i>total number</i>	<i>Contrast in VF</i>	<i>Topic in VF</i>	<i>sth. else in VF</i>
numbers	32	20	9	3
percent	100 %	63 %	28 %	9 %

Table 3: Topic + Scene-setting (ex. 5)

	<i>total number</i>	<i>Sc.-setting in VF</i>	<i>Topic in VF</i>	<i>sth. else in VF</i>
numbers	29	25	4	0
percent	100 %	86 %	14 %	0 %

Table 4: Contrast + Scene-setting (ex. 6)

	<i>total number</i>	<i>Contrast in VF</i>	<i>Sc-set. in VF</i>	<i>sth. else in VF</i>
numbers	16	3	12	1
percent	100 %	19 %	75 %	6 %

Table 5: Topic + Contrast + Scene-setting (ex. 7)

	<i>total number</i>	<i>Contrast in VF</i>	<i>Topic in VF</i>	<i>Sc.-sett. in VF</i>	<i>sth.else in VF</i>
numbers	7	1	0	6	0
percent	100 %	14 %	0 %	86 %	0 %

- (4) *Die* [_{topic} *Richtlinienkompetenz*] *des Kanzlers gilt...*
the guideline-competence of-the chancellor is-valid
nicht... gegenüber dem Bundestag [...]

not toward the parliament

[_{contr.} *Die Parteien*] *bestimmen* [_{topic} *die Richtlinien*] *der*

The parties determine the guidelines of-the

Politik [_{contr.} *der Reichskanzler*] *wurde als Vollzieher*

politics the empire-chancellor became as fulfiller

und Hüter der [_{topic} *Koalitionsrichtlinien*] *bezeichnet.*

and guardian of-the coalition-guidelines addressed

‘The Chancellor has no competence how to interpret the guidelines opposed to the parliament. The parties determine

the political guidelines, the chancellor was addressed as

fulfiller and guardian of the coalition’s guidelines.’

(FAZ 2, 18; 20-21)

- (5) [_{scene} *Am Dienstag mittag*] *können* [_{topic} *die deutschen Helfer*]

At Tuesday noon can the German helpers

... *aufbrechen.*

start

‘Tuesday at noon the German helpers can start’

(FAZ3, 46)

- (6) [_{scene} *Zu Bachs Zeiten*] *hatten* [_{contr.} *beide Feiertage*] *eine*

At Bach’s times had both holidays a

*wichtige Stellung im Kirchenjahr.*⁴

important position in-the church-year

[_{contr.} *Zum Reformationstag*] komponierte [_{topic} *Bach*] ...

To-the reformation day composed Bach

[_{contr.} *die beiden heute gespielten Kantaten*] ...

the two today played cantatas

[_{contr.} *Zu Michaelis*] komponierte [_{contr.} *Bach*] außer BWV 19

To Michaelmass composed Bach besides BWV 19

... noch BWV 50

... also BWV 50

‘At Bach’s time both holidays were prominent in the festival calendar of the <Lutheran> church. For Reformation’s Day Bach composed the two cantatas played tonight. For Michaelmass Bach composed besides BWV 19 and 149 also BWV 50.’

(Ri1, 7-8; 10)

(7) [_{scene} *Im Umkreis von drei Kilometern*] töteten

In radius of three kilometres killed

[_{topic} *sie*]

they

sämtliches Geflügel, [_{contr.} *mit Gas, per Stromstoß*]

all poultry by gas by electric shock

'In a 3-km-radius they (veterinary officers, mentioned in prev. sentence) killed all poultry, using gas and electric shocks'
(SZ1,43)

As has been worked out in more detail in Speyer (2008), we can interpret this situation, in which several potential vorfeld-fillers are present and compete for the vorfeld position, using an Optimality-Theoretic model with interacting constraints. The constraints are:

Constraint 1 (TOPIC-VF): The topic is moved to the vorfeld

Constraint 2 (CONTRAST-VF): The contrastive element is moved to the vorfeld

Constraint 3 (SCENE-SETTING-VF): The scene-setting element is moved to the vorfeld

The observed data would be the outcome if these constraints were ranked in the following way:

SCENE-SETTING-VF >> CONTRAST-VF >> TOPIC-VF

Note that constraints in Optimality Theory are intrinsically violable. Furthermore they are not assigned strict values, but rather should be viewed as a kind of Gaussian curve with a specific determinable value as the peak

point ('Stochastic Optimality Theory', cf. Boersma & Hayes 2001). Therefore it can occasionally be the case that the competition is won by candidates which would be ruled out if the constraints given above were inviolable and had strict values.

Topics are ranked low which means that they move to the *vorfeld* only as kind of a last resort. Since, however, many sentences contain neither contrastive elements nor scene-setting elements, this last resort still has to be applied comparably often.

After having given this short overview over ranking of *vorfeld*-constraints in written discourse, let us investigate how this approach fares in spoken dialogue.

3. Spoken discourse I: The ranking

3.1 The corpus

The main topic of this paper is whether this ranking can be applied to spoken data, and if so, whether the results are divergent from the results we found for written data. A further question, more directly related to the overall topic

of the present volume, is: in what ways does dialogic organisation influence the filling of the *vorfeld*?

The corpus used for this part of the study consists of transcripts of informal conversations which were for the most part conducted in dialectal (Swabian) German.⁵ The conversations were no interviews, but simply chats that were tape recorded; the students later used parts of the conversation for description, when they were sure that all conversing persons had got used to the taping situation and behaved normally. Among the available transcripts I chose those that recorded natural, face-to-face conversations. Unnatural discourse situations such as e.g. TV talk shows, interviews, telephone conversations (which were also among the transcripts) were left out. For obvious reasons I took only complete verb-second declarative sentences into account. In the 10 transcripts that formed the corpus, the number of complete verb-second declarative sentences was 596.

3.2 *The role of origo*

Now, is the ranking established for written discourse also valid for spoken discourse? This question can be answered in the affirmative, but with an important proviso: as opposed to written discourse, two classes of elements can be identified that have a preference for the *vorfeld*, which have to be fit into the established ranking. These are:

- subject personal pronouns (= SPP)
- *dann* 'then'

Both types of elements are typical of spoken and dialogical discourse, as opposed to written discourse.

SPPs serve to mark the *origo* of the utterance. *Origo* is generally defined as the 'deictic center' that is the reference point from which deictic elements such as 'here', 'over there', 'now', 'I', 'you' etc. have to be understood. It is clear that different discourse participants have different *origines*, then, as a given participant normally takes him/herself as reference point from which to understand deictic expressions. Marking of the *origo* in the discourse is done by the 'person', in the form of person agreement and/or by the use of subject personal pronouns. The marking of the *origo* is relevant only if there are more than one potential *origines* in the discourse. With written, monological text, this tends not to be the case. With dialogically organized discourse, it is the norm: each utterance has to be marked whether it is spoken from the perspective of the speaker, from the perspective of some uninvolved person, or from the perspective of the addressee. This makes immediate sense if we look at it from the perspective of e.g. speech act theory (see Searle 1969): A proposition can be uttered with any illocutionary point. In order to decode the illocutionary act it must be clear where the *origo* of the utterance is. A proposition like 'x is going to mow the lawn',

where $x = \textit{origo}$, can be associated with a directive illocutionary force ('you are going to mow the lawn', or: 'Mow the lawn!'), a commissive illocutionary force ('I am going to mow the lawn') or an assertive illocutionary force ('Uller is going to mow the lawn'). So the encoding of the *origo* of each utterance is a precondition on the successful interpretation of its illocution.

It is easy to see that the use of first, third and second person encodes exactly the *origo*. As in dialogue *origines* tend to shift, it is important to point out the *origo* of each utterance.

We see thus a different ordering principle from monological text. In the monological texts used for the study on vorfeld-filling in written discourse, the *origo* was uniformly third person. Thus the most important organization principle there is the topic-comment principle, which in spoken discourse is superimposed by the organization according to *origines*. This is not to say, that the organization according to topics does not play a role in spoken discourse too (see section 3.2); topics are however not as central an organization principle as in written texts. SPPs, while being, of course, frequent in monological discourse, have another function there: they serve foremost to indicate that the topic of the preceding utterance continues to be the topic (see also Grosz et al. 1995; Walker et al. 1998). We have also seen that topic-referring SPPs do not have a predilection for the vorfeld, but tend

to stay in the leftmost position of the *mittelfeld* (Frey 2004), as opposed to *origo*-indicating SPPs. So we see a clear difference in positioning, depending on function.

3.3 *Narration in spoken discourse*

The word *dann* ‘then’, on the other hand, is not intrinsically special for dialogic, or even spoken discourse. Its main function is to mark the temporal sequence of events, topics or ideas in a text (cf. Schiffrin 1987: 246ff.). In the framework of Segmented Discourse Representation Theory (SDRT) in the tradition of Asher & Lascarides (2003), *dann* can be explicitly assigned a clear function. It is used to mark the rhetorical relation of Narration (Asher & Lascarides 2003: 162f.) between two utterances.

If *dann* is not intrinsically connected to dialogic organization, why is it that we do not find many examples of it in written, monologic discourse? After all, monologic discourses like the newspaper articles and treatises that make up the written corpus in section 1 tend to be narratives, and thus we should expect that utterances in such a text normally have a Narration-relationship.

Probably it is exactly this property that renders *dann* rare in written discourse. Narration is the ‘unmarked’, i.e. standard, relation in written texts and can therefore remain unmarked in the literary sense. Note that children

or persons that are not accustomed to writing use *dann* a lot in their discourse. In elementary school excessive usage of *dann* is usually suppressed for stylistic reasons. This is only possible if *dann* does not contribute crucially to the intelligibility of the text. Indeed, it does not, but only because everybody expects a sequence of sentences in a written narrative to be in a narration relationship by default.

In spoken discourse, however, narration is far from being the standard. In a normal conversation, we find much more often that a topic is established and the subsequent utterances add material to it. That is, most frequently we find Explanation and Elaboration relations. This was also the case in my transcript, when short narrational passages were embedded in explanation-elaboration passages; in those passages, *dann* was used.

To illustrate this, let us look at a randomly picked conversation fragment from the corpus (8):

- (8) P: p1: *i han en jetzt grad ausdrücklich saga wella dass mei Frau*
 I have now just explicitly say want that my wife
gerscht sehr sehr fürsorglich war
 yesterday very very providing was
 p2: *und gsagt*
 and said

p3: *und des letscht Stückle . des ischt für dei Tochter*

and this last piece-dim. this is for your daughter

p4: *weil i han gerscht mindeschtens fünf Stück gessa*

because I have yesterday at least five piece eaten

R: p5: *Ach so jetzt weiß i wo der blieba isch*

Ah, ha now know I where this remained is

P: p6: *manche waren klein von dene*

some were small of those

R: p7: *hm also weniger als äh . äh zehn mal zehn*

hm well less than eh eh ten times ten

P: p8: *Em morgnets, noi vorgesch z'obeds mon'er ganz*

At morning no day-bef.yest. evening when he totally

frisch backa gwä ischt . und i hoimkomma bin da

fresh baked been is and I home-come am then

war mei Frau scho im Bett

was my wife already in bed

p9: *grocha hot's . so wie üblich*

smelled has-it so as usual

L: p10: *wie üblich was heißt denn des*

as usual what means then this

R: p11: *ha des ((laughs)) des gibt mir schwer zu denka*

ha this this gives me heavily to think

P: p12: *no bin i in d'Kuche ganga . .*

then am I in the kitchen gone

p13: *und han mir a Stückle weggschnitta . .*

and have me a piece off-cut

p14: *und han des gessa . am nägschda Morga*

and have this eaten at next morning

L: p15: *abends oder was?*

evening or what

P: p16: *abends natürlich*

evening of course

p17: *solang's frisch ischt . so schmeckt's am besten*

as long it fresh is so tastes it at best

p18: *übrigens des war . aus oigenem Anbau . der*

by-the-way this was from own cultivation the

Rhabarber

rhubarb

L: p19: *nee echt ham wir schon welchen?*

no really have we already some

R: p20: *ja*

yes

P: p21: *i selber eigenhändig hab en gschnitta nach*

I myself with-own-hands have it cut following

Befehl meiner Frau

order of-my wife

Elaboration (p17, p18)

Elaboration_q (p18, p19)

QAP (p19, p20)

Elaboration (p18, p21)

Explanation (p21, p22)

Translation :

P: p1: Just now I explicitly wanted to point out that my wife was very
providing

p2: and said

p3: and this last piece, this is for your daughter

p4: for I have eaten at least five pieces yesterday

R: p5: Ha, now I know what happened to it.

P: p6: Some of them were small

R: p7: well less than ten to ten

P: p8: In the morning, no, evening two days ago, when it has come right
from the oven and I had come home, my wife was already asleep.

p9: It smelled as usual

L: p10: as usual – what do you mean

R: p11: ha, this gives me food for thought

P: p12: Then I went to the kitchen

p13: and cut off a piece for myself

p14: and ate it next morning

- L: p15: in the evening or what?
- P: p16: in the evening of course
- p17: it tastes best when it comes right from the oven
- p18: by the way, the rhubarb was grown by us
- L: p19: no, really, do we have some already?
- R: p20: yes
- P: p21: I myself with my own hands cut it on command of my wife
- R: p22: yeah, for it would never have occurred to you by yourself that it
must be removed.

We see that only a small portion of the utterances in this typical sample from a conversation are in a Narration relationship. Note that the beginning of the Narration section is marked by *no* [nɔ:] in the vorfeld, which is the Swabian equivalent of standard German *dann*. It is probable that, if a larger corpus were used, we would find that markers of rhetorical relationships have a tendency to stand in the vorfeld, but clearly more research on that is needed.

3.4 *Recalibrating the ranking*

The next question we have to ask is how these two additional types of preferred vorfeld-fillers, viz. *dann* and subject pronoun, fit into the ranking that we have established for written discourse. As a first approximation we can count how often they are ever in the vorfeld. By this we can judge

whether our impression was right that they are preferred vorfeld-elements. The numbers are given in Table 6 and Figure 3. In the first line of Table 6 the number of sentences that contain one of the elements is given. The second line indicates the number of sentences in which the respective element is in the vorfeld, from which the ratio can be calculated in the third line. Figure 3 visualizes the ratios.

@@Insert table 6 here

Table 6: Frequency of elements in the vorfeld, spoken discourse⁶

	<i>Topic</i>	<i>Contrast</i>	<i>SPP</i>	dann	<i>Scene-setting</i>
Sentences with element	596	165	237	68	86
of those with element in VF	185	89	131	45	56
%	31	54	55	66	63

@@ Insert figure 3 here

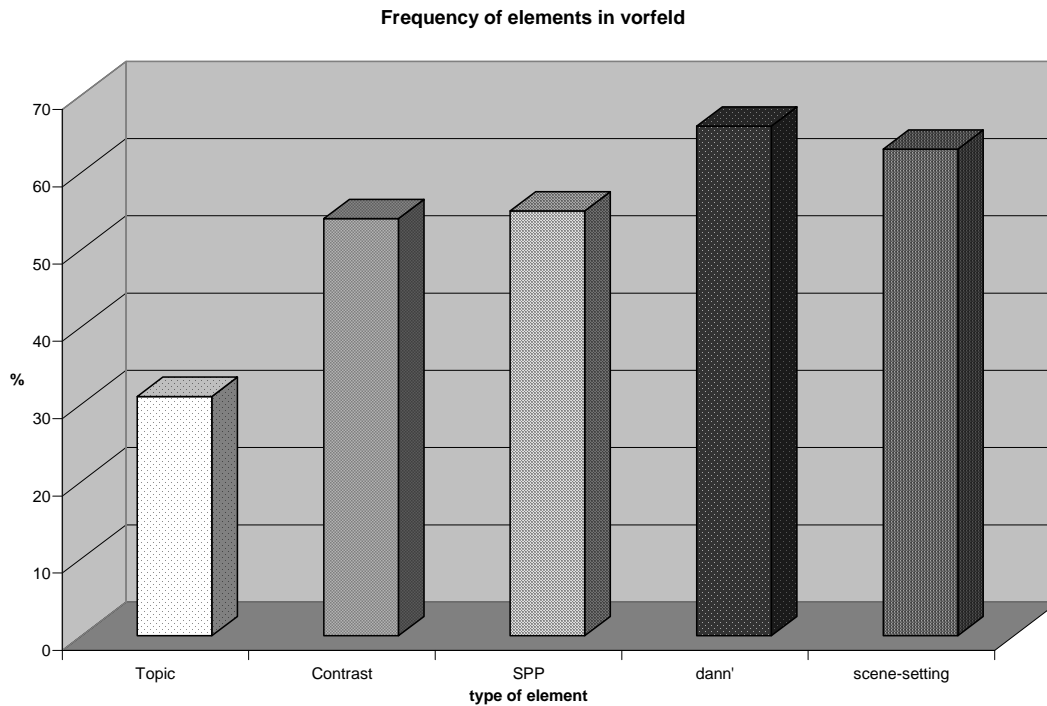


Figure 3: Frequency of elements in the vorfeld, spoken discourse

We see that SPPs are nearly as often in the vorfeld as contrast elements, whereas the frequency of *dann* is more or less comparable to that of scene-setting elements. Both types, contrastive elements and scene-setting elements, have been established as preferred vorfeld-elements, so the original intuition about *dann* and SPPs was probably on the right track. So we can provisionally say that the ranking will probably look like this:

DANN-VF, SCENE-SETTING-VF >> SPP-VF, CONTRAST-VF >> TOPIC-VF,

with two new constraints:

DANN-VF: The word *dann* is put in the vorfeld,

SPP-VF: Subject personal pronouns are put in the vorfeld.

The second step would be to look at how these elements compete with each other. In order to do that, we have to identify the sentences which contain two or more elements that are preferred for vorfeld-position, and look at which of these elements actually are in the vorfeld. This is done in Tables 7 (for sentences that contain two potential vorfeld-elements) and 8 (for sentences that contain three potential vorfeld-elements). The tables are in some way comparable to Tables 2 to 5, only a more compact format has been chosen. Columns 1 to 5 show for each row what elements are present in the particular sentences. Col. 6 gives the number of sentences, which have one of those elements in the vorfeld. As we have certain expectations from the ranking established for written discourse, the ratio of sentences that fit the expectation is given in col. 7. The basis for this calculation is always the sum of the two cases listed in col.6. In col. 8 the ratio is interpreted in terms of constraints.

@@Insert table 7 here

@@Insert table 8 here

Table 7: Sentences with elements of 2 types (2-item-sentences)

			<i># of sent. with either element in vorfeld</i>	<i>Percentage of expected element⁷</i>	<i>resulting ranking</i>
T(topic)	P(ostet)		P = 13 T = 13	50 %	P = T
T		SPP	SPP = 37 T = 8	82 %	SPP >> T
T		Sc(ene)	Sc = 12 T = 3	80 %	Sc >> T
T		D(ann)	D = 12 T = 0	100 %	D >> T
	P	SPP	SPP = 14 P = 20	59 %	P (>>) SPP
	P	Sc	Sc = 3 P = 2	60 %	Sc (>>) P
	P		D = 4 P = 4	50 %	D = P
		SPP Sc	Sc = 9 SPP = 5	64 %	Sc (>>) SPP
		SPP D	D = 17 SPP = 3	85 %	D >> SPP
		Sc D	D = 0 Sc = 1	(100 %)	(Sc >> D)

Table 8: Sentences with elements of three types (3-item-sentences)

			<i># of sent. with either element in vorfeld</i>	<i>Percentage of expected element</i>	<i>resulting ranking</i>
T	P	SPP	SPP = 1	(50 %)	SPP, P (>>) T

				P = 1		
				T = 0		
T	P		Sc	Sc = 1	(100 %)	(Sc >> P, T)
				P = 0		
				T = 0		
T	P		D	D = 1	(100 %)	(D >> P, T)
				P = 0		
				T = 0		
T		SPP	Sc	Sc = 6	67%	Sc >> SPP >> T
				SPP = 3		
				T = 0		
T		SPP	D	D = 2	(50%)	D, SPP (>>) T
				SPP = 2		
				T = 0		
T			Sc	D	D = 1	(50 %)
				Sc = 1		(D, Sc (>>) T)
				T = 0		
	P	SPP	Sc	Sc = 4	67 %	Sc >> SPP >> P
				SPP = 2		
				P = 0		
	P	SPP	D	D = 1		SPP (>>) D, P
				SPP = 2	(50%)	
				P = 1		
	P		Sc	D	D = 0	-
				Sc = 0		-
				P = 0		
		SPP	Sc	D	D = 0	(Sc >> SPP, D)
				Sc = 1	(100 %)	
				SPP = 0		

If an element does not appear at least twice as often as its competitor, the observed ranking might be due to chance; this is indicated by the sign (>>) instead of >> which indicates relatively secure ranking. Rankings that are based on little data have to be viewed cautiously, too; they are put in brackets.

Some of the observed ranking facts correspond to the expectations, some do not. One observations corresponding to what we expected is that the topic is ranked relatively low as vorfeld-element. Another expected outcome is that scene-setters are on the whole the most frequent vorfeld-elements. These two results are in accordance with the ranking in written discourse. A further result is that *dann* is preferred over SPPs as a vorfeld filler. This is what we would expect from the gross count in Table 6.

3.5 *Modelling a non-strict ranking by Stochastic Optimality Theory*

The results that are not in accordance with the results for written discourse are, first, that the ranking seems to be less categorical in general than is the case with written discourse. Topics especially are more often in the vorfeld as expected. And contrastive elements are very inconsistent, sometimes on a par with topics, then again apparently ranked high, higher than SPPs, and on a par with *dann*.

A possible explanation for this is that the ranking, as it stands, can be overridden by requirements from other parts of the grammar or speech production system. Note that the constraints as they are formulated here only make reference to pragmatic properties. But other factors play a role in (real oral) speech production, prosody for instance. It is possible that the pragmatic constraints as a whole can be overridden by prosodic constraints. Contrastive elements tend to bear a focal accent. Accented elements are subject to a well-formedness constraint which I refer to as ‘Trochaic Requirement’ (Speyer 2005). Its essence is that two accented elements must be separated by at least one unaccented element; this makes it pretty much a variant of Liberman’s (1975) Principle of Rhythmic Alternation, but in the domain of accent. If accented elements are put into the *vorfeld*, the danger of violating the Trochaic Requirement is minimized, as the element in the left sentence bracket is usually unaccented. Therefore we often find (prosodically strong) contrast elements preferred for *vorfeld* position over (prosodically weak) SPPs (9):

- (9) *so Komödien gefallen mir so am beschten ... aber, äh, [contrast*
such comedies please me so at best but uhm
Actionfilme] mag ich nich so arg
action movies like I not so much
 ‘I like comedies best, but action movies I don’t like so much.’

Returning to Tables 7 and 8, we can extract the following significant rankings:

			SPP		>>	T
	Sc				>>	T
D					>>	T
	Sc	>>	SPP	>>	P	
	Sc	>>	SPP		>>	T
D		>>	SPP			

D = P

P = T

If we include what we know from written discourse (mainly that CONTRAST-VF is higher ranked than TOPIC-VF) we get the following ranking:

D, Sc >> SPP >> P >> T

From this we see that the rough method of determining the ranking simply from the frequencies of vorfeld-placement of the elements in question can serve as a reliable approximation in cases when too little evidence exists to establish the ranking by a real competition-check.

The fact that the ranking is not categorical suggests that the ranking values are relatively close together. In a system of stochastic OT, such as the one described by Boersma & Hayes (2001), each constraint is assigned a ranking value. The values however have to be imagined not as fixed numbers, but as highpoints of a Gaussian curve. This means that ranking values, if they are sufficiently close to each other, have a certain overlap. Such a situation is schematically shown in Figure 4. This means that if it comes to the actual assignment, the actually picked value for a constraint A, whose high-point is actually higher than the high-point of constraint B, can end up with a lower assignment value than the assignment value of constraint B.

@@ Insert figure 4 here

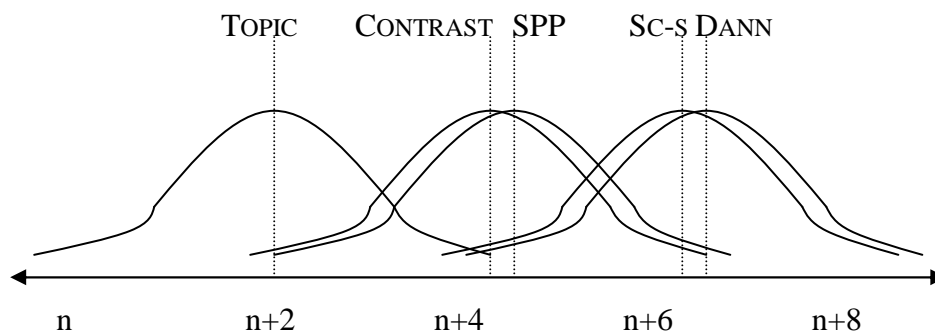


Figure 4: Schematic view of constraint overlap

If we feed the numbers for the two-member cases in a program such as Praat that uses Boersma & Hayes (2001)'s Gradual Learning Algorithm, we in fact arrive at numbers rather similar to what we expect (Table 9):⁸

@@Insert table 9 here

Table 9: Ranking values of the vorfeld-constraints ($\sigma = 2$)

<i>Constraint</i>	<i>Ranking value</i>	<i>difference from next higher constraint (rounded)</i>
DANN-VF	100.016	-
SCENE-SETTING-VF	99.914	0.1
CONTRAST-VF	98.756	1.2
SPP-VF	98.510	0.2
TOPIC-VF	96.828	1.7

Note that SCENE-SETTING and DANN are very close to each other, as are CONTRAST and SPP (the observed facts from the three-element ranking would probably put SPP slightly higher than CONTRAST, therefore it is this order that is chosen throughout the paper). TOPIC is ranked so low that it virtually never can outdo SCENE-SETTING or DANN.

Let us return to *dann* which is found as frequently in the vorfeld as scene setting elements from which we concluded that DANN is ranked equally high as SCENE-SETTING. There are two possible explanations for that. One we have already mentioned, namely, that elements like *dann*, explicitly marking a rhetorical relation, are preferred vorfeld-fillers in general. I also mentioned that more research is necessary to validate this assumption (a first step in this direction is Speyer submitted).

Another possibility is that *dann* shows a similar distribution as scene-setting elements simply because it counts as a scene-setting element for the purposes of the ranking. If we define scene-setting elements as temporal or local specifications of the situation in which the truth value of a given proposition is evaluated (see Schiffrin 1987: 228; Jacobs 2001: 656), the word *dann* is covered by this definition. But it is not possible yet to decide between these two alternatives, and, as we will see later, this explanation is probably not correct.

On the whole we can conclude that the ranking established for written discourse is also valid for spoken discourse in principle, but less categorical. Elements specific for spoken discourse can easily be fitted into the ranking for written discourse.

4. Spoken discourse II: Do turns play a role?

4.1 The influence of turn organization on ranking

A defining property of spoken dialogic discourse is its organization into turns. After we modified the ranking for spoken discourse in general, we need to examine whether turns influence the vorfeld-positioning. More specifically, we have to look whether the position of an utterance, in the

middle or at the beginning of a turn, makes a difference for which element is preferably in the vorfeld. Table 10 and Figure 5 show the rates of vorfeld-movement for the different types of elements. ‘Across turns’ in the following tables and figures is shorthand for the turn-initial sentences, ‘within turns’ for all other sentences.

@@Insert table 10 here

Table 10: Frequency of preferred vorfeld-fillers, separated for position in the middle or at the beginning of turn

		<i>Topic</i>	<i>Contrast</i>	<i>SPP</i>	<i>Sc-setting</i>	<i>'dann'</i>
across turns	sentences with	95	87	78	27	13
	element					
	thereof elem. in	60	41	51	13	9
	vorfeld					
	%	63.2	47.1	65.4	48.1	69.2
within turns	sentences with	213	98	159	59	55
	element					
	thereof elem. in	115	48	80	43	36
	vorfeld					
	%	54.0	49.0	50.3	72.9	65.5

@@ Insert figure 5 here

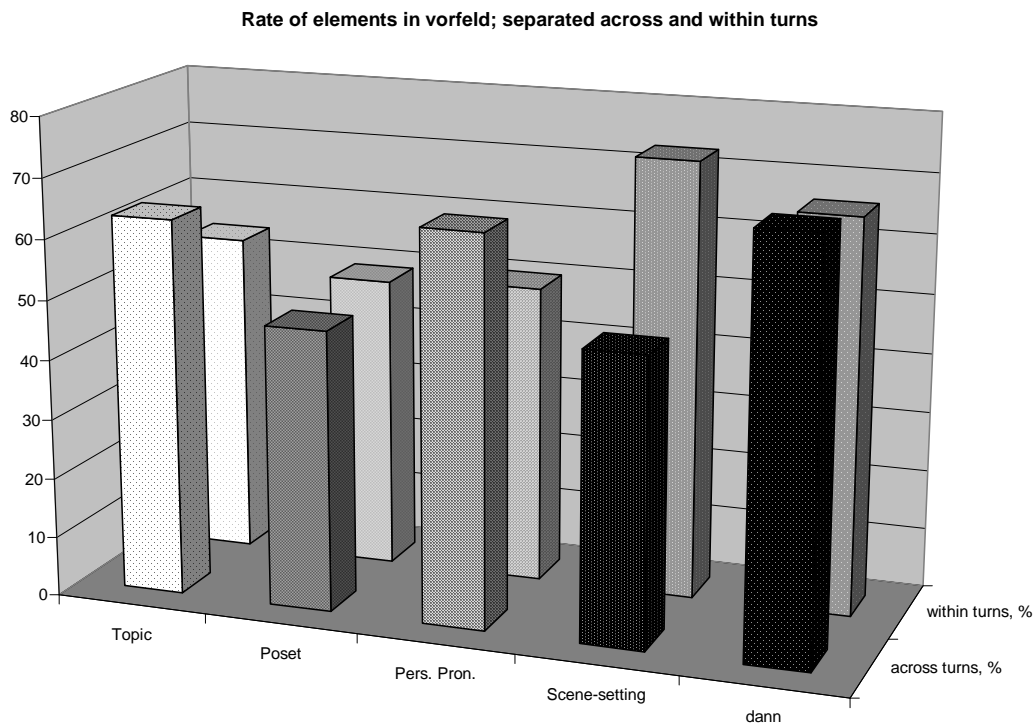


Figure 5: Frequency of preferred vorfeld-fillers, separated for position in the middle or at the beginning of turn

We see no effects in the case of contrastive elements and *dann*. We see some effect in the case of topics and SPPs, both of which have a higher likelihood to move into the vorfeld in utterances that are at the beginning of a turn. This is not unexpected; it is exactly at the beginning of the turn that the establishment of the *origo* of the following turn plays a role, and the vorfeld seems to be the position of choice if attention is to be directed to the *origo*. Likewise, if the *origo* does not change in a passage, and the organization into topics becomes more important as a consequence of that, one might want to emphasize the topic of the utterance that follows.

We see an adverse effect in the case of scene-setters, which are more frequently in the *vorfeld* in the middle of turns. Probably they are driven out by SPPs and topics in this special environment, i.e. at the beginning of a turn, as there the establishment of the scene presumably plays a less important role than the establishment of the *origo* or the topic.

4.2 *The ranking of topics*

Let us have a closer look at topics. A special case is the interaction of topic structure with the global organization of the discourse, especially insertions.

Insertions are characterized as sub-discourses that take an element of the surrounding discourse (not its topic) as their topic. They elaborate on that topic, before at the end of the insertion the speaker returns to the level of the main discourse and with it to the old topic (see Grosz & Sidner 1986; Speyer 2007).

The organisation in main discourse and sub-discourses, as indicated by the topic structure, is orthogonal to the dialogical organization in turns. If insertions interact with a dialogic structure, we can distinguish two cases:⁹

- The same participant that has started the insertion re-introduces the topic (case 1, within turn)

- Another participant B returns to the level of the main discourse after participant A, which is the participant that has started the insertion, ends his/her turn on the level of the inserted sub-discourse (case 2, across turns).

We can separate the cases in which an insertion is ended by the same speaker within a turn from cases in which an insertion is ended by another speaker at the beginning of a turn. These two cases have rather different characteristics.

The topic in case 1, that is, the same speaker that started the insertion returns to the level of the main discourse, is predominantly in the position at the beginning of the *mittelfeld* that Frey (2004) identified as the archetypical topic position. Moreover, it is preferably realized pronominally (Table 11, Figure 6). A typical example is under (10).¹⁰ Thus we can say that here the topic does not behave significantly differently from topics in written discourse, especially topic re-introduction after insertions (see Speyer 2007). This is not surprising, as the topic of the main discourse is still salient in the discourse universe of the speaker that began the insertion; the discourse-structure with its different levels of embedding is obvious for the speaker that started the insertion.

(10) context: S2: *Wobei* [*topic* *mei Schwester*], *die hat mal n ganz*

Whereas my sister this had once a totally

tolls Projekt ket im Studium...

great project had in study

'Whereas my sister, she once had a really great project as part of her courses'

(Here follows the description of the project; insertion on knitting men (see ex.11) by S1)

S2: *Und dann hän* [_{Topic} *sie*] *halt immer die Bilder*

and then have they ptc. always the pictures

zammezeigt

together-shown

'And then they always showed the pictures together'

With case 2 (participant A leaves the level of the main discourse by starting an insertion and does not return to the main level during his/her turn; participant B then returns to the main level), the re-introduced topic is preferably in the *vorfeld* or at the end of the *mittelfeld*, which by the way is a position usually reserved for emphasized or new information. Only rarely does it stand at the beginning of the *mittelfeld*. In these cases, the topic tends to be realized as full noun phrase (see Table 11, Figure 7), which would also be suitable rather for a discourse-new element. Moreover, if the re-introduced topic is in the *vorfeld*, it is regularly preceded by a discourse structuring particle in the *vorvorfeld*, such as *aber* 'but', *wobei* 'although' (see Günthner 2000). Such particles have in common that they specify the

connection of two speech acts, not only the connection of two propositions. Thus we can infer that in such situations the coherence of the discourse is somewhat disturbed and needs to be clarified by overt marking devices such as discourse structuring particles. An example is given under (11):

- (11) context: S2: *wenn n Mann in ner typischen Frauesituation*
 if a man in a typical women-situation
isch oder re Frau in re typische
 is or a woman in a typical
Männersituation. [insertion Des war, ah, die
 men-situation That was ah the
[topic Fotos] waret Gold wert,
 photos were gold worth,
die waret echt Gold wert.]
 they were really gold worth

‘If a man is in a situation typical for women or a woman in a situation typical for men. These pictures were priceless, really priceless.’

- S1: *Wobei, [topic strickende Männer] gabs ja eigentlich*
 But knitting men gave-it ptc. actually
beim Grüne
 at-the green

‘But there were knitting men in the Green Party’

Table 11 gives the number of topics in the two cases mentioned, case 1 corresponding to col. 2, case 2 to col.3. The lines give the numbers of topics in different positions in the sentence, l. 2/3 the vorfeld, l. 4/5 the left edge of the mittelfeld, l. 6/7 any other position in the mittelfeld. The second of those blocks indicate how many of those topics are pronominalized. Lines 8 to 10 give the ration of pronouns independently of their position. The numbers of case 1 are visualized in Figure 6, the numbers of case 2 in Figure 7.

@@Insert table 11 here

Table 11: Reintroduced topics within and across turns, rate of pronominal realization

	<i>topic re-introd. within turn</i>	<i>topic re-introd. across turns</i>
in VF	4	6
thereof pron	2	1
in MF 1	5	2
thereof pron	3	1
later in MF	2	5
thereof pron	1	2
sum	11	13
thereof pron	6	4
% pron	55	31

@@ Insert figure 6 here

@@ Insert figure 7 here

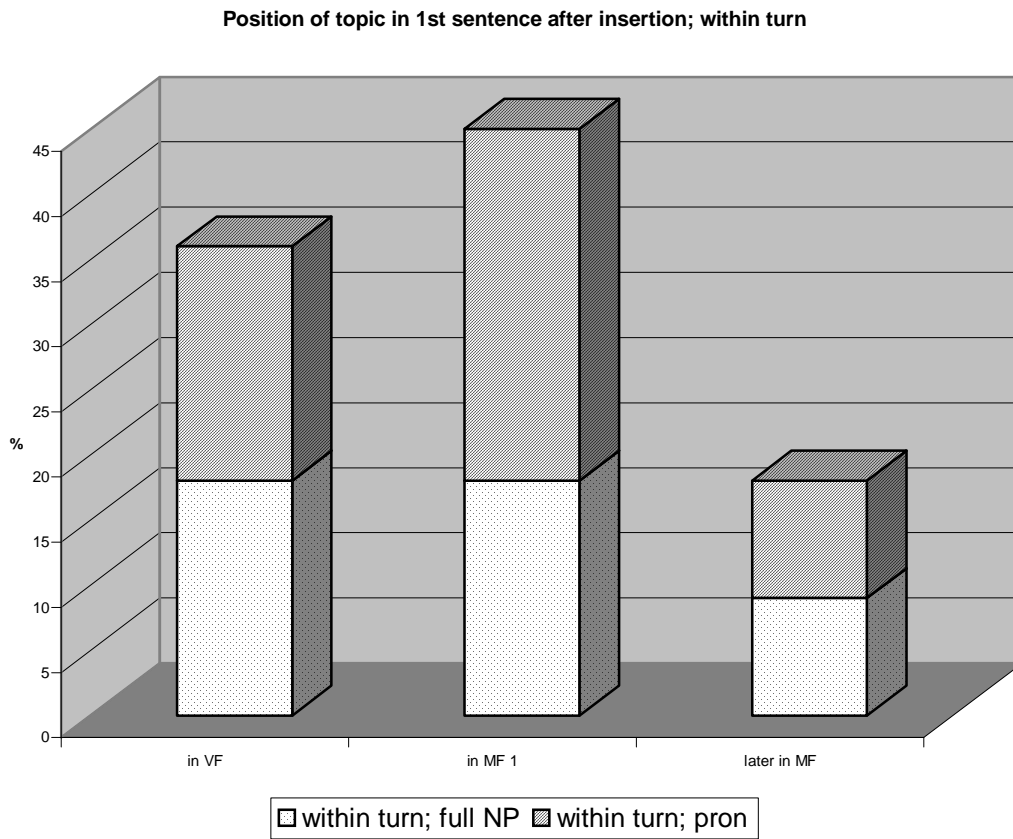


Figure 6: Position of topic in first sentence after insertion; within turns



Figure 7: Position of topic in first sentence after insertion; across turns

So we can say on the whole that the re-introduced old topic in case 1 behaves much like a normal topic, in that it tends to be realized as a pronoun and is positioned in the prosodically weak position at the beginning of the mittelfeld. From the point of view of the speaker the insertion here is like the insertion into a monological text, as we deal with still the same discourse universe, namely that of the speaker.

The re-introduced old topic in case 2 behaves rather like a piece of new information or a contrastive element. It tends to be realized as a full noun phrase and stands in the prosodically strong positions at the end of the *mittelfeld* or in the *vorfeld*. The *vorfeld*, as we have seen, can host contrastive elements; it can also host several types of new information. The end of the *mittelfeld* is the archetypical position for new information (see e.g. Engel 1988: 73, 340). The reason for that is presumably that the old topic α is 'new' in the discourse universe of the participant B that re-establishes it. Note that α was the topic only at the beginning of the preceding utterance, made by participant A, and that A changed the topic in the course of leaving the level of the sub discourse to another topic β , so that the utterance of A ends with the topic β . Participant B, who re-establishes α as a topic, has a different discourse universe in which the old topic α might not figure as prominently as in the discourse universe of participant A. Anyway, α is not very salient in the discourse at this point (remember that the topic of the discourse is β when A ends his/her turn) and therefore the reference to α by means of a pronoun or other devices that are used in situations of topic constancy might lead to misunderstandings.

On the whole, we can answer the question whether turns play a role for *vorfeld*-movement as follows: they do play a role in that the critical part of the turn, the beginning of the turn, is subject to constraints different from

those that play a role in the middle of a turn or in monological discourse. At the beginning of a turn, SPPs and topics are more preferred for vorfeld-movement than they are in the middle of a turn. Scene-setting elements, on the other hand, are less preferred. If a sub-discourse has been inserted, the topic of the main discourse is re-introduced like a normal topic, if the same speaker that has begun the sub-discourse also returns to the main discourse level. It is, however, treated like new information if the speaker that returns to the main discourse level and re-introduces it is not identical with the speaker who has embarked for the sub-discourse.

5. Conclusion

On the whole it is thus probably fair to conclude that sentences in spoken discourse use the same ranking as sentences in written discourse do, but only in the portions of the utterance that are roughly monologic, that is inside a turn, which in itself constitutes a small coherent monological text. At the beginning of turns, however, where the dialogical organization really matters, other factors play a higher role, namely the establishment of the *origo* or, if no new *origo* needs to be established, the establishment of the topic of the following utterance; or rather, the signalling that the topic is taken over from the preceding utterance. We have seen that re-establishment

of topics at the beginning of turns treats them as if they were new to the discourse.

The establishment of the scene is of lower importance at the beginning of a turn, compared to the establishment of topic and *origo*, and therefore stands less frequently in the *vorfeld* than it would in monological discourse. The fact that *dann* does not follow this trend indicates that it is not just another scene-setting element for purposes of the *vorfeld*-ranking, but is rather treated separately, probably by virtue of its being an explicit rhetoric-relation-marker. It would go beyond the aim of this paper to investigate, whether the ‘DANN-VF’ constraint is in reality rather a RHETORICRELATION-VF constraint, i.e. a constraint that aims to put markers of rhetorical relations into the *vorfeld* (but see Speyer submitted).

We have seen that beginnings of turns are subject to different requirements than the ‘body’ of turns. The body of turns is more or less comparable to monological written texts, as the ones investigated in Speyer (2008). We can refer to the ranking established for written discourse, extended by evidence from spoken discourse (and its specific ‘constraints’) as *Default Ranking*. At the beginning of turns, other considerations of text organisation play a role. Thus it is clear that we have to identify a different ranking battery for the beginning of turns. Because the relevant cases are very infrequent in the transcripts (in the whole text corpus used there were just 13 instances of the

relevant case, i.e. the beginning of a turn connected with topic shift) the data base is unfortunately very small. In future work I will hopefully be able to establish a more precise ranking.

Default Ranking:

DANN-VF, SCENE-SETTING-VF >> SPP-VF >> CONTRAST-VF >> TOPIC-VF

Ranking at the beginning of turns:

DANN-VF, SPP-VF >> TOPIC-VF >> CONTRAST-VF, SCENE-SETTING-VF

Notes

* This paper is the extended version of a paper presented at the conference *Linguistic Evidence 2* (February 2006, Tübingen, Germany) and the conference *Organization in Discourse 3: The Interactional Perspective* (August 2006, Turku, Finland). I want to thank the audience members and three anonymous reviewers for their extremely helpful comments, but especially Keelan Evanini, Irene Rapp and Joel Wallenberg for their invaluable help. All remaining errors are mine.

** The whole verbal complex is presumably generated in clause-final position. If the left sentence bracket is already occupied by a

complementizer (which presumably is also generated there), no part of the right sentence bracket can move. If the left sentence bracket is empty, the finite part of the verb form is moved there; if the verb form is only one word, the verb form as a whole moves there. The left sentence bracket cannot be left empty. The left sentence bracket corresponds to C, the vorfeld corresponds to Spec,CP in generative terms (den Besten 1977; Vikner 1995).

¹ Preferred readings of scopally ambiguous sentences arise independently of whether one quantified phrase is in the vorfeld or not. It is true that *Alle Studenten haben ein Buch gelesen* (all students read one book) is ambiguous between an $\exists > \forall$ reading and an $\forall > \exists$ reading, whereas *Ein Buch haben alle Studenten gelesen* (One book all students read) strongly encourages the $\exists > \forall$ reading, but the same goes for the vorfeld-less version *dass ein Buch alle Studenten gelesen haben*. So the effects are independent of vorfeld-movement.

² This equals 73 per cent of the total number of V2-sentences (364 of 501).

³ For technical reasons, for Table 1 and Figure 2, only a part of the corpus was used for the count, consisting of 360 sentences. The numbers for topics are reached under the assumption that all sentences have a topic, though sometimes not explicit; counting only sentences with overt topic the numbers would be: 168 sentences; 90 thereof Topic in VF = 54 per cent

⁴ Note that ‚Bach‘ appears for the first time in the text, thus is not to be regarded as Topic in [Ri1,7].

⁵ I want to thank Irene Rapp for giving me access to the transcripts which her students made in course of her seminars on conversation analysis, in the summer terms 2004 and 2005.

⁶ Read as: Of n sentences containing a contrast element/ SPP/ ..., m per cent of sentences have the contrast element/ SPP/ ... in the vorfeld. Topics are a special case, as the topic is not always overtly realized (but still present in the discourse; as opposed to the other types of elements which play a role in the discourse only if realized overtly. Frequency of overt topics would be 56.8 per cent).

⁷ 'Expected element' means the element that we would expect to beat the other, given the ranking established for written discourse and the first approximation above. If two elements are ranked equally high in the 'first step', the percentage of the more frequent element is given; these rates are not bold-faced.

⁸ I want to express special thanks to Keelan Evanini for helping me with the computational implementation.

⁹ The relevant cases are rather infrequent, because lengthy insertions are rare in spoken discourse. Let me define the relevant case: The main discourse is about topic α . In the main discourse a referent β is mentioned. Then a sub-discourse which elaborated on referent β starts, in which β is the topic. After a while, the discourse turns back to α as a topic; the insertion is ended. Such a hierarchical structure is not characteristic for spoken discourse. Spoken

discourse tends to be more ‘enumerative’: It is more common in spoken discourse not to return to topic α but to go on elaborating on some referent γ that is mentioned when talking about β , and so on.

¹⁰ The insertions after which this example and ex. (11) stand are rather elaborate and long, therefore I do not reproduce them here.

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Cited sigla from the corpus:

FAZ1: Frankfurter Allgemeine, 12.10.2005, p.1 "Hoffnungsträger gesucht"

FAZ2: Frankfurter Allgemeine, 12.10.2005, p.1 "Richtlinienkompetenz unter gleich Starken"

FAZ3: Frankfurter Allgemeine, 12.10.2005, p.9 "Kein Laut mehr aus den Trümmern"

StZ1: Stuttgarter Zeitung, 22.2.2003, p.1 „Struck legt Tornados und Boote still“

SZ1: Süddeutsche Zeitung, 24.10.2005, p.3 "Wenn es still wird im Stall"

Ri1: Konzertprogramm Int.Bachakademie Konz. 23.10.2005, p.1

L2: Radioessay "Die Globalisierung des Terrors", SWR2 Aula, 7.9.2003.