Where syntax and semantics meet: adverbial positions in the German middle field[1]

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1 Introduction

The question how adjunct positions can be explained has recently been very controversly discussed. There is hardly any view imaginable that has not been proposed. On one extreme is the view that adverbs and more general adjuncts can be placed practically anywhere and that they are base generated wherever they appear. The other extreme has recently been proposed by several authors working within a minimalistic framework, e.g. by Cinque (1999), who argues for a universal hierarchy of functional projections which contains a special specifier position for every type of adjunct.

For German, which exhibits a great freedom of word order, it has been controversial whether there are syntactically determined positions for adverbials at all. Some authors have maintained that the placement of adverbials is completely free (e.g. Haider 1996, Hetland 1992 for sentence adverbials).

In Frey & Pittner (1998), Pittner (1999) we have endeavoured to demonstrate that the tests which are used to identify the base positions of verbal arguments can be fruitfully applied to determine the base positions of adverbial adjuncts as well (cf. also Maienborn 1996, 2001 on locatives). Moreover, ambiguous adverbs are especially interesting in this respect. The ambiguity often disappears in certain positions which shows that certain syntactic positions of adverbials lend themselves to certain interpretations.[2] Ambiguous adverbs will also be drawn upon as evidence for the close

connection between syntactic position and interpretation of adverbials in this paper.

If there are base positions for adverbials, the question arises what determines them. In this paper, the basic assumption is that the semantic entity to which an adverbial constituent applies to determines its positions. That is, the syntactic position of an adverbial is determined by its semantic relations to the rest of the sentence which is reflected in its c-command relations to other adverbials and the verbal arguments.

I will argue that adverbials fall into different classes as far as their base positions are concerned and that these different base positions reflect the semantic objects the adverbials are related to: there is a differentiation between proposition-related adverbials (sentence adverbials), event-related adverbials, event-internal adverbials, process-oriented adverbials.[3]

The paper is organized as follows: First, some properties of the German middle field will be presented. In the third section, tests for base positions will be discussed. In section 4, I will discuss the base positions of several types of adverbials. A comparison with other approaches is made in 5. Section 6 deals with the mirror image of adverbial positions in final position in English and in the German extraposition field. A short summary of the results of this paper is given in 7.

2   Some properties of the German middle field

The middle field is the space between the parts of the finite verb and infinite verbs constituting the verbal bracket in main clauses with verb-second or verb-first position, or alternatively between the complementizer and the verbal elements in subordinate clauses with verb-end position. Since German is an OV-type language, the base position of the finite verb is to the right of all verbal arguments in the right part of the bracket. Verb-first and

verb-second position are derived by movement and are possible only if there
is no complementizer or other subordinating element.

Major constituents can be permuted quite freely in the middle field of the
German sentence.

(1)   a. *weil*   *Hans* *seiner* *Freundin* (IO) *ein* *Bild* (DO)

          because John   his   girlfriend (IO) a   picture (DO)

          gegeben *hat*

          given   has

          'because John gave his girlfriend a picture'

    b. *weil*   *seiner* *Freundin*   *Hans* *ein* *Bild*

          because his   friend (IO) John a   picture (DO)

          gegeben *hat*

          given   has

    c. *weil*   *ein* *Bild*   *seiner* *Freundin*   *Hans*

          because a   picture (DO) his   friend (IO) John

          gegeben hat

          given   has

The possible word orders are not all equally normal or neutral, since some
require special contexts. Within generative grammar, it has been established
by now as the view of the majority that verbal arguments have a normal or
base order and orders which are derived by scrambling.

The base order of verbal arguments is not the same for all verbs, however.
While many three-place verb take subject > indirect object > direct object as
the base order, there are verbs with a base order DO > IO and not with all

verbs the subject is the first argument in the base order. This first argument will be called the highest argument.[4] It has been convincingly argued that the base order of arguments is determined by the argument structure of the verb, which is present on the level of semantics and projected into the syntax (e.g. Haider 1993:101ff.).

It is controversial whether adverbials which for the most part are free adjuncts have base positions and if there are base positions for them, what determines these base positions. Based on earlier work done with W. Frey, I will argue in this paper that not only verbal arguments, but also adverbials have base positions which can be identified by applying a number of tests.

3 Tests for base positions

3.1 Focus projection

One reason to assume that there are base orders and derived orders is that some orders allow for wide focus or focus projection as it is called in the German literature, whereas others do not. According to Höhle (1982), focus projection is possible if the accent is placed on the constituent adjacent to the verb and if normal word order obtains.

A test for maximal focus projection is whether a sentence can occur as an answer to a question like *what happened?* This is possible only with (2a). Both (2b) and (2c) could only be answers to questions in which some of the material is mentioned.

(2)　　a. *Gestern　hat　　Hans　seiner　　　　Freundin* (IO)

　　　　　yesterday　has　　John　his　　　　　　girlfriend (IO)

　　　　　ein Bild (DO)　　　*gegeben*

　　　　　a　picture (DO)　　　given

　　　　　　'Yesterday John gave his girlfriend a picture'

b. *gestern   hat   seiner   Freundin   Hans   ein*

because has   his   friend   John   a

Bild   gegeben

picture   given

c. *gestern   hat   ein Bild   seiner*

yesterday   has   a   picture   his

Freundin   Hans   gegeben

friend   John   given

3.2   Theme-rheme condition

Lenerz (1976) observed that some orders of two constituents allow either constituent to be either theme or rheme, whereas other orders are not possible if the first constituent is rheme and the second theme. Lenerz employs questions as a test for theme and rheme. The theme is already mentioned in the question and the rheme corresponds to the question word:

(3)   *Wem   hast   du   das   Geld   gegeben?*

Who   did   you   the   money   give

'Who did you give the money to?'

a. *Ich habe   dem   KasSIERer   das   Geld   gegeben.*

I   have   the   cashier   the   money   given

'I gave the money to the cashier.'

b. *Ich   habe   das   Geld   dem   KasSIERer   gegeben.*

I   have   the   money   the   cashier   given

(4)　　*Was　hast　du　dem Kassierer　gegeben?*

　　　　What　have　you　the　cashier　　　given

　　　　'What did you give to the cashier?

　　　a. *Ich habe　dem Kassierer　das　GELD　gegeben.*

　　　　I　have　the　cashier　　the　money　given

　　　b. ?**Ich　habe　das　GELD　　dem　　　Kassierer*

　　　　I　　have　the　money　　the　　　cashier

　　　　gegeben.[5]

　　　　given

This tests demonstrates that the order IO > DO is unmarked, hence the base order. They also show that focussed constituents may not scramble.

3.3　Complex frontings

Some constituents can be topicalized together with the verb. This is not possible for all kinds of elements, only constituents which have a base position adjacent to the final verb can be part of a complex fronting. The reduced grammaticality of sentences like (b) argueably due to a trace in the fronted string that is ungoverned because its antecedent remains in the middle field (cf. Haider 1993).

(5)　　a. *Das　Buch　gegeben　habe ich　dem　Kind.*

　　　　the　book　given　　have　I　the　child

　　　　'I gave the book to the child.'

　　　b. ??*Dem　Kind　gegeben　habe　ich　das　Buch.*

　　　　the　　child　given　　have　I　　the　book

3.4   Quantifier scope

Frey (1993) observes that ambiguities of quantifier scope occur in derived orders, but not in base orders.

(6) a. *WEIL   fast   jeder   Deutsche   mindestens   einen*

because nearly every German   at least   one

Goethe-Roman kennt[6] ($\forall\exists$)

Goethe-novel   knows

'because nearly every German knows at least one novel by

Goethe'

b. *WEIL   mindestens   einen   Goethe-Roman   fast   jeder*

because at least   one   Goethe-novel   nearly every

Deutsche   kennt ($\exists\forall$, $\forall\exists$)

German   knows

(6a) has only a reading in which the universal quantifier has scope over the existential quantifier: nearly every German knows at least one novel by Goethe. (6b) is ambiguous. Besides the reading of (6a), it has also a reading in which there is one novel by Goethe which every German knows. Frey's explanation for this is that scope is determined by c-command-relations, which are ambiguous in (6b) since the surface position of the existential quantifier c-commands the universal quantifier, but in the base order it is the other way round so that there are two readings. Cf. Frey's (1993) scope principle in a simplified version:

(7) Scope principle: A quantified expression α can have scope over a quantified expression β if the head of the local chain of α c-commands the base position of β.

The trace which is due to scrambling of the object in (6b) adds a scopus option which leads to the ambiguity described.

3.5 Existentially interpreted w-pronouns

It has been observed that existentially interpreted w-pronouns cannot be scrambled. This makes them useful as a diagnostic for base positions.

(8) a. *weil   eine Studentin   wen   beleidigt hat*

because a   student   someone insulted   has

'because a student insulted someone'

  b. ??*weil   wen   eine   Studentin   beleidigt hat*

because someone a   student   insulted   has

(8) provides evidence for a base position of the object to the right of the subject.

Principle-C-effects can also be used as diagnostics for the determination of base positions. For reasons of space, I will not discuss them here and refer the reader to the discussions of this test in Frey and Pittner (1998) and Maienborn (2001).

In the next section, I will show how these tests can be applied in order to determine the base positions of several types of adverbials.

4 Adverbial positions in the middle field

4.1 Directional adverbials

It has been observed by a number of authors that directional adverbials in their base position are adjacent to the verbal elements in such a way that neither sentence negation nor other elements can occur between them. Not only directional adverbials, but also predicative elements belong to this special verbal domain which will be called the "verbal complex".

(9)　a. *Sie ist nicht nach München gegangen*

　　　she is not to Munich gone

　　　'She did not go to Munich.'

　　b. **Sie ist nach München nicht gegangen*

　　　she is to Munich not gone

　　c. *Er ist nicht Präsident geworden*

　　　he is not president become

　　　'He did not become president.'

　　d. **Er ist Präsident nicht geworden*

　　　he is president not become

Frey (1993:37) points out that the verbal complex is the smallest verbal projection that can be topicalized, i.e. be put into the position before the finite verb (the "prefield"). The following goes to show that directional adverbials are part of this projection, since the verb alone cannot be topicalized.

(10)　a. **Gelegt HAT er die Bücher in das Regal*[7]

　　　put has he the books into the shelves

　　　'He has put the books into the shelves'

　　b. *In das Regal gelegt HAT er die Bücher*

　　　into the shelves put has he the books

The directional adverbials are part of the verbal domain. They exhibit some parallels to resultative predicates: Like resultative predicates, directional

adverbials can create additional argument places. Moreover, both resultative predicates and directional adverbials are focus exponents.[8]

(11) a. *Er hat leer den Teller gegessen

he has empty the plate eaten

'He ate the plate empty.'

b. Er hat den Teller nicht leer gegessen

he has the plate not empty eaten

'He didn't eat the plate empty.'

c. *Gegessen hat er den Teller leer

eaten has he the plate empty

d. Leer gegessen hat er den Teller

empty eaten has he the plate

If not only a goal but a path is specified by giving the starting point and points passed on the way, the normal order is starting point > points on the way > goal. We get focus projection in (a), but not in (b):

(12) a. Wir sind von München über Nürnberg nach BerLIN

we are from Munich via Nurnberg to Berlin

gefahren.

driven

'We went from Munich via Nurnberg to Berlin.'

b. Wir sind über Nürnberg von München nach

We are via Nurnberg from Munich to

BerLIN gefahren.

| | Berlin | driven |

In this case, the order of adverbials is iconically motivated.

4.2 Manner adverbials

Manner adverbials behave like directional adverbials in some respects. Sentence negation may not occur to the right of them. We have argued that manner adverbials are adjoined to the verbal complex (Frey/Pittner 1998: 501ff, cf. Frey 2003). This is not uncontroversial, however: Eckardt (2003), for instance, argues that manner adverbials are adjoined to a higher projection, containing the verb and its object.

The tests support the assumption of a base position of manner adverbials adjacent to the verbal complex. The indefinite w-pronoun as object occurs to the left of the manner adverbial. Since the w-pronoun cannot scramble, this shows that the manner adverbial is base generated to the right of it.

(13)   *weil   Maria heute was   (nicht) sorgfältig gelesen*

because Mary today something not   carefully   read

hat

has

'because today Mary has read something (not) carefully'

Quantifier scope points in the same direction. We have scope ambiguity with respect to the quantifier of the manner adverbial in (b), but not in (a), (cf. Frey 1993, Frey/Pittner 1998:502). While in (a) there is one woman which is courted in nearly every way, (b) has an additional reading where for every way of courting there is (at least) one woman. This shows that the manner adverbial in (b) has been scrambled over the object, whereas in (a) all constituents are in their base position:

(14)   a. *WEIL   er   mindestens eine Frau   auf fast   jede*

because he at least one women in nearly every

Weise umwarb (∃∀)

way courted

'because he courted at least one woman in nearly every way'

b. *WEIL er auf fast jede Weise mindestens eine*

because he in nearly every way at least one

Frau umwarb (∀∃, ∃∀)

woman courted

Complex fronting supports this view as well:

(15) a. *Mit bebender Stimme angesprochen hat Hans die*

with trembling voice addressed has John the

elegante Frau.

elegant woman

'With trembling voice John addressed the elegant woman.

b. ??/*Die elegante Frau angesprochen hat Hans mit*

the elegant woman addressed has John with

bebender Stimme.

trembling voice

It has to be noted, however, that indefinite objects very often occur after manner adverbials.

(16) *weil sie schüchtern einen Prinzen geküsst*

because she shyly a prince kissed

hat

has

'because she kissed a prince shyly'

Eckardt sees this as evidence for a base position of manner adjuncts higher than the object. In our view, data like (16) are due to the "integration" of the object into the predicate in the sense of Jacobs (1993).[9] Jacobs assumes that a sister constituent may be either informationally autonomous or integrated into its head. If it is integrated, this means that it is not processed separately, but only as part of the head. Among the examples Jacobs gives are the subjects of thetic sentences and certain kind of objects. An integrated object is not conceptualized as a separate entity, but merely as a part of a process. As Jacobs argues, integration of an object is possible if the object exhibits proto-patient characteristics as defined by Dowty (1991). Focus on an integrated object can be wide focus.

(17)　　a. *Sie　　hat　　ein　　BUCH　　gelesen*. (wide focus possible)

　　　　She　　has　　a　　book　　read

　　　　'She read a book.'

　　　b. *Sie　　hat　　einen　　KolLEGen　　verachtet*. (only narrow focus)

　　　　she　　has　　a　　colleague　　despised

　　　　'She despised a colleague.'

The patient object in (17a) can be integrated whereas this is not possible for the stimulus object in (17b) which is not exhibiting proto-patient

characteristics. It has also been observed that distributive quantification prevents integration (cf. Jacobs 1993:80f.):

(18) a. *Sie   hat   jedes   HEMD   gebügelt.* (only narrow focus)

she   has   each   shirt   ironed

'She has ironed each shirt.'

b. *Sie   hat   alle   HEMDen   gebügelt.* (wide focus possible)

she   has   all   shirts   ironed

'She ironed all shirts.'

It is crucial for our explanation that manner adjuncts can occur only in front of integrated objects. The following sentences with non-integrable objects are not acceptable.

(19) a. **Ich   habe   abgrundtief   den   Mann   verachtet.*

I   have   deeply   the   man   despised

'I despised the man deeply.'

b. ??*Er   hat   sorgfältig   jedes   Hemd   gebügelt.*

he   has   carefully   each   shirt   ironed

'He ironed each shirt carefully'

We assume that an integrated object extends the verbal complex. Since any element intervening between an integrated object and the verb would prevent integration, manner adverbials are adjoined to the left of the object in these cases.

Support for the assumption of a base position of manner adverbials adjacent to the verbal complex comes also from the interpretation of adverbials which are ambiguous between a process (manner) reading and an event-related reading like *langsam* ('slowly') and *schnell* ('quickly').

(20)　　*Er　ging　schnell.*

　　　　he　went　quickly

　　　　‚He went quickly/he quickly went.'

In its manner reading, the adverb refers to the speed of the movements of the legs that constitute the activity of walking. In its event reading, the adverb refers to the time span between some reference point and his leaving. There is a clear preference among native speakers of German for the manner interpretation of the verb-adjacent adverbial and for the event-related interpretation for ambiguous adverbials to the left of the object. When the context requires a process interpretation, the order object > manner adverb in (a) is preferred.

(21)　　*Damit　　niemand etwas　　　hört, hat der*

　　　　In order to nobody　something　hears, has　the

　　　　　　Einbrecher

　　　　　　burglar

　　　　'For fear that anybody hears something, the burglar has

　　　　a. *die　Tür　langsam　geöffnet.*

　　　　　　the　door slowly　　opened

　　　　　　opened the door slowly.'

　　　　b. *langsam　die　Tür　　geöffnet.*

slowly   the   door   opened

If the context requires an event reading, the order adverbial > object in (a) is preferred.

(22)   *Das Zimmer ist schon gut gelüftet –*

the   room   is   already well aired

'The room is already well aired

a. *du   könntest langsam das Fenster zumachen.*[10]

you could   slowly   the   window close

'you could close the window now'

b. *du   könntest das Fenster langsam zumachen.*

you could   the   window slowly   close

'you could close the window now'

The strong tendency of native speakers of German to interpret ambiguous adverbials to the left of objects as event-related adverbials, cannot be explained if this is the base position for manner adverbials.[11] It strongly suggests a base position for manner adverbials adjacent to the verbal complex.

If an adverbial which is ambiguous between a manner reading and an event-related reading occurs to the left of the highest argument, only the event reading is available, as in (23).

(23)   *weil   langsam   wer   das Essen   kochen*

because slowly   somebody the meal   cook

könnte

could

In this section, it was argued that the base position of manner adverbials is adjacent to the verbal complex. The following condition holds:

(24)   Process-oriented adverbials minimally c-command the verbal complex.

4.3   Instrumentals and comitatives

There is some evidence that the base position of instrumentals and comitatives is to the left of the objects. We have focus projection only in (b):

(25)   a. *Er hat eine Dose mit einem MESSER geöffnet.*

(narrow focus)

he   has a   can   with a   knife   opened

'He opened a can with a knife.'

b. *Er hat mit   einem   Messer eine DOSE   geöffnet.*

(wide focus)

he   has with a   knife   a   can   opened

Complex frontings support this view:

(26)   a. ?*Mit dem Messer geöffnet hat sie die Dose.*

with the knife   opened has she the can

'With the knife she opened the can.'

b. *Die Dose geöffnet hat sie mit dem Messer.*

the can   opened has she with the knife

These tests suggest a base position of the instrument to the left of the object.[12] Focus projection shows that the position of instruments is lower than that of subjects:

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(27) a. *weil   Hans mit einem Hammer das Fenster*

because John with a   hammer the window

einschlägt

breaks

'because John broke the window with a hammer'

b. *weil   mit   einem Hammer Hans das Fenster*

because with a   hammer John the window

einschlägt

breaks

The tests show the same results for comitatives if they are related to subjects. Comitatives are closely related to one of the verbal arguments, usually the subject. A (rough) paraphrase of a sentence with a comitative is a sentence where the comitative is coordinated with the argument it relates to. There are cases, however, where the comitative relates to the object. Interestingly, the object-related comitatives take their base position to the right of the object, cf. complex frontings:

(28) a. *Sie hat das Fleisch mit der Suppe in   den Topf*

she has the meat   with the   soup   into the pot

getan.

done

'She put the meat with the soup into the pot.'

b. *Mit der Suppe in   den Topf getan hat sie*

with the soup   into the pot   done has she

das   Fleisch.

the   meat

c. ??*Das Fleisch in   den Topf getan hat   sie   mit*

the   meat   into the   pot   done   has   she   with

der   Suppe.

the   soup

It can be concluded that the comitative has to be c-commanded by the argument it is related to (cf. Frey/Pittner 1998:506, Pittner 1999:165). As for relative order between instrument and comitative, the theme-rheme condition, focus procjection and complex frontings hint at a slight preference for comitative > instrument, but no scope ambiguities arise (cf. Frey/Pittner 1998:406ff., Pittner 1999:165ff.) We have argued that the lack of scope ambiguities between subject-oriented comitative and instruments is due to the fact that these adverbials belong to the same class of adverbials and therefore can be base-generated freely with respect to each other.Nevertheless, there is a semantically motivated preference for comitative > instrument, which is not due to syntactically differentiated base positions. In Pittner (1999), I have argued that this corresponds to the greater inherence of instruments to certain actions: While any action can be carried out with nearly any person, the instruments to carry out certain actions are usually restricted to a few (such as *essen 'eat', einen Nagel einschlagen 'to drive in a nail' , ein Fahrrad flicken 'to mend a bicycle* etc.). Instruments are more inherent to the actions denoted by the verb (often together with the object) than comitatives and this is reflected in a slight preference to place them after subject-oriented comitatives.

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4.4 Mental attitude

Mental attitude adverbials denote the attitude of one of the participants in an event, usually the subject. Interestingly, the ambiguous adverb *gerne* ('willingly', 'frequently') has no mental attitude reading if it occurs to the left of the subject as in (a):

(29)   a. *weil   hier   gerne jemand   arbeitet* (only frequency reading)

             because here   often   somebody   works

             'because often somebody works here

         b. weil   hier   jemand   gerne arbeitet (mental attitude reading)

             because here   somebody   willingly/often works

             'because somebody works here often/willingly'

It can be concluded that mental attitude adverbials have to be c-commanded by the argument they are related to, which is usually the subject. With verbs whose highest argument is not the subject, it is the highest argument which c-commands the mental attitude adverb: [13]

(30)   *weil   wem   versehentlich   was   rausgerutscht ist*

             because him   inadvertently   something   slipped out

             'because someone inadvertently said something'

If mental attitude adverbials are related to the subject they have their base position to the left of the object, cf. complex frontings:

(31)   a. *den Fehler gemacht hat Peter absichtlich*

            the mistake made   has Peter intentionally

'Peter made the mistake intentionally'

b. *?absichtlich   gemacht   hat   Peter   den   Fehler*

   intentionally made   has   Peter   the   mistake

Mental attitude adverbials share with instruments and comitatives the property of being related to one of the arguments, which led us to classify them as event-internal adverbials (cf. Frey/Pittner 1998: 508ff.) for which the following condition holds:

(32)   Event-internal adverbials are minimally c-commanded by the argument they are related to.

As was shown in this and the preceding section this condition determines the base position of subject-oriented comitatives and instruments between subject and object and for object-oriented comitatives below the object. The base position of mental attitude adverbials is below the argument which this attitude is attributed to which is usually the subject.

4.5   Locatives

Local and temporal adverbials are considered by many authors to be similar and therefore are often treated together (e.g. Laenzlinger 1998, Haider 2000). According to the tests, however, they exhibit different base positions and can be assigned to different adverbial classes on the basis of their distribution. I will argue that canonical locatives are another instance of event-internal adverbials whereas temporal adverbials are event-related adverbials.

Locatives can relate to different kinds of semantic entities which is reflected in different base positions. First I deal with canonical locatives which are commonly assumed to localize events.

These locatives take their base position higher than the object. This is borne out by focus projection which is possible in (33a), but not in (33b):

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(33)   *Was   hat   Hans   gemacht*?

what   has   John   done

'What did John do?'

a. *Hans   hat   im   Kino   MARIA   geküsst*.

John   has   in the   cinema   Mary   kissed

'John has kissed Mary in the garden.'

b. **Hans   hat   Maria   im   KINO   geküsst*.

John   has   Mary   in the   cinema   kissed

This view is supported by scope data (cf. Frey 1993:194):

(34)   a. *WEIL   Paul   zumindest   einen   fast   überall*

because   Paul   at least   one   nearly   everywhere

traf

met

'because Paul met at least one nearly everywhere'

b. *WEIL   Paul   fast   überall   zumindest   einen*

because   Paul   nearly   everywhere   at least   one

traf

met

Only (a) is ambiguous with respect to the scope of the quantified locative due to scrambling of the object over the locative.

The theme-rheme-test points in the same direction:

(35)   *Wen   hat   Anne in   der   Kantine   beleidigt*?

Whom has Ann in the canteen insulted?

'Who did Ann insult in the canteen?'

a. *Anne hat in der Kantine den KOCH beleidigt*

Ann has in the canteen the cook insulted

'Ann insulted the cook in the canteen.'

b. ??*Anne hat den KOCH in der Kantine beleidigt*

Ann has the cook in the canteen insulted

According to the theme-rheme-test, the locative has a base position below the subject of transitive verbs, which is corroborated by w-pronouns:

(36)   *Wo hat gestern jemand den Koch beleidigt*?

where has yesterday somebody the cook insulted

'Where did someone insult the cook yesterday?'

a. ??*Gestern hat in der KanTIne jemand den KOCH*

yesterday has in the canteen somebody the cook

beleidigt

insulted

b. *Gestern hat jemand in der KanTIne den*

yesterday has somebody in the canteen the

Koch beleidigt

cook insulted

(37)   a. *Dies wird hoffentlich jemand wo*

this will hopefully somebody somewhere

bemerken

notice

'This will be hopefully noticed somewhere by someone'

b. ??*Dies wird hoffentlich wo   jemand*

this   will hopefully   somewhere somebody

bemerken

notice

Thus we have the following order of base positions with a transitive verb: $NP_{Nom} > Adv_{Loc} > NP_{Akk}$.

Taking into account verbs whose highest argument is not the subject, it becomes clear that the base position of locatives is below the highest argument, cf. focus projection and w-pronouns:

(38)   *weil   dem   Mann   auf der Brücke der HUND*

because the   man (DAT) on   the bridge the   dog

entlief

ran away

'because the man lost his dog on the bridge'

(39)   a. *weil   ihm   in einem Park wer*

because him (DAT) in a   park somebody

entlaufen ist

run away is

b. ??*weil ihm wer   in einem Park entlaufen ist*

because him somebody in a   park run away   is

c. *dieses Tier   ist einem   Wärter   wo   entlaufen*

this   animal is a   guard   somewhere   run away

'This animal ran away from the guard somewhere'

d. ??*dieses Tier   ist wo   einem   Wärter*

this   animal is   somewhere a   guard

entlaufen

run away

With these two-place *sein*-verbs ('ergative verbs') we have this order of base positions: $NP_{Dat} > Adv_{Loc} > NP_{Nom}$.

We have seen that canonical locatives are related to the highest argument. This means that these locatives do not relate to events directly, but rather to the most prominent element in them which is represented by the highest argument.

There are locatives, however, which take their base position below an object of a transitive verb which is not the highest argument. These either locate the object or are a process specification.

Object-locating locatives occur as adjuncts with verbs like *see* or as complements to verbs with the basic meaning 'to put something somewhere' like *verstauen, abstellen, unterbringen, verstecken* where the place is specified by a locative rather than by a directional adverbial.

(40)   a. *Er hat das Auto in der GaRAge abgestellt.*

he has the car in the   garage parked

'He parked the car in the garage.'

b. *Er   hat das   Geschenk im   SCHRANK versteckt.*

he   has the   present   in the cupboard hid

'He hid the present in the cupboard.'

We get focus projection in (40) which indicates that this is the base order. A canonical locative may be combined with an object-related one, with the base position of the first higher than the object, of the latter lower than the subject. In the following sentences we get focus projection:

(41)   a. *Ich habe auf dem Balkon eine Palme im*

           I   have   on   the   balcony a   palm   in the

           HOF   gesehen.

           backyard   seen

           'On the balcony, I saw a palm in the backyard.'

    b. *Sie hat in dem Terminal ein Flugzeug über den*

           She has in the   terminal an airplane over the

           WOLken   gesehen.

           clouds   seen

           'In the terminal, she saw an airplane over the clouds.'

Maienborn (2001) points out that there are locatives which do not refer to a situation as a whole but only to part of it. They can receive different interpretations, all of which are closely related to the action denoted by the verb and are very similar in this respect to manner adjuncts which apply to processes. They occur in the same base position as manner adjuncts, minimally c-commanding the verbal complex.

(42)   a. *Sie haben das Hühnchen in der PFANne gebraten.*

           they have   the chicken   in   the   pan   fried

           'They fried the chicken in the pan.'

b. *Sie   haben die   Gangster   auf   dem   MoTORrad*

they have   the   gangsters on   a   motorbike

verfolgt.

pursued

'They pursued the gangsters on a motorbike'

We have focus projection in (42) which shows that the base position of these locatives is adjacent to the verbal complex. Moreover, like manner adverbials, this kind of locative can occur only after sentence negation. A third class of locatives are so-called frame setting locatives, which are dealt with in section 4.8.

4.6   Temporals

Focus projection shows that temporal adverbials take their base position higher than that of objects and higher than canonical locatives:

(43)   a. *Hans hat am Montag in seiner Wohnung den*

John has on Monday in his   apartment the

FUSSboden   geschrubbt. (wide focus)

floor   cleaned

'On Monday, Hans cleaned the floor in his apartment.'

b. *Hans hat   den Fussboden am MONtag   geschrubbt.*
(narrow focus)

John   has   the   floor   on Monday   cleaned

Scope data support this view. (44b) is ambiguous with regard to quantifier scope indicating that the local adverbial has scrambled over the temporal adverbial:

(44)   a. *weil   Hans   an jedem Tag   in   mindestens   einem*

           because John   on   every   day   in at least   one

           Lokal   einkehrte ($\forall\exists$)

           bar   stopped off

           'because on every day John stopped off at in least one bar'

   b. *weil   Hans in   mindestens einem Lokal   an jedem*

           because   John in   at least   one   bar   at   every

           Tag   einkehrte ($\exists\forall$, $\forall\exists$)

           day   stopped off

There is some evidence that the base position of temporals is higher than that of the subject, cf. the position of the indefinite w-pronoun.

(45)   a. *weil   morgen   wer   den   Boden   puttzen*

           because tomorrow   somebody   the   floor   clean

           sollte

           should

           'because tomorrow somebody should clean the floor'

   b. ??*weil   wer   morgen   den   Boden   putzen*

           because   somebody tomorrow   the   floor   clean

           sollte

           should[14]

The scope test points in the same direction:

(46) a. *WEIL   an fast   jedem Tag mindestens einer*

because on almost every day at least   one

nichts   tat (∀∃)

nothing   did

'because on almost every day at least one person did nothing
at all'

b. *WEIL   mindestens einer an fast   jedem   Tag*

because at least   one on almost every   day

nichts   tat (∀∃, ∃∀)

nothing did

I conclude that temporal adverbials c-command the base position of the
highest argument. This reflects the fact that they are event-related, i.e.
situate events in time.[15]

Now the question arises why locatives which are often considered to be very
similar to temporals should behave differently. At this place I can only offer
some speculations about this. Locatives are not necessarily related to events,
but may localize only certain parts of it (cf. Wunderlich/Herweg 1991).
Locatives which appear to localize whole events are related to the most
prominent figure in it, the highest argument. Thus it is plausible that they are
event-internal. Temporals, on the other hand, characterize whole events.[16]
The following condition holds for event-related adverbials:

(47)   Event related adverbials c-command the base position of all
          verbal arguments as well as the base positions of event-
          internal adverbials.

4.7 Causals

Causals are meant here in a broad sense and comprise all adverbials which express causal or conditional relations. Intuitively, it makes sense to say that these are event-related.

With respect to temporals, scope data suggest that they are not ordered in syntax. Since no scope ambiguity occurs in (48) both orders of the adverbials can be considered to be base generated.

(48)   a. *WEIL   wegen   mindestens   einem   Artikel*

   because on account of at least   one   article

   an   fast   jedem Abend   Streit herrschte (∃∀)

   on   almost   every evening   quarrel was

   'because there was a quarrel on account of at least one article on almost every evening'

   b. *WEIL   an   mindestens   einem   Abend   wegen*

   because on   at least   one   evening   on account of

   fast   jedem   Artikel   Streit   herrschte (∃∀)

   almost   every   article   quarrel   was

Other tests can be applied with the same result. I take this as evidence that causals belong to the same category as temporals, namely event-related adverbials which are c-commanding the base positions of all verbal arguments.

4.8   Sentence adverbials

The position of the indefinite pronoun shows that sentence adverbials have
their base positions higher than all verbal arguments.

(49)   a. *weil   wahrscheinlich   wer   schläft*

         because   probably   somebody   sleeps

         'because somebody sleeps probably'

     b. **weil   wer   wahrscheinlich   schläft*

         because   somebody   probably   sleeps

Sentence adverbials are sensitive to the topic-comment-structure. Only
topics may occur to the left of sentence adverbials (cf. Frey/Pittner
1998:517, Pittner 1999:175).[17] This becomes evident with elements that
cannot be a topic, since they have no referent. According to Lambrecht
(1994:154ff.), topichood presupposes referentiality.

(50)   a. ??*weil   keiner   wahrscheinlich   Zeit   hat*

         because   nobody   probably   time   has

     'because probably nobody has time'

     b. *weil   wahrscheinlich   keiner   Zeit   hat*

         because   probably   nobody   time   has

The semantic entity that sentence adverbials relate to are propositions. These
propositions contain completely specified events including their temporal
specification. This is reflected in a c-command relation over the finite verb.
This condition is always fulfilled in the middle field, since German is of the
OV-type and all constituents in the middle field c-command the finite verb
or its trace. Therefore, this condition can be violated only in complex
frontings as in (a) and (b).

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(51) a. *Glücklicherweise viel getanzt wird in diesem

fortunately much laughed is in this

Club

club

'In this country there is fortunately much laughter.'

b. *Vermutlich getanzt wird heute Abend

probably danced is today evening

This evening, there will probably be dancing.'

c. Es wurde juristisch betrachtet vermutlich falsch

it was legally seen probably wrongly

entschieden

decided

,From a legal point of view, it was probably a wrong

decision.'

d. *[Vermutlich falsch entschieden] wurde juristisch

probably wrongly decided was legally

betrachtet

seen

There are ordering restrictions between different kinds of sentence
adverbials. I take these to reflect the scope relations among these classes of
sentence adverbials, where, as a first approximation, a > b > c > d holds:

(52) a. evaluative adverbs (*glücklicherweise, erfreulicherweise, ...*)

b. evidentials (*offensichtlich, klarerweise, ...*)

c. epistemic adverbs (*wahrscheinlich, sicherlich, vermutlich,...*)

d. subject-oriented adverbs (*klugerweise, arroganterweise,...*)

Consider the following sentences:

(53)   a. **dass Petra wahrscheinlich leider verreist ist*

that   Petra   probably   unfortunately away   is

'that Petra probably unfortunately is away'

b. *dass Petra leider wahrscheinlich verreist ist*

that   Petra   unfortunately probably   away   is

that unfortunately Petra is probably away

c. **Paul ist vermutlich laut CNN gestern*

Paul   is   supposedly   according to CNN   yesterday

abgereist

left

' Paul has supposedly according to CNN left yesterday.'

d. *Paul ist laut CNN vermutlich gestern*

Paul   is   according to CNN   supposedly   yesterday

abgereist

left

(53a) shows that an evaluative adverbial cannot occur within c-command of an epistemic adverbial. While it makes sense to give an evaluation of a proposition which has a certain degree of probability, it seems to make no

sense to judge the probability of an evaluated proposition. Likewise, (53c) is semantically deviant, since it makes no sense to give a source for the proposition according to which the proposition is true and then to make an epistemic judgement about the proposition. The only possible interpretation is that the epistemic adverbial is used in (53c) focussing on the source alone. We think that semantic scope relations are sufficient to account for the ordering restrictions among different kinds of sentence adverbials. There is no evidence for different syntactic base positions for these classes of sentence adverbials. The ungrammaticality of (53a,c) even can be considered as counterevidence. If only surface positions matter, ungrammaticality follows. On the other hand, if (53a) could be derived from (53b) by scrambling, then the trace in the base order should give the scope option that makes sense, namely the one with scope of the epistemic over the evaluative sentence adverbial. But, as we maintain, if there are no different base positions for different kind of sentence adverbials, scope can only be calculated with recourse to the surface order, namely from left to right.

All the sentence adverbials considered so far occur before the so-called subject-oriented sentence adverbials.

(54) a. *Peter hat leider   arroganterweise/*arroganterweise*

       Peter   has unfortunately arrogantly/*arrogantly

       leider   nicht   gegrüßt.

       unfortunately not   greeted

       'Peter unfortunately did arrogantly not say hello.'

   b. *Peter   hat   wahrscheinlich arroganterwei-
se/*arroganterweise*

Peter   has probably   arrogantly/*arrogantly

  wahrscheinlich   *nicht*   *gegrüßt.*

probably   not   greeted

'Peter probably did arrogantly not say hello.'

The class of subject-oriented sentence adverbials stands out among the others because it has a special relation to the subject. These subject-oriented sentence adverbials give a judgement of the speaker about the subject referent with regard to its participation in the event denoted in the sentence. This special relation to the subject is reflected in the c-command relations. Subject-oriented adverbials have to occur within c-command of the subject in the surface structure.

(55)   a. *weil   Hans   arroganterweise   nicht   grüßte*

    because   Hans   arrogantly   not   greeted

    'because Hans arrogantly did not say hello'

    b. ??*weil   arroganterweise   Hans   nicht   grüßte*

    because   arrogantly   Hans   not   said hello

Ambiguous adverbs can serve as diagnostic. An adverb like *dummerweise* can either be evaluative ('unfortunately') or subject-oriented ('stupidly'). According to my intuition, the second reading is only possible if there is an agent which c-commands the surface position of the adverb:

(56)   a. *weil   dummerweise   alle   antworteten*

    because   unfortunately   all   replied

    'because unfortunately all replied'

    b. *weil   alle   dummerweise   antworteten*

because all stupidly answered

Subject-oriented adverbials like other sentence adverbials have to c-command the finite verb, which becomes visible in complex frontings. This differentiates them from mental attitude adverbials.

(57) a. *??klugerweise/dummerweise den Brief beantwortet hat Peter*

 intelligently/stupidly the letter answered has Peter

 'Intelligently/stupidly, Peter answered the letter.'

 b. *freiwillig/gerne beim Putzen geholfen hat Peter*

 voluntarily/willingly with cleaning helped has Peter

 gestern

 yesterday

 'Peter has voluntarily/willingly helped with cleaning

 yesterday.'

To sum up: The strict ordering restrictions among different classes of sentence adverbials corresponds to the fact that they are not ordered by the syntax and ordering restrictions are only semantically determined.
The following conditions hold for the base position of sentence adverbials:

(58) Sentence adverbials (proposition-related adverbials):

 (i) The base position of sentence adverbials c-commands the

 base position of all other kinds adverbials (and hence the base

 positions of all verbal arguments)

 (ii) The base position of sentence adverbials c-commands the

 base position of the finite verb

A note is necessary here on the proposition-related use of local and temporal adverbials, the so-called frame adverbials. In this function, local and temporal adverbials apply to whole propositions and restrict their validity to certain times or places. [18] In this case, they serve as topics (Chinese-style topics in the sense of Chafe[19]) and appear to the left of all verbal arguments as well as to the left of all types of adverbials.

Often, the reference of other elements in the sentence is restricted by this type of adverbial, such as the reference of *viele Leute* (‚many people') to America. This type of adverbial can be combined with canonical locatives and temporals:

(59)   a. *In Amerika essen viele Leute in*

In America eat many people in

Fastfood-Restaurants.

fast food restaurants

'In America, many people eat in fast food restaurants.'

b. *Im Mittelalter tranken die Mönche während der*

in the Middle Ages drank the monks during the

Fastenzeit Bier.

Lent beer

'In the Middle Ages, the monks were drinking beer during

Lent.'

Different frame adverbials may be combined. It appears that there is an unmarked order epistemic frame[20] > temporal frame > local frame.

(60)   *weil in seinem Traum im Mittelalter*

| because | in | his | dream | in the | | Middle Ages |
| | | | | | | |

| *in* | *Europa* | *alle* | *Frauen* | *schön* | *waren* |
| in | Europe | all | women | beautiful | were |

'because in his dream in the Middle Ages in Europe all women were beautiful'

Maienborn (1996:115f.) shows by scope data, that the position of local frames is above the base position of canonical temporal adverbials. In Frey/Pittner (1998), we came to the conclusion that frame adverbials have their base position higher than sentence adverbials. The position to the left of sentence adverbials, however, may be an effect which is due to the fact that frame adverbials usually are topics. As Frey (2003) points out, there are non-referring frame adverbials which can be no topics. These have to occur to the right of sentence adverbials:

(61) a. *weil* *wahrscheinlich* *in* *keinem* *Land* *alle*
      because probably in no country all

      Beamten *korrupt* *sind*
      officers corrupt are

      'because probably in no country all officers are corrupt'

   b. ??*weil* *in* *keinem* *Land* *wahrscheinlich* *alle*
      because in no country probably all

      Beamten *korrupt* *sind*
      officers corrupt are

This suggests that frame adverbials take base positions below those of sentence adverbials and usually have to occur to the left of them only

because they are topics. This makes sense because sentence adverbials are sensitive to sentence mood (i.e. they cannot occur freely with any sentence type), whereas frame adverbials are not. Sentence mood, whether introduced by an illocutionary operator or represented in a syntactic phrase (as suggested by Rizzi 1997), is usually considered to be left-peripheral.

5   A look at other approaches

Classes of adverbials, which are primarily semantically defined, have repercussions on the syntax. As has been indicated in the beginning, there are very different conceptions as to how syntax and semantics are related in this respect.

We hope to have provided sufficient evidence now that the assumption of a completely free positioning of adverbial adjuncts can be refuted. A somewhat less extreme view close to completely free positioning is advocated by Haider (2000). He maintains that the syntax only provides potential slots for adverbial adjuncts which can be filled in by adjuncts without restrictions as long as their relative hierarchy is observed. This hierarchy is seen to be a reflex of a hierarchy of semantic types:

    (62)   proposition > event > process/state

A very similar view is held by Ernst (1998), whose hierarchy is a bit more elaborated and includes speech act > fact > proposition > event > specified event. Both Haider and Ernst assume that the positioning of adjuncts is grammatical as long as the hierarchy is observed. They maintain that there are no restrictions of adjunct positions relative to the arguments in the sentence.

Our findings have shown, however, that there are regularities of adverbial positioning which hold in relation to arguments. This was demonstrated with instruments, comitatives, mental attitude adverbials and locatives (cf. 4.3-

4.5). The position of adjuncts reflects their semantic relations to the sentence in intricate ways.

Another difference between the approach presented here and the approach by Ernst and Haider is that our approach allows for scrambling of adverbials, whereas Haider and Ernst have to assume that adverbials are base-generated wherever they appear. If adverbials belonging to different classes are permuted, scope ambiguities can be observed which are evidence for scrambling. The ambiguity of (b) indicates that the manner adverbial has scrambled over the temporal adverbial:

(63)   a. *WEIL Hans an fast jedem Tag auf mindestens*

because John on nearly every day in at least

eine Art seinen Chef verärgert ($\forall\exists$)

one way his boss worries

'because John worries his boss nearly in at least one way nearly
    every day'

b. *WEIL Hans auf mindestens eine Art an fast*

because John in at least one way on nearly

jedem Tag seinen Chef verärgert ($\exists\forall, \forall\exists$)

every day his boss worries

No such effect occurs if adverbials belonging to the same class are permuted, as for instance instruments and comitatives.These facts support our assumption that instruments and comitatives have the same base position whereas temporal and manner adverbials belong to dfferent classes as far as their base position is concerned. It is unclear how differences like this could be captured by the semantic hierarchy approach.

Recently, it has been maintained within a minimalistic framework, that adjuncts occur in the specifier positions of functional projections (Cinque 1999, cf. Alexiadou 1997 and Laenzlinger 1998 for similar proposals). It is assumed that there is a suitable functional projection for every semantic type of adjunct imaginable, which results in an enormous amount of functional projections. As far as the syntax-semantics mapping is concerned, the semantics is completely represented in the syntax which determines the order of adjuncts.

This is not the place to go into a detailed critique of this approach, since this has been done elsewhere (e.g. Frey & Pittner 1998, Haider 2000). I would like to point out only briefly, that the ordering restrictions among adverbials exist independently of syntactic projections. The same ordering restrictions can be observed for the modifiers within a nominal phrase.

(64)　　a. the probable quick end of the war

　　　　b. *the quick probable end of the war

This is naturally explained if there is a semantically determined hierarchy between operators, but under the assumption of syntactically fixed positioning, it leads to an enormous amount of functional projections. More importantly, however, the same ordering restrictions can be observed among arguments (cf. Shaer 2000):

(65)　　a. it is lucky for us that it is probable that it is easy for John

　　　　b. *it is probable that it is lucky that it is easy for John.

　　　　c. the probability of the quickness of the end of the war

　　　　d. *the quickness of the probability of the end of the war

In (a)-(d) the ordering restrictions cannot be due to functional projections which once more shows that the observed ordering restrictions exist independently of functional projections. Taken together, these facts provide strong evidence that the ordering restrictions between nominal modifiers and arguments which correspond to the scope relations between adverbials are semantically motivated.

If these ordering restrictions exist independently from syntactic conficurations it is not clear why they have to be duplicated by means of functional projections in syntax leading to an enormous inflation of functional projections and moreover to a semantification of syntactic configurations. It has been claimed that functional projections provide a more restrictive way of capturing adverbial positions. But if it is taken into account that certain adverbials can appear in several places without any movement of other elements involved then there are two possibilities: either a respective functional projection to host these adverbials has to be assumed in all these places or these facts are captured by means of traditional adjunction. But if traditional adjunction cannot be done away with then an approach which explains all adverbial positions by adjunction is more economical.

If this is correct, then it is not necessary to explain the ordering restrictions by hierarchically ordered functional projections. We claim that functional projections are not needed in order to capture the regularities of adverbial positioning.

6   Mirror images: adverbials in final position in English and in the German extraposition field

For the German middle field, it holds that elements have scope over elements to their right.

However, scope is not in all languages calculated from left to right, there are environments where the order is reversed and scope is calculated from right to left. This is also the case in English in postverbal position and in the extraposition field in German.

Let us first look at English. Quirk/Greenbaum (1973:241) note that the normal order of adverbials in postverbal position is instrument/manner > locative > temporal adverbial:

(66)   He was working with his shears in the garden the whole

        morning.

Also, it can be observed that in the English postverbal position the normal order is locative > frame adverbial:

(67)   Many people are eating in fast food restaurants in America.

These examples must suffice here to show that the normal order of adverbials in English postverbal position is reversed in comparison with the German middle field.[21] Also for the German extraposition field, there is considerable evidence that in this field the base order of adverbials is reversed. This becomes evident with adverbial clauses. In Pittner (1999), I have shown that the base positions in the middle field apply to adverbial clauses as well. In the extraposition field, however, the order of base positions is reversed. Let us take as an example an adverbial clause which is ambiguous between a process-related and an event-related reading: in (a) the event of telling that he is a spy will come about quickly whereas in (b) the process of telling is going on quickly:

(68)   a. *Hans   wird Maria   erzählen,   dass Peter ein Spion ist,*

          Hans   will Mary   tell   that Peter a   spy   is

		so	*schnell*	*er*		*kann*. (event)
		as	fast	he		can.

'Hans will tell Mary that Peter is a spy as fast as he can.'

b. *Hans*   *wird*   *Maria*   *erzählen,*   *so*   *schnell*   *er*

   Hans   will   Mary   tell   as   fast   he

   kann,   *dass*   *Peter*   *ein*   *Spion*   *ist*. (process)

   can   that   Peter   a   spy   is.

In this respect the question arises, how the reversed order can be accounted for. It has to be noted that an assumption of right adjunction would explain these orders. Also the scopal relations between adverbials are as expected under an assumption of right adjunction: adverbials to the right have scope over adverbials to their left.

(69)   a. He helped his friend frequently willingly (*frequently* has

        scope over *willingly*)

     b. He attended classes at at least one university nearly every

        week (*nearly every week* has scope over *at least one*

        university)

Although under the assumption of right adjunction the order of adverbials and the scopal relations between them are as expected, objections have been raised against right adjunction both for empirical and conceptual reasons. On conceptual grounds, it has been argued that syntactic structures in general can only be right-branching which rules out right adjunction as a possibility (e.g. Kayne 1994, Haider 1993).

Larson (1988) used binding data and other indicators for c-command-relations like negative polarity in order to establish that postverbal adverbials are c-commanded by the object and therefore cannot be right-adjoined:

(70)   a. John visited every colleague$_1$ on his$_1$ birthday.

        b. Eve insulted noone for any reason.

Larson's approach, however, cannot capture the scope data exemplified in (69). Thus, we are faced with a dilemma: scope and the order of adverbials suggest c-command from right to left which would be expected under a right-adjunction analysis, whereas binding data and negative polarity suggest c-command from left to right, hence right-branching structures. So if one does not want to give up the well-founded idea that binding presupposes a c-command relation, the solution to this puzzle has to be looked for elsewhere.

In order to capture the order of adverbials Cinque has made an innovative suggestion. According to him, adverbials are base-generated in the order which corresponds to the scopal relations exemplified in (69). He assumes a new movement called intraposition which moves constituents around an adverbial. By this movement, first (b) and subsequently (c) is derived from (a):

(71)   a. He has [frequently [willingly [helped his friend]]]

        b. He has [frequently [[helped his friend]$_1$ willingly t$_1$]]]

        c. He has [[[helped his friend]$_1$ [frequently t$_1$]$_2$ willingly t$_2$]

Since this is an innovation, it is not clear at all which restrictions an operation as intraposition is subject to. But at any rate, this kind of movement cannot capture binding data correctly and therefore is no solution for the puzzle outlined above.

There are two different ways out of the dilemma: either the connection between binding and c-command is given up. This is the way Ernst (2002) is going. Another way has been pointed out in Frey /Pittner (1999), where it is suggested that the adverbials in final position cannot be interpreted semantically.[22] Their interpretation becomes possible by way of "modification markers" which link the adverbials to their respective preverbal place, i.e. the constituent modified by them.[23] The order of adverbials is explained by a condition of non-crossing lines of the modification markers. Thus, the order and scopal relations of adverbials as well as the binding facts could be captured, the first by the modification markers, the latter by the c-command relations.

Whatever the best solution to the problems outlined in this section will turn out to be, the parallels between the English postverbal position and the German extraposition field give rise to the expectation that the explanation for the order of adverbials in both these environments will be the same.

7　Summary

By applying the tests for identifying base positions to adjuncts we tried to establish there are five classes of adverbial adjuncts as far as their base positions are concerned: (I) sentence adverbials, (II) frame adverbials, (III) event-related adverbials, (IV) event-internal adverbials and (V) process-related adverbials. Within these classes, there may be semantic preferences for a certain order but this order is not syntactically determined. The base position of these classes and their c-command-relations reflect their semantic relations to the rest of the sentence.

(72)　　　　Base positions of adverbials:

(i)　　　　sentence adverbials: c-command the finite verb and the base positions of all adverbials adjuncts and verbal arguments

(ii)   <u>frame adverbials</u>: c-command the base positions of event-related adverbials

(iii)   <u>event-related adverbials</u>: c-command the base position of the highest argument and the base positions of event-internal adverbials (e.g. time, cause)

(iv)   <u>event-internal adverbials</u>: they are minimally c-commanded by the argument they are related to, i.e. no other argument can intervene (e.g. instrument, comitative, mental attitude adverbials)

(v)   <u>process adverbials</u>: c-command minimally the verb or "verbal complex" (manner)

Our findings are evidence for a close connection between syntactic base position and semantic interpretation of adverbials. They also suggest that adverbial modifiers do not uniformly relate to an event variable, but that they relate to very different kinds of semantic entities, e.g. processes (as parts of events), partial events, events, propositions and speech acts.

As far as the syntax-semantics interface is concerned, following overall picture emerges. Syntax itself imposes no restrictions on adverbial adjunction, adverbials can be adjoined freely. The semantic entities that adverbials apply to, however, are accessible ony in certain structural configurations, resulting in base positions for the various types of adverbials. Thus, the base positions which were advocated in this paper are due to the interplay of syntax and semantics and reflect the mapping mechanism between syntactic and semantic structures.

Because the ordering restrictions for adverbials are semantically based we expect that the conditions for the base positions hold not only for German, but in other languages as well. Obvious differences in adverbial placement are due to different sentence structures (cf. Frey/Pittner 1999, Frey 2003 for

a comparative study). This promises to be a worthwhile topic for further study.

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[1] This paper is based on earlier work done with Werner Frey. I would like to thank the editors as well as two anonymous reviewers for their helpful comments.

[2] This has been very intensively studied for *wieder* (e.g. von Stechow 1997, Fabricius-Hansen 2001, Pittner 2003 and the references given there).

[3] Because of their parenthetical nature, there is arguably no base position for speech act-oriented adverbials (cf. Pittner 1999 for a discussion of speech act adverbials.)

[4] Often it is called the external argument, but for German it can be argued that this argument is part of the verbal projection and therefore not "external" to it. (Haider 1993:142ff.)

[5] Capitals indicate accents.

[6] In these and similar following examples the accent is placed on the complementizer or on the verb, since accented arguments may lead to additional scopus options. The elements *fast* ('nearly') and *mindestens* ('at least') make sure that there is a quantificational reading of the quantifiers.

[7]It is important that the judgements apply to sentences with an accent on the finite verb which is indicating Verum-focus, i.e. focus on the truth of the proposition (usually occurring in contexts where the truth is at debate)..

[8] It can be argued that resultatives and directional adverbials are part of the verbal complex due to a process of integration as described by Jacobs

(1993). According to him, constituents may be either informationally autonomous with regard their head or integrated into it. Jacobs notes that integrated elements may contribute to the valency of their head and are focus exponents. The role integration plays for the formation of the verbal complex has yet to be explored, cf. also section 4.2.

[9] For a more detailed discussion of this the reader is referred to Frey and Pittner (1998:498-501).

[10] Any element intervening the adverbial and the verb prevents a manner interpretation of the adverb, cf. the following example with a modal particle:
(i) Du könntest das Fenster langsam mal zumachen.
This supports the view that manner adverbials minimally c-command the verbal complex.

[11] Besides the position, intonation has also a disambiguating effect because event-related adverbials usually remain unaccented. Their accentuation would require very special contexts, for instance phonetic correction.

[12] Note that the PPs in applicative constructions, which look very similar to instruments are not adjuncts but arguments of their verbs and have their base position to the right of the object:

(i)   Er hat die Wand mit FARbe beschmiert. (wide focus)

             he has the wall with colour covered

             'He covered the wall with colour.'

(ii)   Er hat mit Farbe die WAND beschmiert. (narrow focus)

             he has with colour the wall covered

[13] If mental attitude adverbials occur above all arguments the attitude might be attributed to then it is attributed to some other person which is present in the context.
             (i) weil alle Schüler absichtlich fehlten

                 because all students intentionally were absent

             (ii) weil absichtlich alle Schüler fehlten

In (i) it is intentional of all students that they are not present, whereas in (ii) the intention has to be attributed to somebody else.

[14] Not for all speakers (b) is clearly worse than (a). But it is certainly worse than a corresponding example with an instrument instead of a temporal adverbial. This shows that temporal adverbials have base positions higher than instruments at any case.

(i).   weil wer mit dem Besen den Boden kehren sollte

             because somebody with the broom the floor sweep
             should

             'because somebody should sweep the floor with the broom'

[15] Temporal adverbials relating to the reference time behave like frame-setting adverbials, cf. 4.8.

[16] A note is necessary here on frequency adverbials. For frequency adverbials it can be argued that they can take their base positions at different places (cf. Frey/Pittner 1998:515f., Frey 2003) which corresponds with their property of taking different parts of events into their scope.

[17] Frey (in press) provides ample evidence for a structural position reserved for topics which is located to the left of sentence adverbs. As a consequence of this, adverbials can appear in front of sentence adverbs if they are topics.
(i) Peter wird auf diese Weise wahrscheinlich seine Reisen finanzieren.
Peter will in this way probably his tripspay for.
'In this way, Peter will probably pay for his trips.'

[18] Cf. Parsons (1990:209) and Maienborn (1996:168ff.) and (2001) for a discussion of the characteristics of frame adverbials.

[19] Cf. the definition of topic by Chafe (1976:50): "What the topic appears to do is to limit the applicability of the main predication to a certain restricted domain [...] the topic sets a spatial, temporal, individual framework within which the main predication holds"

[20] Cf. Maienborn 2001 on epistemic frames, cf. Parson's (1990) distinction between real and unreal frames.

[21] In this respect it is interesting to note, that in postverbal position in English not all the observed orderings are reversed. One exception is the

relative order of different directional adverbials, which I explained as iconically motivated:

(i) They carried the man from the third floor over the staircase to the ground

floor.

 ?They carried the man to the ground floor over the staircase from the third

floor.

This supports the view that there is iconic motivation for this order and therefore it cannot be reversed.

[22] The idea goes back to Chomsky (1995) who remarks that phrases on the right end of the clause "might be supported by empty heads below the main verb". Haider (2000) assumes that these empty heads are mere structural licencers which cannot be interpreted semantically.
[23] The idea resembles the concept of scope markers developed by Williams (1986).