

## CORRECTION BY CONTRASTIVE FOCUS<sup>1</sup>

How do we correct a sentence of a communicative partner? As soon as it is our turn we interrupt his sequential development of a text and offer a replacement of an element in a sentence recently produced by him:

A: *Peter [kommt MORgen]<sub>F</sub>*. – corrigendum

B: *Peter kommt [HEUte]<sub>CF</sub>* – corrigens

B': *Peter kommt nicht [MORgen]<sub>CF</sub>, sondern [HEUte]<sub>F</sub>*. – corrigens

Whereas the German *nicht – sondern* constructions in B' have been described as coordinative constructions as well as from the point of view of negation or of the focussensitive operators in them, their semantic paraphrase in B consisting of a simple sentence with contrastive focus still lacks closer inspection. The paper goes into the grammatical and information structural peculiarities of these backward-related German corrigens sentences which deviate from so many syntactic and prosodic principles of German categorical sentences, and it offers a formal semantic description for them in a two-level semantics.

The paper finds the reasons for their peculiarities 1. in the function of corrigens sentences to correct any grammatical element of a preceding sentence or even of its usage, and 2. in the sequential relation between corrigens and corrigendum.

### 0. Introduction

Corrections consist of at least two sentences, the corrigendum and the corrigens. A German corrigens can be a *nicht – sondern* ('not – but') construction or a simple sentence with contrastive focus. In section 1 both are compared but the paper concentrates on the latter.

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A corrigens interrupts the sequential development of a text and offers the contrastively marked entity as a replacement for the corresponding incorrect element in the corrigendum. Section 1 demonstrates that any grammatical entity of a sentence can be corrected, not only its meaning but its formal properties as well and even its extragrammatical usage. But in order that the speaker's intention to correct be interpreted that way the corrigens must be embedded in a supporting context (cf. section 2).

The function of the corrigens to block the sequential development of a text and to correct an entity mentioned before are the reasons for the characteristic information structure of a corrigens and for its grammatical peculiarities. These are outlined in section 4 after section three has summed up the information structural properties of German categorical sentences for a comparison. Section 4.1 speaks on the referential state and the movement of the DPs and PPs in a corrigens, section 4.2 gives a short outline of the prosodic realization of contrastive focus, 4.3 explains its focus domain, and 4.4 concentrates on the Semantic Form of contrastive focus as well as on the Semantic Form of a corrigens. Section 5 presents a model for the modular description of corrections: The lexicon serves as the interface between cognitive modules and grammar. The semantic descriptions are built up by means of the two-level semantics by Manfred Bierwisch, Ewald Lang, and Dieter Wunderlich, and the syntactic representations make use of the projective economy for German sentences in Hubert Haider (1997).

## 1. Types of Corrections

Corrections consist of a sequence of at least two sentences, one is the corrigendum *cd*, the other the corrigens *cs*. Further corrigens sentences may follow. Some of the examples in this paper are introduced by context sentences *ct*. The examples are translated verbally. The information structure of the German sentences can only be read off the German originals.

- (1)ct Wer von deinen Brüdern wird denn morgen eintreffen?  
Who of your brothers will tomorrow arrive
- (1)cd [PEter]<sub>F</sub> kommt.  
Peter will come
- (1)cs [PAUL]<sub>CF</sub> kommt. (Peter ist zurückgetreten.)<sup>2</sup>  
Paul will come (Peter has cancelled)

<sup>2</sup> The focus domain is bracketed and indexed by F=Focus or CF=Contrastive Focus.

The corrigens contains a contrastively focussed replacement of the constituent to be corrected. The rest of the corrigens may equal the rest of the corrigendum, or it may be a semantic paraphrase or even an ellipsis of it, cf. (1')cs and (1'')cs.

- (1')cs [PAUL]<sub>CF</sub> wird da sein. (Peter ist zurückgetreten.)<sup>3</sup>  
 Paul will here be (Peter has cancelled)  
 (1'')cs [PAUL]<sub>CF</sub>. (Peter ist zurückgetreten.)  
 Paul (Peter has cancelled)

The corrigens sentences (1) through (1'') are simple sentences. But the correcting speaker may optionally add a second conjunct which explicitly negates the replaced constituent of the corrigendum. Corrigens (2)cs and (2')cs are regarded as optional variants of (1')cs whereby in (2)cs *Peter* is in the focus of *nicht* ('not'), and in (2')cs focussed NICHT negates the ellipsis of the sentence *Peter kommt* ('Peter will come').

- (2)ct Wer von deinen Brüdern wird denn morgen eintreffen?  
 Who of your brothers will tomorrow arrive  
 (2)cd [PEter]<sub>F</sub> kommt.  
 Peter will come  
 (2)cs [PAUL]<sub>CF</sub> wird da sein, und nicht [PEter]<sub>F</sub>. (Peter ist zurückgetreten.)  
 Paul will here be and not Peter (Peter has cancelled)  
 (2')cs [PAUL]<sub>CF</sub> wird da sein, und [NICHT]<sub>F</sub> Peter. (Peter ist zurückgetreten.)  
 Paul will here be and not Peter (Peter has cancelled)

There is a second type of corrections the corrigens of which is a complex sentence containing the focus sensitive conjunction *sondern* ('but') in the second conjunct and the overt negation *nicht* ('not') in the first conjunct exemplified. Cf. the examples in (3). (3)cs and (3')cs are syntactic variants of each other. In this type of correction overt negation is compulsory.

<sup>3</sup> (1)cs, (1')cs, (1'')cs, etc. mark alternative possibilities to correct the same corrigendum.

- (3)ct1 Wer von deinen Brüdern wird denn morgen eintreffen?  
Who of your brothers will tomorrow arrive
- (3)cd [PEter]<sub>F</sub> kommt.  
Peter will come
- (3)cs Es kommt nicht [PEter]<sub>CF</sub>, sondern [PAUL]<sub>F</sub>. (Peter ist  
It will come not Peter but Paul (Peter has  
zurückgetreten.)  
cancelled)
- (3')cs Nicht [PEter]<sub>CF</sub> kommt, sondern [PAUL]<sub>F</sub>.  
Not Peter will come but Paul

“In the first conjunct *nicht* (‘not’) delimits a certain semantic component as a possible corrigendum in the same way as *nicht* (‘not’) determines the focus...; the second conjunct, however, specifies the corrigens, i.e. that semantic component which is to be replaced for the one rejected as wrong in the first conjunct. As corrigendum and corrigens have to match exactly, it is by way of specifying the corrigens that the extent of the correction domain is finally fixed for the given *nicht – sondern* (‘not – but’) conjoining.”<sup>4</sup> *Nicht – sondern* (‘not – but’) constructions have been described from the point of view of conjoined sentences (cf., e.g., Lang 1984) as well as from the point of view of the focus of negation (cf., e.g., Jacobs 1982, Dölling 1988). Jacobs 1982 states that whenever it is possible to continue a sentence with a *sondern*... (‘but...’) conjunct matching with a corresponding context, the sentence may be interpreted as a corrigens, and it contains a contrastively focussed entity the focus domain of which corresponds to the focus of *sondern* (‘but’). The entities in the focus of *nicht* (‘not’) in (3)cs and (3')cs have already been indexed by contrastive focus above.

The two types of constructions have similar semantic interpretations but differ in certain structural as well as pragmatic respects. The corrigens of type-(1) corrections only refers backward. It does not contain an overt negation. It is possible to add *nein* (‘no’) / *nein, das ist nicht korrekt* (‘no, this is not correct’) / *nein, das stimmt nicht* / *nein, das ist nicht wahr* (‘no, this is not true’) cf. (1''')cs), though,

- (1''')cs (Das stimmt nicht.) [PAUL]<sub>CF</sub> kommt.  
This is true not Paul will come

<sup>4</sup> Lang 1984, 241. In this quotation corrigens and corrigendum do not denote the whole sentence but only the constituents which are exchanged.

but these negations are sentential utterances with *das* referring to the corrigendum. *Nicht* ('not'), on the contrary, is an operator with a propositional domain and a focus of negation. What is in the scope of negation need not always be the focus of the sentence in terms of information structure.<sup>5</sup> Because of the context-dependent interpretation of contrastive focus, not every focussing *nicht* ('not') induces contrastive focus.<sup>6</sup> But any contrastive focus associated with *nicht* ('not') is its focus, of course.

To come back to the quotation of Lang 1984, *sondern* ('but') fixes its focus domain and – indirectly – the focus domain of the contrastive focus in the preceding conjunct, too, because what is in the domain of the focus of *sondern* ('but') is the (part of the) constituent to replace the contrastively marked (part of the) constituent in the first conjunct. In type-(1) corrections, on the contrary, the focus domain can be fixed only by means of context by subtracting the identical constituents. Therefore, when a type-(1) corrigens cannot be uttered immediately after its corrigendum it is useful for the correcting speaker to overtly refer back and remind the communicative partners of the form and content of the corrigendum:

- (4) Du hast vorhin gesagt, PEter sei gekommen. Das stimmt  
 You have a moment ago said Peter had come. This is true  
 nicht. [PAUL]<sub>CF</sub> ist gekommen.  
 not Paul has come

In the examples above the focus-sensitive operator *nicht* ('not') was used as a truth functional operator. But it is not by necessity a truth functional operator.<sup>7</sup> Its function is much wider. *Nicht* ('not') negates all the other

<sup>5</sup> Cf. *Wen kennt Luise nicht? [PEter]<sub>F</sub> kennt Luise nicht.*

Whom knows Luise not Peter<sub>acc.</sub> knows Luise not

Semantic paraphrase: There is an individual  $x_i$  with the name of Peter for whom it is not true that Luise knows him<sub>i</sub>.

<sup>6</sup> Cf. *Wann kommt denn Peter? Ich weiß nur soviel, er kommt nicht*

When will come Peter I know but so much he will come not

[im MAI]<sub>F</sub>.

in Mai.

Nach dem letzten Anruf kommt er nicht [im MAI]<sub>CF</sub>, sondern

According to the last call will come he not in Mai but

[im JUni]<sub>F</sub>.

in June

<sup>7</sup> Cf. Jacobs 1982, Horn 1985, Dölling 1988.

properties of sentences as well. Type-(1) corrections correct all formal and semantic and even extragrammatical properties of sentences, too. (5)cs and (6)cs correct morphological and phonological properties of sentences, respectively. Corrigens (7) implies a so-called metalinguistic negation:<sup>8</sup> It restores a quote from Pasch 1983. In such a case of metalinguistic correction the correcting speaker is forbidden to change anything but the part(s) deviating from the quote for extralinguistic reasons. So, he may neither use a paraphrase nor an elliptic reduction of the corrigendum, both of which are so often applied in normal speech (cf. (19)cs ff.).

- (5)cd [Anna hat sich mit ihrem NACHbar gestritten]<sub>F</sub>.  
 Anne has refl. with her neighbour quarrelled
- (5)cs Sie hat sich mit ihrem [NachBARN]<sub>CF</sub> gestritten.  
 She has refl. with her neighbour quarrelled
- (6)cd Das [ist eine TOLle Machine]<sub>F</sub>.  
 This is a great machine
- (6)cs eine tolle [MaSCHIne]<sub>CF</sub>.  
 a great machine
- (7)cd [In einem vogtländischen Bergwerk fanden Kinder beim Spielen  
 In a westsaxon mine found children at play  
 einen mittelalterlichen SILberschatz.]<sub>F</sub>  
 a medieval silver treasure
- (7)cs [In einem STEINbruch]<sub>CF</sub> fanden Kinder beim Spielen einen  
 In a quarry found children at play a  
 mittelalterlichen Silberschatz.  
 medieval silver treasure

(1)cs through (3)cs say that the corresponding corrigenda are not true, but (5)cs through (7)cs only say that the corresponding corrigenda – for different reasons – are not correct. But how is it possible for type-(1) corrections to do so without an overt negation? The explanation partly depends on the meaning of contrastive focus, and partly it is pragmatically based and depends on knowledge about the sequencing of sentences in different types of texts which will be explained in section 2.

Type-(1) corrections normally appear in dialogs, and the correcting speaker corrects an utterance of his partner as soon as it is his turn. *Nicht – sondern* ('not – but') constructions are preferably used in monologues. The

<sup>8</sup> Cf. Horn 1985.

speaker contrastively announces what he himself will correct afterwards by a lexical means: *sondern* ('but').

The following two examples show that more than one correcting speaker can contribute to a process of correction. In type-(1) corrections there is only the possibility to use the contextually induced contrastive focus repeatedly (cf. (1')cs2) whereas in *nicht – sondern* ('not – but') constructions *sondern* ('but') itself can induce contrastive focus (cf. (3)cs2).

- (1')cs1 [PAUL]<sub>CF</sub> wird da sein. (Peter ist zurückgetreten.)  
 Paul will here be (Peter has cancelled.)
- (1')cs2 (Nein, das stimmt nicht.) [JoHANNes]<sub>CF</sub> wird da sein. (Paul  
 (No, this is true not) John will here be (Paul  
 ist plötzlich krank geworden.)<sup>9</sup>  
 has suddenly ill fallen)
- (3)cs1 Es kommt nicht [PEter]<sub>CF</sub>, sondern [PAUL]<sub>F</sub>. (Peter ist  
 It will come not Peter but Paul (Peter has  
 zurückgetreten.)  
 cancelled)
- (3)cs2 Sondern [JoHANNes]<sub>CF</sub>. (Paul ist plötzlich krank geworden.)  
 But John (Paul has suddenly ill fallen)

There are several papers on *nicht – sondern* ('not – but') constructions, but type-(1) corrections still lack further explanation. This paper will concentrate on the latter. The constructions under consideration will henceforth be called backward-related corrections with contrastive focus. Whenever necessary we will differentiate between the corrigendum and the corrigens of these constructions.

## 2. On the pragmatics and context-sensitivity of a backward related corrigens with contrastive focus

When discourse analysts say that meaning is brought about interactively, tuples of sentences followed by one or more corrigens sentences with contrastive focus are a good example. Although a corrigens represents a representative speech act it interrupts the flow of a text of any type. The process of correction ends when no further corrigens follows. In that case, the

<sup>9</sup> (1')cs1, (1')cs2, etc. mark a sequence of corrigens sentences of which each later corrigens corrects the preceding one.

communicative partners have tacitly agreed upon the last replacement, and they have accepted what was said as part of their common ground.<sup>10</sup> The parts of the corrigendum that were never corrected became part of common ground as well. Only then will the communicative partners go back to the original type of text and develop the text pattern.

But what is the pragmatic reason for overt negation to be superfluous in a backward related corrigens with contrastive focus? There is a pragmatic principle that no proposition to be verbalized by grammar is without new information. Therefore each proposition to be verbalized in a sequence will specify common ground as long as this is not explicitly blocked. A backward related corrigens with contrastive focus serves as a block and proposes an explicit replacement of the preceding corrigendum or of an entity in the preceding corrigendum. If the corrigens is not protested against in its turn its focus information will become part of common ground, too. On the basis of this principle the corrigens with contrastive focus need not explicitly negate the corrected part of information. But *nicht – sondern* ('not – but') constructions explicitly say what backward related corrigens sentences with contrastive focus only imply. The implication, however, helps to turn corrigendum and corrigens into the coherent sequence of a correction (cf. section 4). And the pragmatic principle also explains why corrigens sentences with contrastive focus necessarily are backward related.

To interpret a pair of sentences as a correction you need a context which supports this interpretation. The entities in the focus of *sondern* ('but') or in the focus domain of the contrastive focus of the backward related corrigens sentences above replace entities of the corresponding corrigenda which belong to the same semantic domain: the brothers of the addressee (cf. (1)), the inflected singular forms of the noun *Nachbar* ('neighbour') (cf. (5)). The correcting speaker regards the replaced entity as an untrue or incorrect alternative with respect to the semantic domain and with respect to the given context. And he intends to correct in order to restore common ground.<sup>11</sup> The hearer has to find out the speaker's intention on the basis of his grammatical and factual knowledge. The interpretation becomes difficult, however, when the context is not specified enough for the hearer to recognize the semantic domain to which the replaced and the replacing entities belong or when he lacks the knowledge required to identify the alternatives.

<sup>10</sup> In this paper common ground comprises grammatical knowledge, too.

<sup>11</sup> There may be other pragmatically founded reasons for speakers to correct. But this paper does not go into pragmatics very much.



- (9)cd [In einem vogtländischen Bergwerk fanden Kinder beim  
In a westsaxon mine found children at  
Spielen einen mittelalterlichen SILberschatz.]<sub>F</sub>  
play a medieval silver treasure
- (9)cs [In der EINgangszone]<sub>CF/F</sub> entdeckten sie ihn.  
At the entrance discovered they it
- (9)ct Die Eingangszone gehört der GeMEINde, die Stollenanlagen  
The entrance belongs to the community the gallery  
den früheren Betrei-bern. Die Unterscheidung hat rechtliche  
to the former operators The distinction has legal  
KonseQUENZen.  
consequences

In an online reading out aloud experiment participants who did not know what was said in the context sentence following the corrigens (9)cs produced the contrastive focus accent on the accentuated syllable of *EINgangszone* ('entrance') with less probability than did participants after having silently read the whole text. Without the knowledge expressed in the context the hearer as well as the participant are likely to understand *in der EINgangszone* ('at the entrance') as an elaboration of *Bergwerk* ('mine') – a context in which presentational focus would be the expected focus accent – because they will hardly notice that the semantic domain comprises parts of the mine like *Eingangszone*, *Stollenanlage*, ('entrance, gallery'.) etc. and not the whole mine as an alternative to places like quarry, etc.

In a listening experiment the participants noticed the mismatches between accent types and contexts in cross-spliced versions. They disagreed more when presentational focus appeared in a contrastive context than in cases when contrastive focus appeared in a context supporting presentational focus. The paper<sup>12</sup> comes to the conclusion that contrastive focus expresses meaning, and therefore it is missed in a matching (contrastive) context. But prosody which is not supported by context seems to be interpreted as an individual (possibly emotional) variant of the speaker and its semantic side is ignored.

This paper, however, is primarily interested in the grammatical structure of corrigens sentences, and it wants to point out how their grammatical structure and their information structure differ from the corresponding properties of categorial sentences.

<sup>12</sup> Cf. Alter, Mleinek, Rohe, Umbach, Steube (2001).

### 3. Information structure of categorial sentences

A sequence of categorial sentences continuously develops a text of a certain type. New information – that means focussed information – is introduced and so becomes known or familiar to the communicative partners. In the following sentence it mostly appears in the background of the sentence in a defocussed form<sup>13</sup> because it is already anchored in context or situation. Therefore it can be predicated<sup>14</sup> on by new information again. In section 2 we explained that a corrigens, on the other hand, blocks the continuous development of a text. In order to be able to compare the grammatical and information structural properties of corrigens sentences with the categorial sentences, we will first repeat the well-known informationstructural properties of the latter whereby information structure is regarded as pragmatically induced but realized by the grammatical properties of the sentences. The information structure of categorial sentences is divided up into background and focus. For each sentence, the division is made on the basis of the given linguistic and extralinguistic context.

<sup>13</sup>

There are exceptions:

1. It is possible for full DPs and PPs expressing information which is anchored in context or situation not to scramble and not to be defocussed. Cf. the two variants in Haider, Rosengren 1998, 91.

– *Wer hat heute dem Polizisten den Weg gezeigt?*

Who has today the policeman the way shown

a) *Heute hat<sub>i</sub> den Weg<sub>j</sub> dem Polizisten<sub>k</sub> [der ZEUGE t<sub>k</sub> t<sub>j</sub> gezeigt t<sub>i</sub>.]<sub>F</sub>*

Today has the way the policeman the witness shown

defocussed and scrambled

b) *Heute hat<sub>i</sub> [der ZEUGE dem Polizisten den Weg gezeigt t<sub>i</sub>.]<sub>F</sub>* in focus

Today has the witness the policeman the way shown

2. It is possible for personal pronouns to “cliticize” to Subject-DPs and even remain in the focus domain. Cf. The variants:

– *Wie wird Karl erfahren, wer seine wirklichen Eltern sind?*

How will Karl learn who his real parents are

a) *Das soll<sub>k</sub> ihm<sub>i</sub> [sein Pflegevater t<sub>i</sub> an seinem 18. GeBURTstag erklären t<sub>k</sub>.]<sub>F</sub>*

This shall him his fosterer at his 18. birthday explain

pronoun in the background

b) *Das soll<sub>k</sub> [sein Pflegevater ihm an seinem 18. GeBURTstag erklären t<sub>k</sub>.]<sub>F</sub>*

This shall his fosterer him at his 18. birthday explain

pronoun in focus

<sup>14</sup>

Predication is used in the sense of Jacobs 2001.

## 1. The background – focus division

DPs or PPs expressing background information are anchored in context and situation and express entities which are familiar to the communicative partners.<sup>15</sup> They are characterized by definite articles or possessive pronouns. In the rare cases when indefinite articles characterize background information, they are interpreted generically or specifically.<sup>16</sup> Definite articles in the background part of the sentence may have all the interpretations which are possible: definite, indefinite, generic. But when definite articles are to express focus information, they have to refer not only specifically but uniquely.<sup>17</sup>

Anaphoric pronouns normally are moved into the so-called Wackernagel-Position, background DPs usually are scrambled.<sup>18</sup> The Wackernagel-Position and the scrambling region are in the so-called Middle field of a German sentence. The relevant topology in the Middle field of German sentences (between C° at the left end and the attitudinal adverbials at the right end of the Middlefield) usually is as follows: C°, topic position (which may be empty), Wackernagel position, Scrambling position, attitudinal adverbials and particles. Pronouns normally precede DPs.<sup>19</sup> The

<sup>15</sup> Cf. von Heusinger (2000a); von Heusinger (2000b); Umbach (2001).

<sup>16</sup> Some examples:

a) *Was willst du denn mit Pinguinen?*

What will you do with pinguins

*Ein Pinguin [ist der GRÖSSte Komiker, den du dir VORstellen kannst.]<sub>F</sub>*

A pinguin is the greatest comic whom you refl. imagine can

*Bei jeder Fütterung steht die ganze Familie begeistert am Becken.*

At each feeding stands the whole family enthusiastically at the basin  
generic interpretation

b) *Warum ist denn Pascha so aufgeregt?*

Why is Pascha so nervous

*Ein junger Löwe aus seiner Familie [respektiert die RANGordnung nicht.]<sub>F</sub>*

A young lion of his family respects the hierarchy not  
specific interpretation

<sup>17</sup> For an example:

– *Ich kann aus dem Fenster schauen wann ich will. [Es fährt*

I can out of the window look whenever I will. It passes

*die Hebamme auf ihrem FAHRrad vorbei.]<sub>F</sub>*

the midwife on her bicycle by

<sup>18</sup> But cf. the variants in footnote 12 which prove that scrambling is optional.

<sup>19</sup> But there are exceptional movements of pronouns when they are cliticized to Subject-DPs: Cf. also footnote 12:

– *Wann soll Karl erfahren, wer seine wirklichen Eltern sind?*

When shall Karl learn who his real parents are

sequence of pronouns and the sequence of definite DPs are regulated by cases. Pronominal adverbials normally follow other pronouns. PPs with definite articles normally follow definite DPs.<sup>20</sup>

The focus domain begins at the right of the attitudinal adverbials and particles.<sup>21</sup> It coincides with the maximal VP. Usually the pronouns and the defocussed DPs, PPs expressing background information are moved to the left of the focus domain and leave a trace behind. To be even more precise: They are moved to the left of the attitudinal adverbials and particles. There is good reason for attitudinal adverbials and particles to form the right border between background and focus in a sentence.<sup>22</sup> Background information is known or at least accessible to all the communicative partners. But attitudes do not belong to propositional meaning and therefore can never become the mental possession of subsequent speakers.<sup>23</sup>

The focus domain of categorical sentences may be either medium<sup>24</sup> or minimum.<sup>25</sup>

Focus accent is realized by the phrasal- or word accent of the deepest embedded verbal complement or verbal adjunct in the focus domain. If there are no verbal complements or adjuncts, the finite verb is focussed. In case the verb only consists of an unaccented auxiliary the accent position of the subject DP carries the focus of the sentence. In assertive main clauses, focus is expressed by the characteristic falling prosodic contour: H\*L.

The movement of finite German verbs is only syntactically motivated. In assertive German main clauses, finite verbs are head-moved to C° independently of their status in the information structure of the sentence.

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a) *Das<sub>i</sub> will<sub>k</sub> ihm<sub>j</sub> sein Ziehvater<sub>j</sub> [t<sub>j</sub> t<sub>i</sub> t<sub>i</sub> an seinem 18. GeBURTStag erklären t<sub>k</sub>.]<sub>F</sub>*  
 This will him his fosterer at his 18. birthday explain  
 pronoun in Wackernagel-position

b) *Das<sub>i</sub> will<sub>k</sub> sein Ziehvater<sub>j</sub> ihm<sub>j</sub> [t<sub>j</sub> t<sub>i</sub> t<sub>i</sub> an seinem 18. GeBURTStag erklären t<sub>k</sub>.]<sub>F</sub>*  
 pronoun cliticized to DP.

<sup>20</sup> Cf. Haftka 1995; Haider, Rosengren 1998; Haftka 2000.

<sup>21</sup> Cf. Lang 1983, Steube 2000.

<sup>22</sup> The examples in footnote 18 modified by the sentence adverbial *sicher* (certainly):

a) *Sein Ziehvater will ihm das sicher [an seinem 18. Geburtstag erklären.]<sub>F</sub>*  
 His fosterer will him this certainly at his 18. birthday explain

b) *Das will sein Ziehvater ihm sicher [an seinem 18. GeBURTStag erklären.]<sub>F</sub>*  
 This will his fosterer him certainly at his 18. birthday explain

<sup>23</sup> Cf. Lang 1983.

<sup>24</sup> Comprising more than one focal constituent.

<sup>25</sup> Comprising only one focal constituent.

## 2. The topic – comment division

We characterize topics as the anchored referring constituents which the rest of the sentence (comment) is about. Topics are subsets of background constituents. A sentence with a topic-comment division has exactly one topic. The syntactic position of the German main-clause topic is in Spec CP or immediately at the right of C°. The latter position is the position of a topic in a subordinate clause, too.<sup>26</sup> But these positions can be filled with (contrastively) focussed constituents, too. Therefore, German topics cannot be defined by positions alone. In examples (11) through (14) the topics are underlined.

- (10)ct Wo fanden Kinder einen mittelalterlichen Silberschatz?  
Where found children a medieval silver treasure
- (11) Die Kinder fanden den Schatz [in einem vogtländischen  
The children found the treasure in a westsaxon  
BERGwerk]<sub>F</sub>.  
mine
- (12) Sie fanden ihn [in einem vogtländischen BERGwerk]<sub>F</sub>.  
They found it in a westsaxon mine
- (13) [In einem vogtländischen BERGwerk]<sub>F/CF</sub> fanden die Kinder  
In a westsaxon mine found the children  
den Schatz.  
the treasure
- (14) [In einem vogtländischen BERGwerk]<sub>F/CF</sub> fanden sie ihn.  
In a westsaxon mine found they it.

Topics do not have a characteristic intonation contour, although at the beginning of a sentence, frequency has to increase in order for to get modulated later on. Topics or even the larger class of sentence-initial constituents seem to be thematically connected to the so-called topic of the text and help to organize the inner structure of texts and even characterize types of texts. But this paper cannot go into the pragmatic function of fronted constituents.

In section 3 we demonstrated that the pragmatic categories background, focus, topic and comment can be defined by grammatical characteristics. Section 4 will point out the grammatical and information-structural differences between categorical sentences and corrigens sentences.

<sup>26</sup>

In this characterization we do not follow Frey 2000. His characteristics of topics coincide with what has been called background constituents above. For a more detailed discussion cf. Steube (2001).

#### 4. The information structure of backward-related corrigens sentences with contrastive focus

##### 4.1. *Articles and movement*

We already know that the corrigens interrupts the development of a text in order to repair the information given in a previous sentence at a certain state in the development of a text. A corrigens is independent of the informationstructural change of new information into familiar one holding for sequences of categorical sentences. The corrigens can deviate from the information structure of its corrigendum in several ways and by several degrees.

##### 1. Corrigendum and corrigens only differ in their focus:

(15)cd Die Kinder fanden den wertvollen Silberschatz im Mai  
The children found the precious silver treasure in May  
[in einem vogtländischen BERGwerk.]<sub>F</sub>  
in a westsaxon mine

(15')cs Die Kinder fanden den wertvollen Silberschatz im Mai  
The children found the precious silver treasure in May  
[in einem STEINbruch.]<sub>CF</sub>  
in a quarry

The correcting speaker of (15)cs does not change the focus domain of the corrigendum. And contrastive focus is focus. But there is a difference in meaning between (15)cd and (15')cs which will be explained in section 4.4.

##### 2. Corrigendum and corrigens also differ in their sentence initial constituent.

The correcting speaker of (15'')cs moves the contrastively focussed replacement into Spec CP. He hurries to present the replacement. In spoken language this seems to be usual.<sup>27</sup>

(15)cd Die Kinder fanden den wertvollen Silberschatz im Mai  
The children found the precious silver treasure in May  
[in einem vogtländischen BERGwerk.]<sub>F</sub>  
in a westsaxon mine

(15'')cs [In einem STEINbruch]<sub>CF</sub> fanden die Kinder den  
In a quarry found the children the

<sup>27</sup> Cf. Mehlhorn 2001.

wertvollen Silberschatz im Mai.  
 precious silver treasure in May

There has not yet been much information in the literature on what it means to front a constituent. But German sentence-initial constituents seem to fulfil functions that go beyond information structure in the narrower sense and contribute to build up texts of certain types.

3. Corrigendum and corrigens differ in the sequencing of focus information and background information.

Categorical sentences allow focussed information only in Spec CP and in the focus domain. It is not allowed to mix the domains of background and focus in the way (15'')cs does.

(15)cd Die Kinder fanden den wertvollen Silberschatz im Mai [in  
 The children found the precious silver treasure in May in  
 einem vogtländischen BERGwerk.]<sub>F</sub>  
 a westsaxon mine

(15'')cs Die Kinder fanden [in einem STEINbruch]<sub>CF</sub> den wertvollen  
 The children found in a quarry the precious  
 Silberschatz im Mai.  
 silver treasure in May

4. Corrigendum and corrigens differ in the extension of the focus domain.

Corrigendum (16)cd is fully focussed. In most cases the respective corrigens has narrow(er) contrastive focus, and in spoken language the contrastively focussed constituent usually is fronted (cf. (16')cs). But the correcting speaker may replace more or even all the constituents of the corrigendum. Corrigens (16'')cs is fully focussed. The correcting speaker protests against the meaning of all the constituents in (16)cd. (16'')cs is unusual but not ungrammatical, and we must not forget that there are multi-focussed sentences with presentational focus as well.

(16)cd [Kinder fanden an einem warmen Frühlingstag einen wertvollen  
 Children found on a warm day in spring a precious  
 Silberschatz in einem vogtländischen BERGwerk.]<sub>F</sub>  
 silver treasure in a westsaxon mine

(16')cs [In einem STEINbruch]<sub>CF</sub> fanden Kinder an einem warmen  
 In a quarry found children on a warm

- Frühlingstag einen wertvollen Silberschatz.  
 day in spring a precious silver treasure  
 (16'')cs [JUNgens BRACHten an einem JULitag ein GOLDstück  
 Boys brought at a day in July a gold coin  
 aus einem STOLlen mit.]<sub>CF</sub>  
 from a gallery along

All these variants may also be used with changing syntactic positions of the constituents, of course. But even this is not the end of the story. When the correcting speaker only changes the focus domain and the position of the contrastively focussed element(s), he simply copies the rest of the corrigendum. But he may also change the referential state of the uncorrected noun phrases and PPs.

5. Corrigendum and corrigens differ in the interpretation of the articles.

The correcting speaker may apply the defocussing rule of categorical sentences and use the DPs and PPs introduced in the corrigendum as textually anchored DPs and PPs, i.e., he may use them with articles referring specifically, generically or uniquely.

- (17)cd [Kinder fanden an einem warmen Frühlingstag einen wertvollen  
 children found on a warm day in spring a precious  
 Silberschatz in einem vogtländischen BERGwerk.]<sub>F</sub>  
 silver treasure in a westsaxon mine  
 (17'')cs Die Kinder fanden an dem warmen Frühlingstag den wertvollen  
 The children found on the warm day in spring the precious  
 Silberschatz [in einem STEINbruch.]<sub>CF</sub>  
 silver treasure in a quarry

At the same time he may change the position of the contrastively focussed element and even put it between the other 'background' elements or in the Spec-CP position. In case the correcting speaker knows the particulars of the event, he can also add his knowledge and specify even the contrastively focussed constituent like in (17'')cs.

- (17'')cs [Im Bärendorfer STEINbruch.]<sub>CF</sub> fanden die Kinder an dem  
 In the Bärendorf quarry found the children on a  
 warmen Frühlingstag den wertvollen Silberschatz.  
 warm day in spring the precious silver treasure



Further, the correcting speaker can also pronominalize the / some of the definite DPs such as in (17''')cs. It is forbidden, however, to put the contrastively focussed element between or before pronouns in the middlefield (cf. the (17<sup>iv</sup>)cs or (17<sup>v</sup>)cs).

- (17''')cs [In einem STEINbruch]<sub>CF</sub> fanden sie ihn an dem warmen  
In a quarry found they it on the warm  
Frühlingstag.  
day in spring
- (17<sup>iv</sup>)cs \*Sie fanden [in einem STEINbruch]<sub>CF</sub> ihn an dem warmen  
They found in a quarry it on the warm  
Frühlingstag.  
day in spring
- (17<sup>v</sup>)cs \*An dem warmen Frühlingstag fanden sie [in einem  
On the warm day in spring found they in a  
STEINbruch]<sub>CF</sub> ihn.  
quarry it

6. Corrigens and corrigendum differ in explicitness.

The correcting speaker may paraphrase uncorrected constituents or even leave them out. The minimal variant of a corrigens is an ellipsis only consisting of the contrastively focussed replacement.<sup>28</sup>

- (19)cs [Im Bärendorfer STEINbruch]<sub>CF</sub> fanden ihn Kinder.  
In the Bärendorf quarry found it children
- (20)cs [Im Bärendorfer STEINbruch]<sub>CF</sub> war es.  
In the Bärendorf quarry was it
- (21)cs [Im Bärendorfer STEINbruch]<sub>CF</sub>.  
In the Bärendorf quarry

7. Contrastive focus allows movements which are not allowed in categorical sentences (cf. (22'')cs, (23'')cs and (24'')cs).

Under presentational focus the so-called separable prefixes are prefixed to the stem of the verb, or they remain in situ (cf. (22)cd).

- (22)cd Er hat das LICHT ausgemacht. / Er machte das LICHT aus. /  
He has the light off-switched. / He switched the light off  
Das LICHT ausgemacht hat er.  
The light off-switched has he

<sup>28</sup> Cf. Schwabe 2000.

- (22')cs [ANgemacht]<sub>CF</sub> hat er das Licht.  
On-switched has he the light
- (22'')cs [AN]<sub>CF</sub> hat er das Licht gemacht(, nicht aus).  
On has he the light switched (not off)

Under presentational focus, directional arguments either are not separated from their infinite verbs, or they remain *in situ* (cf. (23)cd).

- (23)cd Er hat den Stuhl auf die TerRASse geworfen. / Er warf den  
He has the chair onto the terrace thrown. He threw the  
Stuhl auf die TerRASse. / Auf die TerRASse geworfen hat er  
chair onto the terrace Onto the terrace thrown has he  
den Stuhl.  
the chair
- (23')cs [Auf die Terrasse geSETZT]<sub>CF</sub> hat er den Stuhl.  
Onto the terrace put has he the chair
- (23'')cs [GeSETZT]<sub>CF</sub> hat er den Stuhl auf die Terrasse(, nicht  
Put has he the chair onto the terrace (not  
geworfen).  
thrown)

Under presentational focus, predicatives either are not separated from their infinite verb forms, or they remain *in situ* (cf. (24)cd).

- (24)cd Er ist (damals) LEHrer geworden. / Er wurde (damals)  
He has (then) teacher become Er became (then)  
LEHrer. / LEHrer geworden ist er (damals).  
teacher teacher become has he (then)
- (24')cs [Lehrer geWEsen]<sub>CF</sub> ist er (damals).  
Teacher been has he (then)
- (24'')cs [GeWEsen]<sub>CF</sub> ist er (damals) Lehrer(, nicht geworden).  
Been has he (then) teacher (not become)

Examples (15) through (24) exemplify that what is new information in a corrigendum need not conform to the 'focus' of a corrigens, and what is background information in a corrigendum does not correspond to 'background' information in a corrigens. In a corrigens, all the constituents of the corrigendum which have not been corrected are accepted as 'background'. As far as corrigens sentences are concerned, we better put 'focus' and 'background' in inverted commas because they are defined by other grammatical means than focus and background in categorical sentences. 'Focus' is

defined by the focus domain of contrastive focus. The rest is 'background'. 'Focus' is neither restricted to the focussable (sub-)constituents of a categorical sentence nor to their positions in categorical sentences.

Which grammatical rules do corrigens sentences finally obey?

- The articles in 'focus' constituents conform to the restrictions of focus constituents: definite articles in 'focus' refer uniquely.
- Corrigens sentences respect the syntactic positions of the finite verb, the Spec-CP position, and the positions of pronouns.

The accent positions of contrastive focus will be analysed in 4.3.

#### 4.2. *The prosodic realization of contrastive focus*

The prosodic realization of contrastive focus deserves a paper of its own.<sup>29</sup> But at least a few characteristics of contrastive pitch accent must be mentioned here in order to complete the model of correction presented in chapter 5. There is a marked increase in frequency on the contrastively focussed syllable. It is true that the absolute value of frequency need not be much above that of presentational focus peaks; but this is compensated for by the often lower onsets of contours with contrastive focus relative to contours with presentational focus. Speakers seem to produce the clearest possible marking by means of least effort. Increase of frequency must be understood as relative not absolute increase. Furthermore it is remarkable that the frequency peak is on the contrastively focussed syllable rather than before it as is often the case with presentational focus. The prosodic marking is a LH\* tone. It is clearly audible and visible in its context.<sup>30</sup> It is the formal representation of the linguistic sign 'contrastive focus'.<sup>31</sup> The LHL tone, the so-called root contour, is a possible but optional variant of the realization of contrastive focus in German.

#### 4.3. *The focus domain of contrastive focus*

The correcting speaker can correct a whole sentence. Corrigendum and corrigens must fit into the same context. Lang (1976) called this kind of context common integrator (CI).

<sup>29</sup> Cf. Alter, Mleinek, Rohe, Umbach, Steube (2001); Mehlhorn (2001a).

<sup>30</sup> Cf. section 2.

<sup>31</sup> Cf. section 4.4.

- (25)ct Warum redet denn Anna nicht mit ihren Kindern?  
 Why talks Anna not with her children
- (25)cd [Weil Peter nicht EINGekauft hat]<sub>F</sub>.  
 Because Peter not been shopping has
- (25)cs Nein, [weil die Tochter trotz ihres Hausarrests  
 No, because the daughter inspite of her confinement to her house  
 AUSgegangen ist]<sub>CF</sub>  
 gone out has

In (25)cd and (25)cs, CI is a class of reproachable activities of Anna's children. The focus domain is the maximal domain.

- (26)ct Wo bleiben denn die Kinder?  
 Where remain the children  
 Where have the children got to?
- (26)cd Anna [ist im KIno]<sub>F</sub>  
 Anna is at the cinema
- (26)cs Sie [kauft für Oma EIN]<sub>CF</sub>.  
 She is shopping for Grandma

CI are the activities keeping a child from returning home in time. The focus domain is the medium domain.

The correcting speaker can correct any part of form or meaning of the sentence, of phrases, words, constituents of word formation or even grammatical endings or single sounds of words. The few German words like the pronouns *es*, *man* which cannot be stressed cannot express contrastive focus either except when the phonological form of *man* is corrected as in (27).

- (27)cd Men sitzt AUFrecht!  
 You sit upright
- (27)cs [MAN]<sub>CF</sub>  
 You

Here we have to extend Lang's concept of common integrator to classes of all those grammatical properties just mentioned. CI of (27), e.g., is a class of phonetic realizations of the vowel in the monosyllabic word *man*. In (28) CI is a class of dialectal variations of the impersonal pronoun *man*.

- (28)cd Mer sitzt AUFrecht!  
 You sit upright
- (28)cs [MAN]<sub>CF</sub>  
 You

To find out how extended the respective focus domain is we have to compare the corrigens with the corrigendum and define the focus domain subtractively:

- (29)ct    Warum wurde Anna nicht zum Nachbarschaftsfest  
           Why    was    Anna not    to the neighbourhood party  
           eingeladen?  
           invited
- (29)cd    (Es    gibt Spannungen;    denn) sie [hat sich mit ihrem  
           (There are strained relations; for) she has refl. with her  
           NACHbarn gestritten]<sub>F</sub>  
           neighbour quarrelled
- (29')cs    Sie hat ihren Nachbarn [SCHLECHT gemacht]<sub>CF</sub>  
           She has her neighbour discredited
- (29'')cs    Sie hat sich mit [ALlen]<sub>KF</sub> Nachbarn gestritten.  
           She has refl. with all the neighbours quarrelled
- (29''')cs1    Anna hat sich mit ihrem Nachbar [ZERstritten]<sub>CF</sub>.  
           She has refl. with her neighbour fought
- (29''')cs2    Sie hat sich mit ihrem [NachBARN]<sub>CF</sub> zerstritten.  
           She has refl. with her neighbour fought

(29')cs protests against the meaning expressed by the predicate of the corrigendum. (29'')cs protests against the quantification in the modifying PP of the corrigendum as well as in (29')cs. (29''')cs1 reacts to the corrigendum and protests against a derived lexical entry. And (29''')cs2 corrects the morphological form of a word in the corrigens before. Although in (29''')cs2 only one sound is concerned, the pitch accent is placed on the syllable, of course, and the minimal focus domain is a word or word form. Why this is so will become clearer in section 4.4 when contrastive focus can be explained as a unity of a prosodic form and a corresponding meaning: (27)cs does not correct an isolated vowel but a vowel in the phonological realization of the German word *man*; and (29''')cs2 does not correct a zero ending but the grammatical realization of a grammatical function of the German wordform *Nachbarn*. Therefore, all replacements are at least words or wordforms.

Contrastive focus can also be induced and realized by focus-sensitive particles. Although the focus domain is fixed by the focus-sensitive particle, contrastive focus is always context dependent.

- (30)ct    Zum    20. Hochzeitstag    haben die Müllers wieder ihre  
           For the 20. wedding anniversary have the Millers again their

Kinder eingeladen.

children invited

(30)cd Es wollten auch alle kommen.

It wanted too all of them come

(30)cs Nur [die SÖHne]<sub>CF</sub> kommen. (Hast Du denn noch nicht

Only the sons will come (Have you not yet

von dem enttäuschenden Brief ihrer Tochter Anja gehört?)

about the disappointing letter of her daughter Anja heard

To add emphasis to the correction, more than one contrastive focus may be used.

(29''')cs2 Sie hat sich mit ihrem [NACH-BARN]<sub>CF</sub> zerstritten.

She has refl. with her neighbour fought

(25)cs Nein, weil [ihre Tochter – TROTZ – ihres

no, because her daughter – inspite – of the confinement

HAUSarrests – AUSgegangen ist]<sub>CF</sub>.

to her house – gone out has

What these examples show, too, is, that tuples of foci need not alter the focus domain. Cf. also (16'')cs.

Depending on context, a functionally or structurally ambiguous phrase may express more than one correction and even have different focus domains: Finite verbs, eg., express several kinds of meaning: the lexical meaning of the verb stem, temporal meaning, and sentence force, and each of them can be corrected, of course. The correction of sentence force is called *Verumfokus*. Höhle (1982) showed how the corresponding contrastive foci are realized when synthetically or analytically constructed verb forms are used. When there is only one syllable available, contrastive focus is context dependent in three ways (cf. (35)cs).

(31)cs Peter hat es [geSAGT]<sub>CF</sub> corrects lexical meaning

Peter has it said

(32)cs Peter [HAT]<sub>CF</sub> es gesagt corrects tense

Peter has it said

(33)cs Peter [HAT]<sub>CF</sub> es gesagt – Verumfokus corrects sentence force

Peter has it said

(34)cs Peter [SAGte]<sub>CF</sub> es. corrects lexical meaning

Peter said it

or sentence force

Peter [sagTE]<sub>CF</sub> es.

corrects tense

Peter said it

- |        |   |   |
|--------|---|---|
| (35)cs | Peter [SAGT] <sub>CF</sub> es.<br>Peter said it | corrects lexical meaning<br>or tense or sentence force. |
|--------|---|---|

We cannot conclude this section without paying special attention to the position of contrastive accent in a word, phrase or sentence. Example (29''')cs2 illustrates that the focussed syllable of contrastive focus need not correspond to the accentuated syllable of the lexical entry: The LE *Nachbar* ('neighbour') realizes its lexical accent on the first syllable. (29'')cs illustrates that contrastive accent need not obey the prosodic rules of accentuation and de-accentuation in phrases either: In DPs without right nominal arguments or modifiers, normally the head noun is stressed. (36)cs further illustrates that contrastive focus does not obey the rules of sentence stress: When such a constituent exists the presentational focus of a sentence is realized by the accentuated syllable of the phrase which is the deepest embedded verbal argument or verbal modifier. In (36) presentational focus would be realized by the stressed syllable of the head noun of *in einem vogtländischen BERGwerk* ('in a westsaxon mine'). The quoted examples are repeated for convenience.

- |            |  |
|------------|--|
| (29''')cs2 | Sie hat sich mit ihrem [NachBARN] <sub>CF</sub> zerstritten.<br>She has refl. with her neighbour fought  |
| (29'')cs   | Sie hat sich mit [ALlen] <sub>CF</sub> Nachbarn gestritten.<br>She has refl. with all neighbours quarrelled  |
| (36)cs     | Die Kinder fanden den wertvollen Silberschatz [im MAI] <sub>CF</sub><br>The children found the precious silver treasure in May<br>in einem vogtländischen Bergwerk.<br>in a westsaxon mine |

Placement of contrastive pitch accent confirms that the correcting speaker can correct any part of a constituent and any constituent up to the whole sentence. Whereas the placement of presentational focus in fully focussed sentences as well as in categorical sentences follows rules of (de-)accentuation which map the intonation contour of a sentence onto its syntactic surface structure, contrastive pitch accent is directly placed on the syllable of the word (or of the phrase) to be corrected. In a corrigens it is the speaker who decides where the contrastive pitch accent is placed.<sup>32</sup>

<sup>32</sup> Cf. Alter, Mleinek, Rohe, Umbach, Steube (2001).

The examples in (37) have been added to show, however, that not every grammatically deviant placement of contrastive pitch accent represents contrastive focus.

(37)ct I'll tell you a joke.

(37)cd [An AMERican farmer met a CaNAdian farmer]<sub>F</sub>. Said the AMERican farmer to the CaNAdian farmer: ...

In a fully focussed sentence at the beginning of a text, presentational focus normally is not realized in the Determiner Phrase constituting the subject of the sentence, and it is not realized on the adjective either. (37)cd, however, is a prosodically correct sentence. In (37)cd we are confronted with two presentational foci affected by grammatical parallelism. It is a kind of constructively determined presentational focus. But in conformity with context, we find constructively determined contrastive focus, too, cf. (38)cs.

(38)cs No, it happened in the old world: [A DANish farmer met an ENGLISH farmer]<sub>CF</sub> ...

Only (38)cs can be interpreted as a corrigens. This supports the conclusion that contrastive focus is a linguistic sign which correlates a characteristic form with a characteristic meaning. Compared with the sequence of sentences (40) the sequence of sentences (39) is another good illustration of how contrastive focus contributes to the meaning of sentences.

(39) Speaker A: Peter hat<sub>i</sub> [sich eine GaRAge gekauft t<sub>i</sub>]<sub>F</sub>.

Peter has refl. a garage bought

Speaker B: Seine Frau hat<sub>i</sub> [sich ein AUto gekauft t<sub>i</sub>]<sub>F</sub>.

His wife has refl. a car bought

The communicative partners interpret the sequence of sentences (39) in a way that both statements are true. In their common ground, the garage as well as the car belong to the property of the couple.

(40) Speaker A: Peter hat<sub>i</sub> [sich eine GaRAge gekauft t<sub>i</sub>]<sub>F</sub>.

Peter has refl. a garage bought

Speaker B: Seine Frau hat<sub>i</sub> [sich ein AUto gekauft t<sub>i</sub>]<sub>CF</sub>.

His wife has refl. a car bought

The communicative partners interpret the sentence of speaker B in (40) as a correction of the utterance of speaker A. It is not true that a garage was bought by Peter. What holds is that his wife bought a car. As both sequences of sentences only differ in their prosodic contours, the difference in meaning



must depend on contrastive focus. Its formal semantic description will be given in the next section.

#### 4.4. *The Semantic Form of backward-related corrigens sentences with contrastive focus*

Different semantic theories treat the phenomenon of meaning differently. In this paper, meaning is understood as being separable into Semantic Form (part of linguistic knowledge) and context (conceptual structures).<sup>33</sup> The Semantic Form (SF) of a sentence is compositionally constructed out of the underspecified SFs of words and affixes on the basis of syntactic surface structure.<sup>34</sup> The SFs of sentences are interpreted in context. We leave it open here whether it is possible to compose fully underspecified meanings of sentences or whether semantic composition and interpretation necessarily intersect.<sup>35</sup> In this chapter the meaning of a backward related corrigens with contrastive focus is exemplified by the simple example [*HANS*]<sub>CF</sub> *kommt* ('Hans will come') in (41)cs.

- (41)ct Wer hat sich denn nun tatsächlich alles angemeldet?  
 Who has refl. really announced his coming
- (41)cd [*PEter*]<sub>F</sub> kommt.  
 Peter will come
- (41)cs [*HANS*]<sub>CF</sub> kommt. Von Peter haben; wir [noch keine  
 Hans will come From Peter have we yet no  
 NACHricht t<sub>i</sub> + <sub>F</sub>]<sub>F</sub><sup>36</sup>  
 news

The SF of [*HANS*]<sub>F</sub> *kommt* ('Hans will come') consists of an assertive proposition<sup>37</sup> plus a second proposition representing the meaning of contrastive focus. The assertive part is compositionally constructed out of the SFs of the lexical entries of words and affixes.<sup>38</sup> Therefore, we may

<sup>33</sup> Cf. Bierwisch, Lang (eds) (1987); Wunderlich 1997.

<sup>34</sup> We follow Chomsky's Minimalist Program but make use of few functional categories such as proposed for German by Haider 1997.

<sup>35</sup> The latter has been assumed by J. Dölling in several papers. Cf., e.g., Dölling (1997).

<sup>36</sup> German verbs are moved for syntactic reasons independently of whether they are focus or background constituents. Traces in the focus domain indexed by +F indicate that their antecedents are part of the focus of the sentence.

<sup>37</sup> It expresses sentential force.

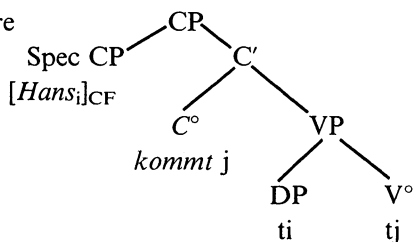
<sup>38</sup> Affixes are lexical entries. Cf. sections 4.4 and 5.

consider this framework a variant of structured meaning semantics, the different authors of which used different means to compose the assertive meaning of the sentence.

- (i) *Hans*:  $\varepsilon x$  [[[Person,  $x$ ] : [MALE,  $x$ ]] : [Name,  $x$ , Hans]]  
The SF of the sentence has to reflect the information structure of the sentence. Being contrasted, *Hans* is not the topic of the sentence. Its SF is constructed by means of the epsilon operator and becomes a semantic argument of *komm-* ('come-').<sup>39</sup>
- (ii) *komm-*:  $\lambda x \lambda T \lambda s$  [ $s$  INST [KOMM,  $x$ , T]]
- (iii) *Future Tense*:  $\lambda P$  [ $P$  [ $\varepsilon$  T': [T' NACH T°]]]
- (iv) *Assertive Mood*:  $\lambda P$  [ $P$ ,  $s$ ]

When information structure is paid attention to in the SF of the sentence it has to be mapped onto the syntactic surface structure. This affords several type shifts for the LEs to be properly composed.<sup>40</sup>

- (v) S-Structure



The SF of the assertive part of the sentence is:

- (vi)  $s$  [ $s$  INST [KOMM,  $\varepsilon x$  [[[Person,  $x$ ] : [MALE,  $x$ ]] : [Name,  $x$ , Hans]],  
 $\varepsilon$  T': [T' NACH T°]]]

As it realizes contrastive pitch accent, *Hans* is in the focus domain. The meaning of *Hans* is the 'content' of contrastive focus. The meaning of contrastive focus is considered to be the SF of a separate LE which is conjunctively added to the SF of the assertive part of the meaning of the sentence. It has a general format with a variable which can be replaced by any contrasted element in the grammatical description of a correction. In (41)cs the SF of *Hans* replaces the variable in the SF of contrastive focus.

<sup>39</sup> Cf. Steube (2000); Späth (in preparation).

<sup>40</sup> Cf. Partee (1986).

- (vii)  $\lambda p [p] \wedge \exists! y, s_1 [s_1 \text{ represented by } S_1 = (s \dots [HANS/y]_{\text{focus domain}} \dots)]^{41}$   
 whereby:  
 $p$  = compositionally constructed SF of the assertive part of the correction  
 $s_1$  = the situation spoken about by the corrigendum  
 $S_1$  = corrigendum sentence  
 $S$  = corrigens sentence  
 $y$  = entity in the corrigendum which has to be replaced
- (vii) is read: a proposition  $p$  and exactly one  $y$ , exactly one situation  $s_1$  so that  $s_1$  is represented by the corrigendum sentence  $S_1$  which equals the corrigens sentence  $S^{42}$  except that *Hans* in the focus domain replaces  $y$ . In (41)cd,  $y = \textit{Peter}$ .

After replacing  $p$  in the meaning of contrastive focus by the SF of the assertive part of the next sentence, we get:

- (viii)  $s [s \text{ INST } [KOMM, \epsilon x [[[Person, x] : [MALE, x]] : [Name, x, Hans]], \epsilon T': [T' \text{ NACH } T'']] \wedge \exists! y, s_1 [s_1 \text{ represented by } S_1 = (s \dots [Hans/y]_{\text{focus domain}} \dots)]$

The SF of the contrastively focussed sentence is very much underspecified. The communicative partners have to make out what is the corrigendum and what is the corrigens by noticing which parts of the two sentences are equal and which part of the first sentence is intended to be replaced by which part of the next sentence so that the replacement is in the focus domain of contrastive focus. This way, the meaning of contrastive focus brings about textual coherence between the contrastively marked sentence and the

<sup>41</sup> There is a discussion about what the semantic relation between the assertive part of the compositionally constructed meaning of a sentence and the meaning of contrastive focus is. For Dölling (1988) and in this paper the meaning of contrastive focus is an integral part of the meaning of the whole sentence and belongs to SF. Because of the examples with meta-linguistic negation, Jacobs (1982) argued that it is an implication and not a presupposition. Rooth (1996) argues against the status of existential presuppositions, too, because presuppositions should project which, however, they do not do in all contexts. In chapter 1 the interpretation of corrections was explained as fundamentally context-dependent. Our theory will further argue against presuppositions because they are doubtful SF constituents.

<sup>42</sup> Formula (vii) generalizes too much because corrigens sentences may even paraphrase 'background' constituents of their corrigenda or elide them. Therefore,  $S_1$  may differ from  $S$  in more than the replacement in the focus domain of contrastive focus.

corrigendum. But even this interpretation is underspecified as far as the underlying negation of the correction is concerned. This pragmatic problem will be reconsidered in section 5.

## 5. A model for correction

In his book "Speaking: From Intention to Articulation" (1989), Levelt introduced two cognitive levels. Cognition 1 is responsible for the planning of the whole text, of its type, of the way it can be presented to the relevant communicative partners. Likewise, Cognition 1 is responsible for the general principles of textual coherence. As far as our problem is concerned, Cognition 1 is responsible for the sequencing of information and for the interaction of the corrected speaker and the correcting speaker in a broad sense.

Cognition 2 constitutes the interface to the level of formulation (=grammar). According to Levelt, in Cognition 2 the information is represented in a propositional format, and it is prestructured by informationstructural (i.e., cognitive) categories: Cognition 2 marks the pieces of information which will become the topic and the comment, the background and the focus of the following sentence dependent on its backward context and on situational context, too.

On the basis of Levelt's book, Bierwisch and Schreuder (1992) as well as Herweg and Maienborn (1992) constructed modular structural systems of cognition in which the lexicon forms the interface between the conceptual system and grammar. The lexicon fulfils this role very well because its meanings (Semantic Forms) are underspecified constructions of conceptual primitives.

This paper enriched these models in order to give more room to information structure. The cognitive categories topic, comment, background and focus are mapped onto the grammatical categories of the different levels of grammar which will realize them. The Semantic Form component can be used as the productive component of the grammatical system since the SFs of words and affixes contain all the entries necessary for their combination into Semantic Forms of sentences. As mentioned above, information structure is part of the object of semantics since it has an influence on the truth conditions and on the conditions of use of sentences. The SFs of sentences are mapped onto syntactic surface structures. The latter follow the principles of information structure, too because the relevant cognitive markings like topic,

comment, background, and focus which have been transmitted to syntactic representations from Cognition 2 via the lexicon and via SF will partly be realized by syntactic means. From syntax, these cognitive categories will be transmitted further to the levels of morphology and phonology to be formally realized there, too.

We noticed that the only cognitive categories relevant for corrigens sentences are topic and focus. Therefore contrastive focus and its focus domain are marked. The rest is automatically interpreted as belonging to 'background'. And it is necessary to mark topics as well because they have an influence on the structuring and type of a text even though we do not deal with this here.<sup>43</sup> The rest of the sentence is automatically interpreted as the comment. Let us exemplify the model for correction by means of (41)cs and begin with the cognitive level of Cognition 2:

- (41)ct Wer hat sich denn nun tatsächlich alles angemeldet?  
Who has refl. finally really announced his coming
- (41)cd [PEter]<sub>F</sub> kommt.  
Peter will come
- (41)cs [HANS]<sub>CF</sub> kommt. (Von Peter haben wir noch keine  
Hans will come (From Peter have we yet no  
Nachricht.)  
news)

Cognition 2:

- (41)cd [PEter]<sub>F</sub> kommt:  
Peter will come
- (ix) Discourse referents:  $y, s^1, T$   
Cognitive representation:  $([PETER]_F = y) \wedge (KOMM(y, Future, s^1))$
- (41)cs [HANS]<sub>CF</sub> kommt.  
Hans will come
- (x) Discourse referents:  $x, s, T$   
Cognitive representation:  $([HANS]_{CF} = x) \wedge (KOMM(x, Future, s))^*$

At the level of Cognition 2, the contrastively focussed parts of the proposition to be verbalized are marked by CF, and the entire proposition is

<sup>43</sup> and even though (41)cs has no topic at all.

marked by an asterisk as a corrigens. The correction mark on the level of Cognition 2 expresses that the marked proposition interrupts the sequence of presentation of information and corrects a piece of the information already verbalized. (41)cs protests against  $y = \text{PETER}$  as a discourse referent and replaces it by  $x = \text{HANS}$ .

The mark CF has to be realized grammatically and is transmitted to the relevant levels of grammar. As the correction mark has a formal and a semantic realization, there must be several places where grammar has to take notice of it. We will exemplify the grammatical realization by means of (41)cs and follow the construction of the grammatical system as outlined above.

1. The context-dependent fixation of the focus domain of contrastive focus at all levels of grammar.
2. The SF of the corrigens consisting of an affirmative proposition and of the meaning of contrastive focus in its generalized format (cf. (xix) below). The generalized SF of contrastive focus must be specified by what is the 'content' of the lexical entry of contrastive focus. The 'content' must be marked at its level of grammar. In (41)cs the 'content' is the SF of *Hans*.
3. The SF of the contrastively focussed sentence is mapped onto its syntactic surface structure which must follow the syntactic rules of corrigens sentences. (41)cs is a simple topicless sentence with its contrasted constituent fronted to Spec CP.
4. In Phonological Form the contrastively marked syllable in the focus domain is realized by a contrastive pitch accent. It represents the formal side of the LE of contrastive focus and is decisive for the intonation contour of the whole sentence.

Next we will exemplify the grammatically relevant details of (41)cs.

Each lexical entry has its SF, GF (grammatical form), and PF (phonological form).

1. *Hans* will be represented as follows:
  - (xi) **GF:** [+N, –V]  
           [+specific]  
           [proper name]
  - (xii) **SF:**  $\text{ex } [[[\text{Person}, x] : [\text{MALE}, x]] : [\text{Name}, x, \text{Hans}]]^*$

(41)cs offers the SF of *Hans* as the replacement of the correction which is the 'content' of the SF of contrastive focus. Therefore the SF of *Hans* must

be marked. In 4.4 we exemplified how the meanings of the lexical entries are compositionally constructed to form the SF of the sentence and how the SF of contrastive focus is added to the assertive part of the meaning of the correction. We need not repeat this here.

2. *Hans* is the subject of *komm-* ('come-'). *Komm-* ('come-') is an intransitive verb; its noun phrase in subject position has nominative case and bears theta role 1 (the role of agent).

- (xiv) **GF:** [+V, -N]  
           [DP           - -]  
           [nominative]  
           [ $\Theta$  1]

These grammatical features must correspond to those in the theta grid of the SF of *komm-* ('come-') in order for SF to be mapped on syntax. The surface structure of (41)cs was represented in (v) above.

- (xv) **SF:**  $\lambda x$                     $\lambda T \lambda s$  [s INST [KOMM, x, T]]  
           [nominative]  
           [ $\Theta$  1]

3. There is no correspondence between syntactic surface structure and the placement of contrastive pitch accent. The correcting speaker realizes CF on the monosyllabic word *Hans*. Therefore the mark CF. The focus domain has been indicated by angled brackets.

- (xiii) **PF of the sentence:** [ /hans/ ]<sub>CF</sub> /komt/

Next we would like to give an example with a correction directed to a formal feature of a word.

- (42)cd Sieh mal, [Anna grüßt den NACHbar wieder.]<sub>F</sub>

Look here, Anna greets the neighbour again

- (42)cs Anna grüßt den [NachBARN]<sub>CF</sub> wieder.

Anna greets the neighbour again

To find out what the correcting speaker really corrects let us first look at the SF of *grüß-* (greet-):

- (xvi) **SF:**  $\lambda y$     $\lambda x$             $\lambda T \lambda s$  [s INST [GRÜSS- x, y, T]]  
           [Acc] [Nom]  
           [ $\Theta$  2] [ $\Theta$  1]

The oblique argument is characterized by the theta role THEME ([ $\Theta$  2]) and by accusative case. DPs replacing the variable y must fulfil these conditions.

Declension class i in the GF of *Nachbar* ('neighbour') [+N, -V, masculine, declension class i] is responsible for the way the lexical entry of the ending [accusative case, singular] of *Nachbar* ('neighbour') is morphologically and phonologically realized. Like the other oblique cases and the nominative plural of *Nachbar* ('neighbour') it has to be realized by /-n/ and not by zero as in (42)cd.

Our lexicon contains entries of the endings, too. The characteristics of the ending and of the stem must agree.

- (xvii) **GF of ending:** [Acc]  
                                   [sg]  
                                   [declension class i]  
                                   [masculine]

- (xviii) **PF of that ending:** /-n /\*.

The PF of the corresponding ending is marked by \*. This ending has an empty SF. Therefore, the correction must be directed to the formal representation of the ending of this word. Example (42)cs shows that the 'content' of the meaning of contrastive focus can be represented by a grammatical element other than a Semantic Form. In view of examples like this, the SF of contrastive focus was formulated by means of the relation "sentence<sub>1</sub> is represented by S<sub>1</sub>" and not by means of the relation "the situation s<sub>1</sub> is an instance of the proposition ..." often used in two-level semantics (cf. the SF of *komm-* ('come-')).

We have to generalize the SF of contrastive focus and build up a correction format containing a variable to be replaced by any grammatically categorized element. The categorical structure of the SF of contrastive focus and the way it is combined with the SF of the affirmative part of the corrigens, however, remain as before.

Generalized SF of contrastive focus:

- (xix)  $\lambda p [p] \wedge \exists! \Phi, s_1 [s_1 \text{ represented by } S_1 = (s \dots [\Psi/\Phi]_{\text{focus domain}} \dots)]^{44}$   
       whereby:  
       p = compositionally constructed SF of the assertive part of the correction  
       s<sub>1</sub> = the situation represented by the corrigendum  
       S<sub>1</sub> = corrigendum sentence

<sup>44</sup> Neither in this nor in any other representation of this paper does the existential operator express existential force.



S = corrigens sentence

$\Psi$  = the entity in the corrigens realizing contrastive pitch accent and replacing  $\Phi$

$\Phi$  = the entity in the corrigendum that has to be replaced

$\Psi$ ,  $\Phi$  have a CI.

The correct ending of the word *Nachbar* ('neighbour') in the given grammatical context is *-n*, but the syllable which realizes contrastive pitch accent (indicated by capital letters) is *-arn*. The complex correspondence rules between the grammatically marked elements and the corresponding syllables in the PF of the words, however, cannot be inspected in this paper.

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