BEFORE OR AFTER THE DIRECT OBJECT: GERMAN ADJECTIVAL ADVERBS AND THE SYNTAX-SEMANTICS INTERFACE

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Abstract

This paper investigates the influence of the syntactic position of adverbials on sentence interpretation in German. It concentrates on sentences containing adjectival adverbs which are either positioned before or after the direct object. I argue that these adverbs, dependent on their position relative to the direct object, receive either a manner or an event-related interpretation. To derive the different readings, I make use of an underspecified SF. After a discussion of other accounts for the data, I will very briefly compare my results to those for local adverbials.

1 Introduction

This paper investigates the relationship between the syntactic position of an adjectival adverb with respect to the direct object and sentence interpretation. In particular, I will look at two variants of linear order in German sentences, cf. (1).

(1) a. SUBJECT ADVERBIAL DIRECT_OBJECT VERB
b. SUBJECT DIRECT_OBJECT ADVERBIAL VERB

The German example sentences all appear in the standard form for subordinate sentences. I further assume that all discussed sentences receive the standard sentence accents and do not contain any contrastive foci. As far as the syntactic analysis is concerned, I follow Frey and Pittner (1998) in assuming that the different word orders in (1) correspond to the syntactic analyses in (2).

(2) a. $[_{VP}$ ADJUNCT VP]
b. $[_{VP}$ $[_{V}$ ADJUNCT V]]

My data revolve around two kinds of adverbial adjuncts. On the one hand those that can only appear in the position between the object and the verb, cf. (3)-(4).

(3) a. *weil er intelligent das Problem löst.
because he intelligent the problem solves.
b. weil er das Problem intelligent löst.
because he the problem intelligent solves
'because he solves the problem intelligently'

(4) a. *weil er zu laut das Lied singt
because he too loud the song sings

b. weil er das Lied zu laut singt
because he the song too loud sings
'because he sings the song too loud'

On the other hand those that can appear in both positions, cf. (5)-(6).

(5) a. weil er laut das Lied singt
because he loud the song sings
'because he loudly sings the song'
b. weil er das Lied laut singt
because he the song loud sings
'because he sings the song loud(ly)'

(6) a. weil er schnell den Koffer packt
'because he quickly packs the trunk'
b. weil er den Koffer schnell packt
'because he packs the trunk quickly'

The main thesis of this paper is that the a-sentences in the above examples all receive event-related interpretations, whereas the b-sentences receive manner interpretations. I will first try to show this with the help of a discussion of the behaviour of *laut* 'loudly' and the derivation of the respective sentence SFs, and then continue with a discussion of *schnell* 'quickly' and *intelligent* 'intelligently'. A further section will discuss my findings against those of (Eckardt 2003, Frey and Pittner 1998) and data with respect to quantifier scope. Finally, I compare my results with those of Maienborn (2001) for local adverbials.

2 The two positions and their influence on interpretation

When discussing the interaction between AAs and certain syntactic positions, one can in principle imagine two different ways of interaction: (a) the AA is a homonym and its syntactic position influences or even determines which meaning is accessed or (b) the AA itself always contributes the same SF to the sentence SF; however, this SF is combined differently with the SF contributed by the rest of the sentence, again depending on its syntactic position. In the latter constellation, the interpretation of the sentence changes, but not that of the AA. I will follow this last assumption.

Sentences like (5), here repeated as (7), at first sight seem to carry exactly the same meaning.

(7) a. weil er laut das Lied singt
because he loud the song sings
'because he loudly sings the song'
b. weil er das Lied laut singt
because he the song loud sings
'because he sings the song loud(ly)'

Closer inspection reveals that there is in fact a meaning difference. A first difference can be noted by comparing the paraphrasing patterns for the sentence (7-a) with that for (7-b). (8) shows the two different paraphrases that can be used to draw the two example sentences apart.

(8) a. Er singt das Lied und das [Liedsingen] ist laut. [event]
He sings the song and that [the singing event] is loud.

b. Wie er das Lied singt, das ist laut. [manner]
The way he sings the song is loud.

But even without paraphrases, the differences can be brought out with the help of context or through further modification of the AAs. As regards context, consider (9).

(9) a. Die Leute waren auf ihren Posten, weil die Wachen laut das Warnsignal geblasen hatten. [event]
The people were ready, because the guards had loudly given the alarm signal.
b. Der Dirigent war am Boden zerstört, weil der Hornist den Schlußton laut gespielt hat. [manner]
The conductor was shattered, because the horn player played the last note loud.

In (9-a), the people were on their guard, because the alarm was given. That this alarm-giving event was loud is just additional information but has nothing to do with the result. In contrast, (9-b) focusses on the manner of playing a musical instrument, but not on the absolute loudness of the event. Thus, *laut* in this connection is evaluated with regard to other ways of playing, e.g. *staccato, legato, piano* etc.[1]

Now compare this with (10), where the order DO-AA of (9) is switched to AA-DO.

(10) a. ??Der Dirigent war am Boden zerstört, weil der Hornist laut den Schlußton gespielt hat.
The conductor was shattered, because the horn player loudly played the last note.
b. Die Leute waren auf ihren Posten, weil die Wachen das Warnsignal laut geblasen hatten. [**manner**]
The people were on their posts, because the guards hat given the alarm signal loudly.

(10-a) does not make any sense, as long as we assume that the horn player was supposed to play the last note. It cannot mean that the conductor was shattered because of the way the horn player played the last note; that the event was loud is, again, just some circumstantial information. On the other hand, (10-b) states that the people were on their posts, not because the alarm signal was given, but because the alarm signal was given loudly.

Another help in differentiating manner from event-related modification is to compare the behaviour when the AA is itself further modified by another adverb, as in (11).

(11) a. *weil er zu laut das Lied singt
because he too loudly the song sings
b. weil er das Lied zu laut singt [manner]
because he the song too loud sings
'because he sings the songs too loud'

(11-a) is not acceptable. The most plausible reason for this behaviour is that the evaluation of adverbs such as *laut* 'loudly' does work via comparison classes. This idea is described in considerable detail in Ernst (2001), who assumes that manner adverbs take so-called specified events as comparison classes. Without going into the formal details, the idea is the following: the set of specified events would, in the case of (11-b), consist of different possible versions of

[1]The differentiation here is very similar to the differentiation of restrictive vs. nonrestrictive readings in Shaer (2003).

singing-events. Because we have already restricted ourselves to this subclass of possible events, it is possible to judge the manner of one such event as *too loud*. If, on the other hand, we are dealing with event-modification, as in (11-a), our comparison class compromises all kinds of different events, and it does not make sense to judge anything as *too loud* against such a comparison class.

3 Formal Differentiation

I assume that the contribution of an AA to the sentence SF is generally of the form λ x.AA(x). The difference between the manner and the event-related reading will therefore consist in the way the AA is combined with the rest of the sentence. The AAs with event readings predicate over *e*, cf. (12), while those with manner reading predicate over the manner dimension associated with *e*, cf. (13).

(12) a. weil Peter laut das Lied singt
because Peter loud the song sings
b. $\exists$e[SING(e) & ACTOR(Peter,e) & THEME(song,e)& LOUD(e)]

(13) a. weil Peter das Lied laut singt
because Peter the song loud sings
b. $\exists e[\mathrm{SING}(e)\ \&\ \mathrm{ACTOR}(\mathrm{Peter}, e)\ \&\ \mathrm{THEME}(\mathrm{song}, e)\ \&\ \exists m[\mathrm{MANNER}(m, e) \& \mathrm{LOUD}(m)]]$

3.1 Deriving the readings

For the derivation of the sentence SFs, I will use the framework proposed in Dölling (2000). Dölling distinguishes between a BASIC SEMANTIC FORM SF_B and an INFLECTED SEMANTIC FORM SF_I. The SF_B is directly associated with specific lexical item, or is the direct result of the combination of meanings of a complex syntactical expression, while the SF_I results from the obligatory application of so-called SF inflections to the SF_B. An SF-Inflection is an operation which introduces additional parameters to the basic SF (for the details, cf. (Dölling 2000)). I assume that the inflected SFs for *Peter singt das Lied laut/laut das Lied* are identical, cf. (14).

(14) $\exists e[\mathrm{SING}(e)\ \&\ \mathrm{ACTOR}(\mathrm{Peter}, e)\ \&\ \mathrm{THEME}(\mathrm{song}, e)\ \&\ \exists y[\mathrm{R_n}^2(y, e)\ \&\ \mathrm{Q_n} z\ [\mathrm{R_n}^1(z, y)\ \mathrm{C_n}\ \mathrm{LOUD}(z)]\,]\,]$

In a final step, we use world knowledge to fix the free parameters introduced through the SF-inflections. It is at this point that the distinction between the two readings is realized. A possible parameter-fixed version of the manner reading is given in (15), while the event-related reading can be expressed through (16).

(15) $\exists e[\mathrm{SING}(e)\ \&\ \mathrm{ACTOR}(\mathrm{Peter}, e)\ \&\ \mathrm{THEME}(\mathrm{song}, e)\ \&\ \exists y[= (y, e)\ \&\ \exists z\ [\mathrm{MANNER}(z, y)\ \&\ \mathrm{LOUD}(z)]\ ]]$
(PSF of the manner reading)

(16) $\exists e[\mathrm{SING}(e)\ \&\ \mathrm{ACTOR}(\mathrm{Peter}, e)\ \&\ \mathrm{THEME}(\mathrm{song}, e)\ \&\ \exists y[= (y, e)\ \&\ \exists z\ [= (z, y)\ \&\ \mathrm{LOUD}(z)]\ ]]$
(PSF of the VP reading)

The assignment of the parameters is thus ultimately a question of conceptual knowledge. This approach has the advantage that it allows to explain the many restrictions on verb-adverb combinations as being rooted in our conceptual knowledge, and not in grammar as such.

Accordingly, in cases like (17-a), where world knowledge prohibits an interpretation, the interpretation crashes. Similarly, the reason why (18-b) is so very hard to interpret is that here the parameter assignment is only possible by deviating from the default pathways of conceptual knowledge.

(17) a. *Er schläft laut. 'He sleeps loudly'
b. Er schläft fest/unruhig. 'He sleeps fast/troubled'

(18) a. Er singt laut. 'He sings loudly'
b. ??Er singt unruhig. 'He sings fidgety'

One minor point that nevertheless needs to be addressed is the question of the true nature of the MANNER variable. I use the manner relation, because it provides a formal distinction between the two readings. I also think it intuitively satisfying to treat what tradition has called "manner modification" by a formal recourse to Manner. However, I cannot say much about the ontological status of MANNER with regard to events. Further research must provide an appropriate ontological base.

4 Other AAs

So far, the formal representation was build on the examples using *laut*. I will now turn to the question whether this formal distinction can also explain the behaviour of other AAs, such as *schnell* 'quickly' and *intelligent* 'intelligently'.

There is a general agreement in the literature that *schnell* 'quickly' can lead to different readings. There is, however, not so much agreement on (a) how clearly the different readings correspond to different syntactic positions, (b) how many different readings there are, and (c) what the different readings are. Here I will argue for two different readings, again a manner and an event-related one. The different readings appear in the same context as those of *laut* and lead to similar effects, cf. (19) and (20).

(19) a. Die Leute waren auf ihren Posten, weil die Wachen schnell das Warnsignal geblasen hatten. [event]
The people were ready, because the guards had quickly given the alarm signal.
b. Die Leute waren am Boden zerstört, weil der Hornist den Schlußton schnell gespielt hat. [manner]
The people were shattered, because the horn player played the last note quick.

(20) a. *Die Leute waren am Boden zerstört, weil der Hornist schnell den Schlußton gespielt hat.
b. Die Leute waren auf ihren Posten, weil die Wachen das Warnsignal schnell geblasen hatten. [Manner: only when the signal is given with a quick blow will anybody react]

As with *laut* 'loudly', further modification of the adverb is only available for the manner reading, cf. (21).

(21) a. *weil er zu schnell das Lied singt
b. weil er das Lied zu schnell singt [manner]

The event reading of *schnell* ‘quickly’ is slightly inchoative, though not wholly, i.e. the event-reading can express that it took only a short time from some contextual reference point to the start of the event proper, but the event proper will also only take a short time to complete.

Formally, the two readings can be differentiated in the same way as the two *laut* ‘loudly’ readings, cf. (23) for (22).

(22) a. weil er schnell den Koffer packt [he hurries to pack his trunk]
b. weil er den Koffer schnell packt [the manner in which he packs his trunk is quick]

(23) a. $\exists e[\text{PACK}(e) \,\&\, \text{ACTOR}(\text{Peter}, e) \,\&\, \text{THEME}(\text{Trunk}, e) \& \text{QUICK}(e)]$
b. $\exists e[\text{PACK}(e) \,\&\, \text{ACTOR}(\text{Peter}, e) \,\&\, \text{THEME}(\text{Trunk}, e) \& \exists m[\text{MANNER}(m, e) \& \text{QUICK}(m)]]$

Intelligent ‘intelligently’ behaves differently from *schnell* ‘quickly’ and *laut* ‘loudly’: it can appear only in the position after the DO, cf. (24-b), and an additional paraphrase is available, cf. (25-b).

(24) a. weil er das Problem intelligent löst.
because he the problem intelligent solves

b. *weil er intelligent das Problem löst.
because he intelligent the problem solves

(25) a. Wie er das Lied singt, das ist laut. [manner]
The manner in which he sings the song, that is loud.
b. Es ist intelligent von ihm, wie er das Lied singt.
It is intelligent of him, how he sings the song.

If we treat the two positions of *intelligent* ‘intelligently’ parallel to those of *laut* ‘loudly’ and *quick*, then we would expect a predication over *e* in the case of (24-b), much like in (26-a).

(26) a. $\exists e[\text{SOLVE}(e) \,\&\, \text{ACTOR}(\text{Peter}, e) \,\&\, \text{THEME}(\text{problem}, e) \& \text{INTELLIGENT}(e)]$
b. $\exists e[\text{SOLVE}(e) \,\&\, \text{ACTOR}(\text{Peter}, e) \,\&\, \text{THEME}(\text{problem}, e) \& \exists m[\text{MANNER}(m, e) \& \text{INTELLIGENT}(m)]]$

The reason for the unavailability of the event-related reading can be due either to a semantic or to a syntactic constraint, i.e. either *intelligent* cannot be used as VP adjunct (syntactic constraint), or it cannot predicate over *e* (semantic constraint).

Another question that needs to be adressed is in how far the special relation of these types of manner adverbs to the agent should be reflected in the formal representation. As of yet, I have no convincing solution to this problem.

5 Other Accounts of the data

5.1 Topical Objects

(Eckardt 1998, Eckardt 2003) argues that the different word order reflects different information structure. She assumes that object DPs preceding the adverbial are topical in the sense of Jäger (1996).

The topical indefinite DOs are restricted in their possible readings; they must be interpreted as partitive, generic or in-group reading. An existential interpretation is not possible, cf. (27) and (28).

(27) #Alicia hat ein Huhn vorsichtig gestreichelt.
Alicia has a chicken carefully stroked.[DO ≠existential]
=(70) in (Eckardt 2003)

(28) a. weil er laut ein Lied singt.
because he loud a song sings.
'because he loudly sings a song.'
b. weil er ein Lied laut singt.
because he a song loud sings.

I agree with Eckardt insofar as I get the same readings. However, as the argumentation in section 2 already shows, the situation cannot be simplified to just different DO readings.

5.2 Integrated Objects

Frey and Pittner (1998) assume that a manner or, in their terminology, process adverb, can appear either before or after the direct object. The word order is dependent on whether or not the DO is integrated (in the sense of (Jacobs 1993)). Integration is not possible if either of the following two conditions hold:

- The direct objects do not show prototypical patient properties (e.g., they are stimuli but not patients).
- The DOs contain distributive quantification, e.g. German *jeder* 'each/every'.

According to them, only the word order in (29) is possible, while (29-b) is ungrammatical, due to the quantified object which cannot be integrated.

(29) a. Sie hat jedes Hemd sorgfältig gebügelt.
She has every shirt careful ironed.
b. *Sie hat sorgfältig jedes Hemd gebügelt.
=(36)b (Frey and Pittner 1998), their grammaticality judgement

In contrast to Frey and Pittner, I find both sentences perfectly acceptable, cf. also the discusstion in section 6. Apart from these problems with the data, it is also not clear what integration means in formal terms or how it should be represented.

6 The quantification question

The interaction of adverbial modification and quantifed direct objects represents a problem for formal analyses ever since Thomason and Stalnaker (1973), cf. (30).

(30) a. Sam carefully sliced all the bagels
b. Sam sliced all the bagels carefully
(Thomason and Stalnaker 1973)

A "traditional" way to differentiate between the two readings is given in (31).

(31) a. $\exists e[\ \mathrm{AGENT}(\mathrm{Peter}, e)\ \&\ \mathrm{LOUD}(e)$
$\&\ \forall x[\mathrm{SONG}(x) \rightarrow \exists e'[\ e' \sqsubseteq e\ \&\ \mathrm{SING}(e')\ \&\ \mathrm{THEME}(x, e')]]]]$
b. $\exists e[\ \mathrm{AGENT}(\mathrm{Peter}, e)\ \&\ \forall x[\mathrm{SONG}(x) \rightarrow$
$\exists e'[\ e' \sqsubseteq e\ \&\ \mathrm{SING}(e')\ \&\ \mathrm{THEME}(x, e')\&\ \mathrm{LOUD}(e')]]]$

This approach has several drawbacks. On the one hand, it is not clear what difference the two formalization really express, i.e. if the whole event *e* consists of subevents *e'* which are loud, why not LOUD(e) ? Perhaps more problematically, the approach cannot handle the data in (32) and (33).

(32) *weil er zu hoch/laut/leise/tief alle Lieder singt.

(33) *weil er intelligent alle Aufgaben löst.

On my account, the quantified direct objects are treated exactly similar to the unquantified DOs. That is, quantified DOs simply make the effects observed in the above sections even stronger, cf. (34) and the formalizations in (35).

(34) a. weil Peter laut alle Lieder singt
b. weil Peter alle Lieder laut singt

(35) a. $\exists e\ [\mathrm{SING}(e)\ \&\ \mathrm{AGENT}(\mathrm{Peter}, e)\ \&\ \mathrm{THEME}(\mathrm{all\_the\_songs}, e)\ \&\ \mathrm{LOUD}(e)]$
b. $\exists e\ [\mathrm{SING}(e)\ \&\ \mathrm{AGENT}(\mathrm{Peter}, e)\ \&\ \mathrm{THEME}(\mathrm{all\_the\_songs}, e)$
$\&\ \exists m\ [\mathrm{MANNER}(m, e)\ \&\ \mathrm{LOUD}(m)]]$

A similar account can be given for the interaction of quantified DOs with the position of *schnell*, cf. (36).

(36) a. weil er schnell alle Lieder singt [event]
because he quick all songs sings
b. weil er alle Lieder schnell singt [manner]
because he all songs quick sings

7 Integrating these findings

This sections tries to compare the findings for the AAs with the findings of (Maienborn 2001) on local adverbial adjuncts. Maienborn assumes that the syntactic position of the adverbs directly influences the availability of any free parameters which can be fixed by using world knowledge. VP adjuncts always localize *e*, cf. (37).

(37) Paul hat vor dem Capitol die Marseillaise gesungen.
Paul has in front of the Capitol the Marseillaise sung.
cf. (17) in (Maienborn 2001)

For V adjuncts, on the other hand, obligatory operations much like those of (Dölling 2000) lead to the introduction of free parameters, which are, again similar to Doelling, fixed through recourse to world or conceptual knowledge. V adjuncts thus localize something conceptually linked to *e*, cf. (38).

(38) Die Spieler haven den Torschützen auf den Schultern getragen.
The players have the scorer on the shoulders carried.
cf. (19) in (Maienborn 2001)

In (38), not the event, but the scorer is located on the shoulders.

Maienborn's findings line up well with the results for AAs presented so far. I have argued that AAs as VP adjuncts predicate over e, exactly corresponding to Maienborn's claims. AAs as V adjuncts predicate, on my account, over the manner, which is also conceptually linked to e. Interestingly, it would also be possible to restrict the introduction of free parameters to V adjuncts and still arrive at the same sentence representations as those that were used in section 3.

8 Conclusion

This paper discussed the influence of the position of AAs on sentence interpretation. After demonstrating the different readings that arise due to the position of adverbs such as *loudly* relative to the DO, I presented a formal representation for the different readings as well as an underspecified approach that allows the derivation of each of the readings. I further showed that the very same effects and derivation mechanisms can be used for *quickly*, though not for *intelligently*, which is restricted to the manner reading. Alternative accounts for the difference in linear order to not wholly convince, as in the case of Eckardt (2003) they fail to capture all the effects of different word order, or, as is the case with the account of Frey and Pittner (1998), are far to restrictive to cover all the data.

However, the account of AA given here is far from satisfying. Of the three different AAs presented here, only *quickly* and *loudly* could be treated satisfactorily, while *intelligently* still presents a problem. Obviously, more AAs must be investigated in order to show whether the general approach chosen here is in fact feasible. In addition, more must be said with regard to the overall picture of adverbial modification. Although this paper tentatively concluded that its result might well be realized within the framework of Maienborn (2001), the groups of adverbials whose behaviour with regard to this framework is unknown is still huge. Further research must solve these questions.

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