
IRENE RAPP AND ARNIM VON STECHOW
FAST “ALMOST”
 AND
 THE VISIBILITY PARAMETER FOR D-ADVERBS*

1. WHAT THIS PAPER IS ABOUT

The proponents of strong lexicalism hold the view that “words” are formed in the lexicon and are opaque for the syntax ((Dowty 1979), (DiSciullo and Williams 1987), (Jackendoff 1990) and many others). Modular morphology, on the other hand, offers the possibility that at least some words are partially formed in the syntax ((Baker 1988), (Borer 1988), (Hale and Keyser 1994), (Chomsky 1995) and many others). In (Stechow 1995) and (Stechow 1996) it has been argued that facts observed with German *wieder* “again” cannot be accounted for within the framework of strong lexicalism and therefore favour the second position. The authors of this paper want to check these claims by investigating the behaviour of the German adverb *fast* “almost”, the other classical adverb to which the method of decomposition has been applied in the linguistic literature (cf. (McCawley 1971)). Most adverbs cannot look into lexical decomposition structures, but some can. In order to have a suitable name, let us call these **D-adverbs**. *Again* and *almost* are the prototypical representatives of this class.

The method adopted is to investigate whether *fast* has access to different aspects of verbal meaning depending on its position. Following (Dowty 1979), resultative verbs and prepositions are decomposed into BECOME + XP, where XP is the result state. Agentive verbs contain an additional AGENT part. **Other thematic relations connecting the subject and the event are HOLDER and cause.** If the syntax tells us that an adverb like *wieder* or *fast* must have wide scope with respect to BECOME, then we expect other readings than in a configuration where *fast* can have narrow scope with respect to BECOME. In other words, the motivation for decomposition is syntactic and semantic. The idea is that certain function projections in the classical VP have a meaning and hence scopally interact with adverbs.

The *wieder* facts support this view of the syntax rather well and so we would expect a similar behaviour for *fast*. But quite surprisingly, we have discovered no convincing evidence that *fast* could have a narrow scope with respect to BECOME in verbs for which decomposition has been assumed. In our dialect, the configuration BECOME + *fast* + XP is not possible. On the other hand, the *wieder*-facts strongly suggest that the configuration BECOME + *wieder* + XP exists. Thus, the two adverbs behave differently in (our) German.

However, the facts reported about English suggest that in English, the configuration BECOME + *almost* + XP is a possible one. Furthermore, other speakers accept BECOME + *fast* + XP readings for German. So there must be cross-linguistic and inner linguistic variation. The parameter accounting for the difference in distribution may be that *fast* can only be attached to a phrase with a morphologically visible head. The XPs in a decomposition structure are syntactically somehow degenerated. Most adverbs do not see this projection but some do, most notably *wieder*. For some speakers of German, *fast* can also modify these XPs. Hence we have to classify these adverbs with respect to their capacity of “seeing” the result XPs of a decomposition, and we speak of the **Visibility Parameter for D-adverbs**. This parameter is a lexico-syntactic property. It varies across dialects and across languages.

At this juncture, we have to admit that we have not investigated the variation among speakers systematically. The following (introspective) data are based on the idiolects of the two authors.

The structure of the paper is as follows. In section 2 we list some of the examples which in the literature have motivated decomposition in the syntax. In particular, we will comment on the *wieder* facts of German. Section 3 gives an introduction into our logical forms (LFs). Section 4 introduces classical data from English and contrasting ones from German. Section 5 introduces the semantics for *fast* “almost” which is assumed in this article. Section 6 comments on the so-called counterfactual reading of *fast*. We assume that counterfactual *fast* attaches to the aspect phrase (AspP). Interestingly, as inner *fast*, counterfactual *fast* can only modify projections with a visible head. Section 7 systematically investigates the “inner” reading of *fast* for verbs from all different aspectual classes of the Vendler classification. This section argues that the configuration BECOME + *fast* + XP does not exist in our dialect. But there is a reading AGENT + *fast* +

* We want to thank Manfred Bierwisch, Kjell Sæbø, Satoshi Tomika and two anonymous referees for helpful

BECOME + XP, the so-called scalar one. According to our generalisation, this can be explained if we assume that only the verbal head is morphologically visible for *fast*. Section 8 shows that there are no semantic reasons for the absence of resultative *fast*: if the result state is expressed by a visible lexical head, *fast* can modify it. Section 9 deals with problematic cases of negation. *Fast* is a positive polarity item and has wide scope with respect to negation (NEG), and the negation is outside VP. It follows that no inner reading of *fast* + NEG should be possible, contrary to the facts. We will argue that *fast* + *nicht* can form a complex particle synonymous with *kaum* “barely”. This adverb can occur at a scalar position. Section 10 is a remark on the structure of the lexicon, and section 11 contains the conclusion. The conclusion point out the theory presented here may be regarded as a semantically motivated version of Distributive Morphology (cf. (Marantz 1997)).

2. DECOMPOSITION IN THE SYNTAX: *WIEDER* “AGAIN”

We will frequently compare the adverb *fast* with the adverb *wieder* “again”. Hence, it is convenient to repeat the data that motivated the decomposition approach developed in (Stechow 1995) and (Stechow 1996), which is assumed as basically sound for the purposes of this paper.

- (1) weil Ali die Tür wieder öffnete (repetitive/restitutive)
 because Ali the door again opened
- (2) weil Ali wieder die Tür öffnete (only repetitive)
 because Ali again the door opened

(1) is ambiguous between a repetitive and a restitutive reading: Ali has done the opening before vs. Ali brought it about that the door was open again, but he had not opened the door before. (2), on the other hand, is unambiguously repetitive. In other words, the position preceding the direct object has a disambiguating effect, which has to be explained. Here are the two meanings represented in an extensional typed language in style of (Zimmermann 1993).

- (3) a. repetitive reading:

Ali λx **the door**_w λy **again**_w(e) λe [AG_{ew}(x) & BECOME_{ew}(λs .OPEN_{sw}(y))]

b. restitutive reading:

Ali λx **the door**_w λy AG_{ew}(x) & BECOME_{ew}(λs .**again**_w(s)(λs .OPEN_{sw}(y)))

The notation omits many brackets and writes the argument in front of its functor in order to be closer to the surface (cf. (Cresswell 1973)). The relevant meaning rules presupposed in the formulas are these:

(4) a. BECOME is of type $\langle s, \langle i, \langle \pi, t \rangle \rangle \rangle$, i the type of eventualities and/or times and $\pi = \langle s, \langle i, t \rangle \rangle$.

$\|$ BECOME $\|(w)(e)(P)$ is only defined, if $P(w)$ is not defined for any part of e . If defined:

$\|$ BECOME $\|(w)(e)(P) = 1$ iff $\exists s_1: s_1 \gg e \ \& \ P(w)(s_1) = 0 \ \& \ \exists s_2: e \gg s_2 \ \& \ P(w)(s_2) = 1$, where \gg means “abuts from the left side”.

b. AG(ENT) is of type $\langle s, \langle i, \langle e, t \rangle \rangle \rangle$. $\|$ AGENT $\|(w)(e)(x) = 1$ iff x is the agent of event/action e in w .

c. **again** is of type $\langle s, \langle i, \langle \pi, t \rangle \rangle \rangle$. Let P be a set of eventualities and let w and e be a world and an eventuality, respectively.

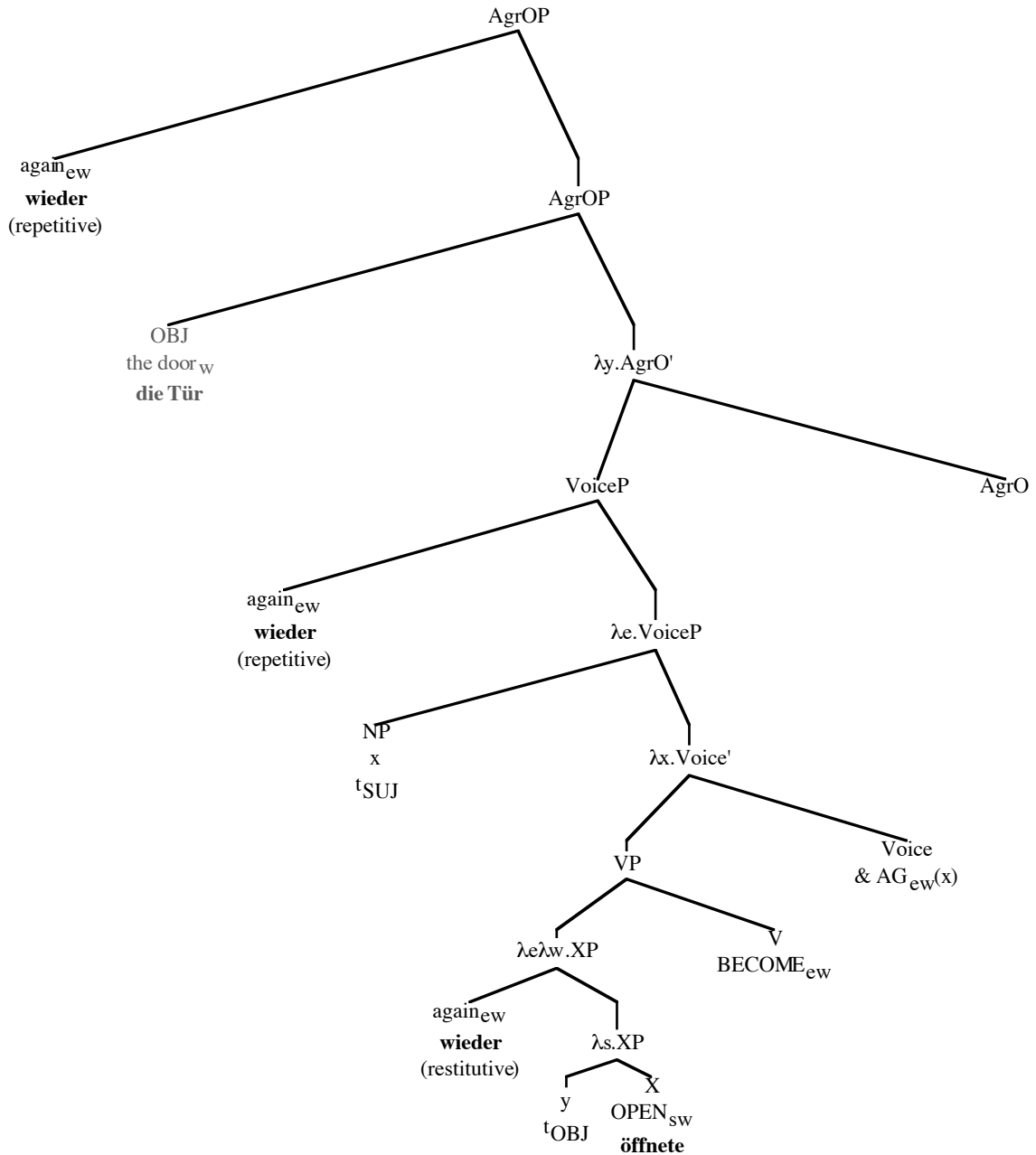
$\|$ **again** $\|(w)(e)(P)$ is defined only if $\exists e' [\|MAX\|(P)(w)(e') = 1 \ \& \ e' < e]$.

Where defined, $\|$ **again** $\|(w)(e)(P) = 1$ iff $P(w)(e) = 1$.

BECOME is more or less defined as in (Dowty 1979). The difference is that we work with a partial interval semantics adapted for events. The AG(ENT) role corresponds to Dowty’s DO, and the MAX-operator assumed in the definiens of **again** means that the event argument is a maximal P-event (cf. (Stechow 1996)).

The explanation of the *wieder* facts given in (Stechow 1995) and (Stechow 1996) can be read from the following tree. The accomplishment *öffnete* “opened” is decomposed into AGENT + BECOME + OPEN (with the head at the right hand). The restitutive position is under BECOME:

(5)



The repetitive position of the adverb is above **VoiceP**, whose head expresses agency, and the repetitive position is under **BECOME**. The accusative case is assigned in the checking domain of **AgrO**.¹ If the adverb precedes the direct object, it must be located higher than **AGENT**.

¹ We are not so sure anymore that the **AgrO** position is correct. Indefinite objects may occasionally under *wieder* and the sentences has a restitutive reading nevertheless. G. Jäger gave as the following example

(i) Fritz öffnete dann wieder ein Fenster.
Fritz opened then again a window

Hence, we only have the repetitive reading. This is the disambiguation effect induced by the position. If the adverb follows the object, we do not know whether it is above or below AGENT. Hence, we can have more than one reading. Aside from the two positions indicated in the tree, the adverb may have scope between AGENT and BECOME. It is not clear whether this reading is ever realised. For a discussion, see (Paslawska 1998).

In the literature, it has been proposed to treat the inner readings of adverbs by means of meaning postulates. (Dowty 1979), (Fabricius-Hansen 1983), (Stechow 1995), (Stechow 1996), and (Zimmermann 1993) have disputed the soundness of the relevant postulates. They have argued that the method is not viable on principled grounds. Even, if meaning postulates could do the job, it is not all clear, how the positional effect observed with *wieder* could be explained by postulates. Hence, the *wieder* facts strongly support a decompositional approach to the VP.²

This suggests that the AgrO position is under the subject of Voice. In any case, non-contrastive definite NPs are scrambled out of the VoiceP. Thus, for the examples with definite objects, we may consider AgrO as a scrambling position. For convenience, we leave the structure. As far as we can see, no distortion of the facts discussed arises from this assumption.

² Manfred Bierwisch objects that the theory cannot explain the repetitive/restitutive ambiguities in examples such as

- (i) weil die Grünen wieder im Parlament sind
 “because The Greens are in Parliament again”

The ambiguity is discussed in (Stechow 1996, footnote 28), although no final answer is given. There, the ambiguity was resolved by contextualisation. We can paraphrase the repetitive reading as “Now we have another period in with The Greens in Parliament”. This is a repetition and does not imply that The Greens were not in Parliament between the two legislation periods. The restitutive reading comes out automatically in view of the MAX-operator contained in the semantics of *again*.

Now, it is exactly the MAX-operator that causes the break between two successions of a state. There is a very trivial solution to the objection. Assume that the MAX-Operator is not present in stressed *again*, i.e., we have a slight polysemy. Represent the meaning of stressed *again* as AGAIN. Then the ambiguity of the sentence is represented as:

- (ii) **again_w**(pres)(in parliament(the Greens)) restitutive
 AGAIN_w(pres)(in parliament(the Greens)) repetitive

For countable, i.e. telic, events, we could always work with the simpler operator AGAIN.

Bierwisch makes a similar point with the sentence

- (iii) weil der Wind das Rad wieder drehte
 “because the wind turned (= made rotate) the wheel again”.

The objection is that there is no operator in the decomposition with which **again** could scopally interact. It is true that causation-of-motion verbs are not represented in our system. A tentative analysis is this:

- (iv) $\exists e_{[VP} \text{the wind } [V^{\cdot} \text{cause}_{tw} \lambda w_{[XP} \text{the wheel rotate}_{ew}]]]$

cause is a relation of type $\langle si, \langle \langle s, t \rangle, \langle e, t \rangle \rangle \rangle$ with the following semantics:

- (v) $\| \text{cause} \| (w)(t)(p)(x) = 1$ iff there is a property P: $\text{CAUSE}_{sw}(p)(P(x)) = 1$

3. COMMENTS ON OUR LFs

We assume a framework of transparent LFs (= TLF, cf. (Beck 1996), (Stechow 1996)). The idea is that the variables and the "logical glue" are written at the positions where they belong. The interpretation can be read in a one-to-one way from the tree. The architecture of the grammar is, details aside, the same as in the Minimalist Program (cf.). Like (Chomsky 1995), we will write the inflected form at one particular node, and we will assume that it is lexically inserted there. One important feature of the theory is that parts of the meaning of the verb may be located elsewhere in the tree, viz. in morphologically invisible heads. For instance, the finite form *öffnete* "opened" is associated with the stative property OPEN. The BECOME part and the AGENT part are located at different functional heads whose presence has to be guaranteed by an appropriate checking mechanism (cf. section 10). Other methods of lexical insertion are compatible with this approach. For instance, one could bring the heads together by means of head movement ((Baker 1988)) and would then replace the complex head by a morphological form ((Stechow 1996)). Case is checked at appropriate positions. For convenience we are assuming the functional projections AgrO and TP, but we do not commit ourselves to the exact categorial nature of these projections. Note that TP is identical to AgrS and AgrO could be an adjunction site. The only thing that matters is that case is not assigned VP-internally – with qualifications to be discussed below.

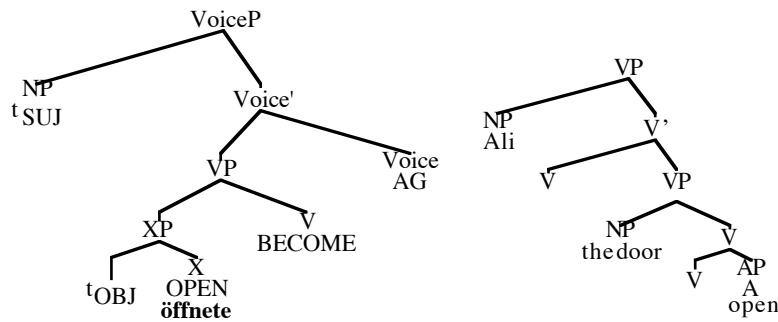
Relating our structures to other proposals found in the literature is a rather straightforward matter. As an illustration we compare our VoiceP with the VP deep structure which (Hale and Keyser 1994) and Keyser (1994) assume for transitive resultative verbs.

CAUSE is Dowty's operator, which roughly expresses causal dependency. The details are rather complicated and are given in (Dowty 1979), section 2.3.7. It is an empirical question, whether the relation **cause** should be labelled as Voice. Those who can passivize the example classify the operator as Voice. Note that the formula contains a free time/state variable. Therefore, it can be hooked to time by tense. The two repetitive/restitutive ambiguity now has the following analysis:

- (vi) **again_w(past)** $\lambda t \exists e [_{VP} \text{the wind } [_{V'} \text{cause}_{t,w} \lambda W [_{XP} \text{the wheel rotate}_{e,w}]]]$ repetitive
 $\exists e [_{VP} \text{the wind } [_{V'} \text{cause}_{past w} \lambda W [\text{again}_w(e) \lambda e [_{XP} \text{the wheel rotate}_{e,w}]]]]$ restitutive

(6) (Stechow 1996)

(Hale and Keyser 1994), p. 72



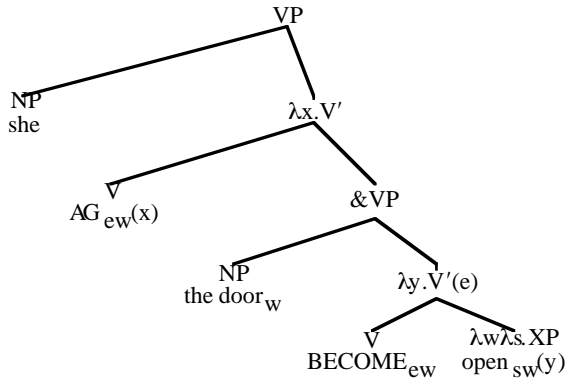
Apart from the position of the object, for which we assume an AP internal position, there is a one-to-one match between the trees: we have to assume the meaning BECOME for the lower empty V and the meaning AGENT for the higher empty V. This map seems to be in accordance with the semantics assumed by Hale and Keyser for these verbs:

(7) (Hale and Keyser 1994)'s semantics, cf. p. 68 ff.

The subject of the higher VP (Ali) is the agent of an event e_1 , which causes a change e_2 , which implicates a state s , of which the lower NP (the door) is the theme: $\text{Ali} > (e_1 \rightarrow e_2) \ \& \ \text{the door} > (e_2 \rightarrow s)$

The paraphrase rather suggests a “classical” decomposition, which makes use of the predicate CAUSE in the style of (McCawley 1971) (1971) or (Dowty 1979) (1979), where we find something like “CAUSE BECOME VP”. In our event approach, however, the predicate CAUSE seems unnecessary because we have the predicate AGENT of an action, and the decomposition “x is an AGENT of action e, which is a BECOMing with the resultant state that y is OPEN” seems intuitively correct. Hence, if we fill the empty V nodes of Hale and Keyser in the way indicated, we obtain a precise semantics for their tree, which can be read off from the following structure:

(8) A TLF for (Hale and Keyser 1994)



A final remark on the information AGENT: it is located in the head of a functional projection which Hale and Keyser call V and which we, following (Kratzer 1993), call Voice. Kratzer argues that the subject of VoiceP is not an argument of the verb. Rather, she claims, a separate functional head introduces it. This is thought as an explanation of (Marantz 1984)'s claim that the subject is not theta marked by the verb. We follow Kratzer in this respect, but we add the qualification that some verbs have their subject as an argument (see section 7.3). (Chomsky 1995) explicitly builds on (Hale and Keyser 1994). Therefore, our findings should be also valid for that approach.

4. FAST: FIRST DATA

One should recall that our decomposition structure for the VoiceP provides three positions for adverbs which give rise to different meanings: the position above AGENT, the one between AGENT and BECOME, and the position under BECOME. The intermediate position does not seem to be important for *wieder*, but the position under BECOME is crucial for explaining the restitutive reading. One would expect that the three positions play an equally important role for explaining the behaviour of *fast* "almost". This is assumed for English in (Morgan 1969) and (McCawley 1971) and for German in (Bierwisch 1997). Our own research, however, suggests that German behaves differently. In particular, *fast* does not seem to figure under BECOME.

We start the discussion of the data by reminding the reader of the classical account given in (McCawley 1971).

(9) John almost killed Harry

-
- a. **almost**(ACT(John) CAUSE BECOME dead(Harry)) counterfactual: cf
 - b. ACT(John) **almost**(CAUSE BECOME dead(Harry)) scalar: sc
 - c. ACT(John) CAUSE BECOME **almost**(dead(Harry)) resultative: res

According to McCawley, the first reading is that John almost did something which would have had the effect of Harry's dying. In this case *almost* has wide scope with respect to the information expressed by the verb. We call this reading the outer or counterfactual reading of *almost*.

By contrast, both the second and the third reading are inner readings: *almost* only modifies a part of the verb meaning. The scalar reading means that John did something which almost had the effect of Harry's dying. Under the resultative reading John did something which had the effect of Harry's becoming almost not alive.

Our intuition tells us that there is a clear difference between the outer and the inner readings: In contrast to the inner readings the outer reading means that there is no action at all. The situation is less clear with the two inner readings. They seem to describe rather similar events: in the case of *John almost killed Harry* both inner readings mean that the act of killing was somehow initiated but not completed.

Let us now have a look at an example in German:

- (10) a. weil David fast seinen Hasen erwürgt hätte ^{OK}cf *sc *res

- because David almost his rabbit strangled had (Subjunctive II)
- b. weil David seinen Hasen fast erwürgt hätte³ ^{OK}cf sc *res
because David his rabbit almost strangled had (Subjunctive II)
- c. ??weil David fast seinen Hasen erwürgte ??cf *sc *res
because David almost his rabbit strangled
- d. weil David seinen Hasen fast erwürgte *cf ^{OK}sc/res
because David almost his rabbit strangled

First, we observe that there is no inner reading if *fast* precedes the direct object. Second, in German the counterfactual reading requires the subjunctive. Most speakers of German do not accept examples like (10c), where the position of *fast* indicates a counterfactual reading and the indicative is used. Hence, the indicative seems to be restricted to the inner readings. On the other hand, the subjunctive examples never have an inner reading: independently of the position of *fast*, (10a) and (10b) only have a counterfactual meaning.

Finally, in German, as in English, it is not really clear whether there is a scalar *and* a resultative reading, or just *one* inner reading. The positional effect helps us only to distinguish the outer reading from the inner ones, but it does not differentiate between the two inner readings.⁴

We resume the discussion of this section in the following way. Like *wieder*, *fast* exhibits a positional effect which has to be explained. Whereas it is quite clear what the outer reading means, namely that the event almost occurs, it is not so clear what the inner reading(s) are. Do we have two inner readings, the scalar one as opposed to the resultative one as McCawley assumes, or do we have only one inner reading? Furthermore, is there any connection between the outer reading and the subjunctive? These are the questions, which we will investigate next.

Our answers are the following:

1. We can explain the positional effect by assuming that the event argument is introduced at the aspect node and that AgrOP dominates AspP. Under these assumptions, any position above AgrO leads to a counterfactual reading. The connection between the outer position of *fast* and the

³The scalar reading arises when the Subjunctive II marks indirect discourse:

Er sagte, daß er seinen Hasen fast erwürgt hätte.

He said that he his hare almost strangulated had

We owe this observation to Manfred Bierwisch.

subjunctive seems to be a purely stylistic matter. There is no semantic reason why this should be so, and indeed there seems to be variation among speakers (cf. section 6).

2. There is only one inner reading for *fast*: it is always scalar. Unlike *wieder*, *fast* does not occur in the resultative position, i.e., *fast* always has wide scope with respect to BECOME, as far as verbal decomposition is concerned (cf. section 7).

However, in order to discuss the data properly, we need a precise semantics of *fast* which will be given in section 5.

5. THE CORE MEANING OF FAST

The meaning rule to which we adhere in the following closely follows (Sadock 1981), with a modification to be discussed in a moment.

(11) Core meaning:

fast is of type $\langle s, \langle \langle s, t \rangle, t \rangle \rangle$. Let w be any world:

$F(\mathbf{fast})(w)(p) = 1$ iff (a) and (b) hold.

- a. There is a world w' which is almost not different from w and $p(w') = 1$.
- b. $p(w) = 0$.

This meaning rule contains a negation and the prediction therefore is that the adverb scopally interacts with quantifiers. The following pair of sentences illustrates the scope interaction:

(12) a. Fast alle Pflanzen waren vertrocknet.

Almost all plants were dry

b. Alle Pflanzen waren fast vertrocknet.

All plants were almost dry

If the meaning rule is correct, the first sentence entails that not all plants were dry and the second sentence entails that no plant was completely dry. These truth conditions are incompatible. Now, the negative entailment has been disputed in the literature. Sadock (1981) claims that only condition (a) of (11) belongs to the content of *fast* “almost”, whereas condition (b) is an implicature. An example given to support the claim is the following one:

⁴ We owe this point to Satoshi Tomioka.

(13) Not only did Bill almost swim the English Channel; in fact he did swim it.

Sadock obviously presupposes that “not only φ ; in fact ψ ” implies “ φ and ψ ”. In this construction, ψ is a reinforcement of φ . Sadock admits that sentence (13) is odd, explaining this through the strong conversational implicature carried by “almost φ ”, viz. “not φ ”, which is almost not cancellable. We are not sure how much the *not only...in fact...* construction says about the compatibility of the two argument sentences. If we consider the “nicht nur...sondern...” frame, i.e. the German equivalent of “not only...but...”, we certainly can have incompatible sentences as arguments:

- (14) a. Sie ist nicht nur krank, sondern sie ist tot.
 She is not only sick, but she is dead
 b. #Sie ist krank und sie ist tot.
 She is sick and she is dead

Nicht nur...sondern auch “not only...but” requires that the second conjunct is higher on a scale along some appropriate dimension. “Sick” and “dead” are scalar in some sense, but the two properties are incompatible. Thus, Sadock’s examples (and others not discussed here) are not really counterexamples to our meaning rule.

(Atlas 1984) gives another argument intended to demonstrate that “almost” cannot imply a negation. If this were so, he claims, then the sentence *Almost all swans are almost white* would be synonymous with *Some swans are white*. Here is his proof:

- (15) Atlas’ proof
 Almost all swans are almost white
 \Rightarrow Almost all swans are not white
 \Rightarrow Not all swans are not white
 \Rightarrow Some swans are white

It seems to us that this argument is fallacious inasmuch as it illicitly uses the principle: “ p entails q ; therefore $\neg p$ entails $\neg q$ ”. This is best seen by instantiating “all swans” by the two swans a and b . Then the first line of the argument becomes equivalent with the first line of the following argument, which reconstructs Atlas’ proof in a somewhat different order:

I weigh now almost 75 kilos

- b. Leider wiege ich noch nicht 75 Kilo.

Unfortunately weigh I not yet 75 kilos

In other words, the context has to tell us whether “nicht 75 Kilo” means “not at most 75 kg” or “not a least 75 kg”, i.e. the context has to give us information about the direction, from which we approach the target degree, from “below” – the unmarked case – or from “above”.

To be concrete, the representations of McCawley’s examples in our logical language would be the following formulae:

(19) John almost killed Harry.

- a. **almost**(w)($\lambda w \exists e[\text{AGENT}_{ew}(\mathbf{John}) \ \& \ \text{BECOME}_{ew} \ \lambda w \lambda s. \text{DEAD}_{sw}(\mathbf{Harry})]$)
- b. $\exists e[\text{AGENT}_{ew}(\mathbf{John}) \ \& \ \mathbf{almost}(w)(\lambda w. \text{BECOME}_{ew} \ \lambda w \lambda s. \text{DEAD}_{sw}(\mathbf{Harry}))]$
- c. $\exists e[\text{AGENT}_{ew}(\mathbf{John}) \ \& \ \text{BECOME}_{ew} \ \lambda w \lambda s. \mathbf{almost}(w)(\lambda w. \text{DEAD}_{sw}(\mathbf{Harry}))]$

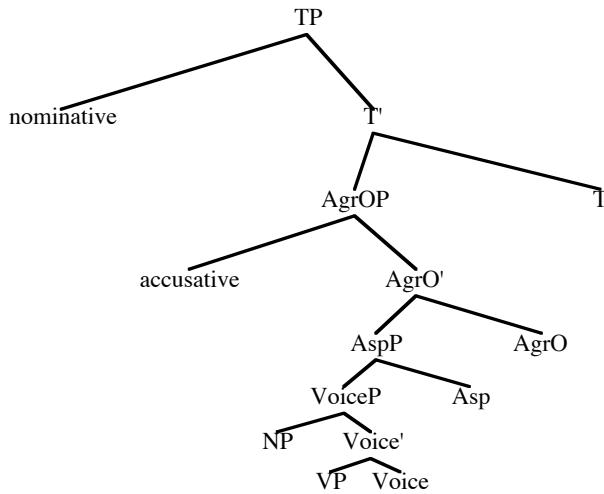
We will explain the details of the notation in the course of the following discussion.

6. THE POSITIONAL EFFECT AND THE PRETERIT/SUBJUNCTIVE CONTRAST

In section 4 we noticed that *fast* shows a positional effect similar to the one observed with *wieder*. For both adverbs, the position preceding the direct object has a disambiguating effect: it yields a repetitive reading for *wieder* and a counterfactual reading for *fast*. For *wieder*, this positional effect was explained in the following way: as AgrOP is above VoiceP, an adverb preceding the direct object must be located higher than AGENT. Hence, we only get the repetitive reading of *wieder*. However, this explanation is not valid for *fast*. If *fast* precedes the direct object, we do not get a scalar reading which includes the AGENT-relation. We rather obtain a counterfactual reading, which denies the event proper.

This effect can be captured in the following way. We assume that the crucial functional node responsible for the counterfactual/scalar distinction is the aspect node, which introduces the event argument and relates it to the reference time. Wide scope of *fast* with respect to that node means that no event of VP-type occurs. Now, the positional effect is explained if we assume the following hierarchy of the projections above Voice:

(20)



AgrO and TP are higher than the aspect node. Hence, if *fast* precedes the direct object and/or the subject, it has the aspect node in its scope. We get the counterfactual reading which requires the subjunctive:

- (21) a. *weil David fast seinen Hasen erwürgte (^{OK}erwürgt hätte)
 because David almost his rabbit strangled (^{OK}Subj. II)
- b. *weil fast David seinen Hasen erwürgte (^{OK}erwürgt hätte)
 because almost David his rabbit strangled (^{OK}Subj. II)
- c. *weil fast David einschliefl
 because almost David in slept

Note that this positional effect is quite independent of the semantic properties of the verb. It can be observed not only with telic verbs as those in (21), but also with atelic verbs (*activities* and *states*):

- (22) a. *weil die Männer fast das Lied grölten/haßten (^{OK}gegröht/gehaßt hätten)

-
- because the men almost the song bellowed/hated (Subj. II)
- b. *weil fast die Männer das Lied grölten/haßten (^{OK}gegrölt/gehaßt hätten)
because almost the men the song bellowed/hated (Subj. II)
- c. *weil fast Lisa rannte
because almost Lisa ran

We conclude that in contrast to *wieder* the positional effect existing with *fast* does not tell us anything about the decomposition of Voice-P. However, it gives us some important insights into the hierarchical structure of the projections dominating Voice-P.

Next, we have to say something about the fact that the “counterfactual” reading of *fast* always requires the subjunctive II in German. It never goes together with the preterit, in other words, for (23b) only a scalar interpretation would be possible which is however excluded by the verb *treffen* “meet”:

- (23) a. Gestern hätte sie mich fast getroffen.
Yesterday had she me almost met (Subjunctive II)
- b. *Gestern traf sie mich fast. (Preterit)
- c. ?Gestern hat sie mich fast getroffen. (Perfect Indicative)

(23b) should not be confused with (23c), a perfect indicative construction, which is (more or less) grammatically correct. We assume that in (23c) *hat* is simply taken as a substitute for *hätte*. The construction is used synonymously with the subjunctive II. On the other hand, (23b) is definitely odd. In order to explain the contrast, we will invoke the following stipulation:

(24) **The *fast*-generalisation:**

Fast cannot attach to a non-lexical functional projection.

It will turn out, that the functional projections are TP, AspP and VoiceP. AgrS is not investigated. I would certainly qualify as a functional projection as well. In section 7 we will show that the *fast*-generalisation is not only valid for counterfactual *fast*. It can also be used to describe a number of phenomena occurring with inner *fast*. As a matter of fact, the *fast*-generalisation seems to be the outcome of the setting of a parameter which is responsible for the inner linguistic and cross-linguistic variation observed with *fast* “almost”. Whereas (24) seems to hold for many speakers of German (including the two authors), it is not at all valid for

English. It would, however, be a welcome result if all our restrictions on *fast* could be explained by one principle.

To explain the sense of the principle for counterfactual *fast*, consider our treatment of sentences in the preterit:

- (25) a. (weil) sie mich gestern traf
 b. $\text{past}_1 \lambda r[\mathbf{Y}(r) \ \& \ \exists e[e \subseteq r \ \& \ \mathbf{meet}_{we}(\mathbf{me})(\mathbf{she})]]$
 $= \mathbf{Y}(\text{past}_1) \ \& \ \exists e[e \subseteq \text{past}_1 \ \& \ \mathbf{meet}_{we}(\mathbf{me})(\mathbf{she})]$

We assume that the simple tenses past and present have a deictic interpretation, i.e., r , “the reference time” is a free variable of type i (the type of times/events) whose value is determined by a contextually given assignment (cf. (Partee 1973), (Heim 1994), (Kratzer 1998)). In this paper we shall not distinguish between times and states. Furthermore, times and events will have the same logical type.

- (26) Simple tenses:

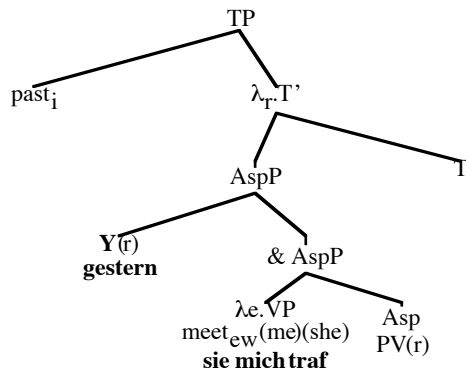
past_i and pres_i are symbols of type i .

$\| \text{past}_i \|_c^g = g(\text{past}_i)$, if $g(\text{past}_i)$ is before TU_c , the time of the utterance at c . Otherwise, $g(\text{past}_i)$ is undefined.

$\| \text{pres}_i \|_c^g = g(\text{pres}_i)$, if $g(\text{pres}_i)$ is not before TU_c , the time of the utterance at c . Otherwise, $g(\text{pres}_i)$ is undefined.

$\mathbf{Y}(r)$ means that r is in yesterday. We leave the exact formulation of the meaning rule to the reader. The information “ $\exists e[e \subseteq r \ \& \dots]$ ” is an “aspect” in the sense of (Klein 1994). Aspects relate events (in Klein’s terminology “times of the situation”) to the reference time. “ $e \subseteq r$ ” is to be read as “the time of e is included in r ”. This aspect is called Perfective, whereas the converse relation is the Imperfective. If we are given a simple preterit sentence, the aspect is introduced by a phonetically invisible semantic operation. For convenience, we will assume the following LF for example (25).

- (27)



The LF neglects the details of surface syntax, e.g. movement of the finite verb to Comp and movement of the subject and the object to case positions. It is important to note that simple tenses are indexicals and that the AspP must therefore be a property of times. The LF is very similar to the ones adopted in (Kratzer 1998). The main difference is that Kratzer assumes that tenses are deictic terms without referential indices. We treat tenses as sorted variables.

It follows that our account is not really compatible with the standard assumption that simple tenses denote relations between the utterance time and the reference time (cf. (Klein 1994)). Tenses are like pronouns. Hence, we will never have a scope interaction between simple tenses and quantifiers or negation, a welcome prediction.

The meaning of the Perfective operator is this:

(28) *The Perfective*

PV is a symbol of type $\langle i, \langle \langle i, t \rangle, t \rangle \rangle$.

$\| \text{PV} \|(t)(p) = 1$ iff $\exists e: e \subseteq t \ \& \ p(e) = 1$.

It should be obvious by now that the tree (27) determines the formula (25b) in a straightforward way. Since the head of Asp is phonetically empty, our stipulation (24) prevents *fast* from being attached to AspP. Hence the ungrammaticality of (23b). Note that there is no semantic reason why (23b) should be ungrammatical. If the restriction (24) did not hold, the sentence would express the following statement:

(29) **almost_w** $\lambda_w (\mathbf{Y}(\text{past}_1) \ \& \ \exists e[e \subseteq \text{past}_1 \ \& \ \mathbf{meet}_{w_e}(\mathbf{me})(\mathbf{she})])$

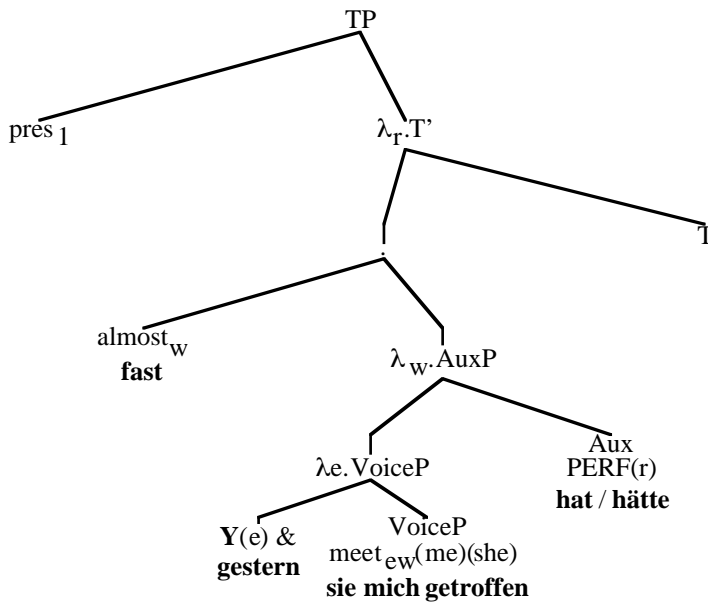
This is precisely the meaning of the English sentence

(30) Yesterday she almost met me.

Given the present framework, we would have to say that English allows for an attachment of *almost* to an AspP with empty head. Or we could say that the perfective aspect is somehow contained in the meaning of verbs in the simple past, though it is not so clear how this idea could be implemented formally.

Returning to the perfect examples in (23), it is now obvious what our account of their grammaticality is. The auxiliary *haben/sein* are lexical expressions of the Perfect aspect, which localises an event in the past with respect to the reference time. This time, *fast* can attach to the AspP. In other words, (23a) and (23c) have the following TLF:

(31)



The tree expresses the statement

(32) **almost**(w)(λw∃e[e < pres_i & Y(e) & **meet**_{wc}(**me**)(**she**)]).

In plain English the formula means that the actual world is such that there almost is an event *e* before the time of utteran, where *e* is a meeting with her as subject and me as object. The meaning of the Perfect operator is this:

(33) *The Perfect*

PERF is a symbol of type $\langle i, \langle \langle i, t \rangle, t \rangle \rangle$.

$\| \text{PERF} \|(r)(p) = 1$ iff $\exists e: t(e) < r \ \& \ p(e) = 1$.

To prevent confusion, several comments on the structure (31) are in order. The first remark concerns the location of the PERF-operator. Perhaps, the place of this information is the participial morphology ((Musan 1998)). In that case, the auxiliary would be semantically empty. If one took that route, one would have to make sure that the participle morphology is “above” VoiceP. Then we would have more or less the same system as the present one. For our purposes, that particular choice has no great import.

Second, note that the semantic tense in the structure is pres_1 . This seems at odds with the fact that the subjunctive auxiliary *hätte* is a subjunctive preterit. One would therefore expect a past tense for the sentence. The expectation, however, is deceptive. It has been observed in (Abusch 1993) and (Stechow 1995) that subjunctive II forms of auxiliaries very often require a semantic present. For instance, *müßte* “ought” is such a form:

(34) *Als Jochen jung war, müßte er mehr arbeiten.

When Jochen was young, he ought to work harder

The form *hätte/wäre* certainly can have the semantic present:

(35) Heute/morgen hätte meine Mutter ihren 98. Geburtstag gefeiert.

Today/tomorrow had my mother her 98th birthday celebrated

The next comment concerns the different position of *gestern* “yesterday” in the two trees (27) and (31), respectively. Because of its meaning, *yesterday* can only localise a time in the past. In (27), the reference time is a past time. Therefore, *yesterday* can qualify that time. In (31), the reference time is not before TU. If *yesterday* would speak about this reference time, a contradiction would arise. A prior event *e* is introduced by the PERF-operator. Hence, *yesterday* has to be predicated of *e* and the adverb must be located in the AspP. This seems to lead to an incompatibility with surface syntax: *fast* “almost” attaches to the left AspP and *gestern* “yesterday” is inside of AspP. Therefore, *fast* should precede *gestern* at the surface if we make the standard assumption that adverbs do not move at LF. We observe, however, the opposite: at the surface, *gestern* precedes *fast*.

The answer to this puzzle is that *gestern* is a definite term, and like other definite terms, it has to scramble out of the VP at surface syntax for reasons that are not yet fully understood but which have to do with the information structure of the sentence (Diesing (1992)). A more accurate analysis of the adverb *gestern* “yesterday” is something like $[_{pp} \text{IN yesterday}]$, where IN is an abstract preposition expressing the locating function of the name. If *gestern* “yesterday” is a deictic term of type *i*, it does not scopally interact with the PERF operator, and we could represent the meaning of (32) equivalently as:

(36) $\mathbf{Y} \lambda t[\mathbf{almost}(w) \lambda w \exists e[e < \text{pres}_1 \ \& \ \text{IN}(t)(e) \ \& \ \mathbf{meet}_{we}(\mathbf{me})(\mathbf{she})]]$

This time **Y** is semantically reconstructed to the position *t* by λ -conversion. Clearly, this formula is compatible with the surface syntax observed. Note that the approach is compatible with the principle that adverbs do not move at LF: we do not move the temporal adverb $\text{IN}(\mathbf{Y})(e)$, but we move the object of this PP, i.e. the name **Yesterday**. The statement $\text{IN}(t)(e)$ remains *in situ*. One would have to motivate the scrambling approach by further facts, but this is not the task of this paper.

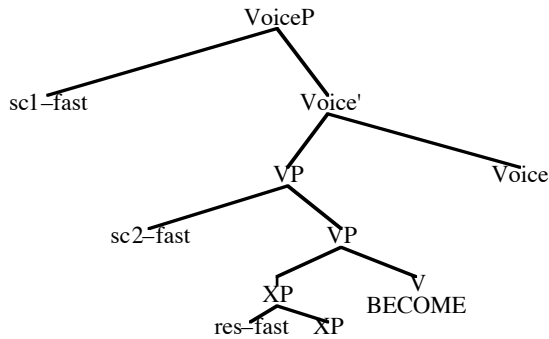
The description given so far does not yet account for the somewhat marginal status of (23c). Perhaps, the generalisation is that an entirely counterfactual statement like “there could have been an event...” should be marked by the subjunctive. At present, we do not have an elegant way of describing this.

7. FAST WITH PRETERIT: THE INNER READING

In the last section we noticed that the preterit always yields an inner reading. In contrast to the outer reading, inner *fast* does not deny the existence of an event but modifies part of the verb meaning. As a consequence, the adverb cannot be above a projection equal to or higher than AspP.

Our question concerns the precise location of “inner” *fast*. In the case of telic verbs there are three possible positions under AspP:

(37)



The position under BECOME would yield a resultative reading, the two positions above BECOME scalar readings (sc1 and sc2). Whereas *sc1-fast* modifies the entire meaning of the verb, two different semantic decompositions are necessary for *sc2-fast* and *res-fast*. *sc2-fast* requires the decomposition of the classical VP into Voice and VP, *res-fast* requires the decomposition of VP into V and the resultative XP. Hence, to justify the decomposition in (37) we have to show that it is really indispensable to assume both the *sc2-* and the *res-*position for *fast*.

The problem with verbs like *erwürgen* “strangle” is that it is hard to distinguish the three readings intuitively. Let us have another look at example (10d), repeated here as (38):

- (38) weil David seinen Hasen fast erwürgte *cf ^{OK}_{sc/res}
 because David his rabbit almost strangled

The resultative reading means that the rabbit reaches the state of almost being dead. The two scalar readings mean that there is an event that almost causes a result state of the rabbit’s being dead. The difference between them is that *sc1* includes the AGENT-relation and *sc2* excludes it.

Let us first consider the difference between the two scalar readings. In our opinion, it is intuitively convincing that the VOICE-Relation is never modified by inner *fast*. For the sake of simplicity, we will show this with atelic VOICE-verbs. As they do not possess a result state there is no risk of confusing the scalar readings with a resultative one. We will argue that scalar *fast* intervenes between VOICE and VP, hence defend a decomposition along the lines of (Kratzer 1993).

Second, we have to think about the need of a resultative position for *fast*. As we said, verbs like *erwürgen* “strangle” make it difficult to distinguish between the scalar reading(s) and

the resultative one. This difficulty is due to the punctuality of their change of state: if David performs an action such that the rabbit is almost dying that means that the rabbit is almost dead. Hence, our intuition does not tell us where *fast* is located in the case of causative achievements. It can however be proved that *fast* is not a result state modifier by considering other telic verbs like the non-causative achievement *einschlafen* “sleep in” and the gradual change of state verb *essen* “eat”. These verbs will show that *fast* has to be above BECOME. However, one must keep in mind that there are no semantic reasons against a result modification. As soon as the change of state predicate is split into copula + AP, *fast* has access to the result state represented by the AP. Our procedure will be to examine different semantic verb classes and to show which arguments they provide against *res-fast/sc1-fast* and in favour of *sc2-fast*.

In section 7.1 we examine state- and activity-verbs. We will argue against the *sc1*-position: *fast* always intervenes between Voice and VP. On the other hand, the behaviour of the adjectival one-place states will show that *res-fast* is possible if the result state is represented by an visible lexical category.

In section 7.2 we look at Subject Result-verbs like *einschlafen* (“fall asleep”). We will argue against the *res*-position of *fast*: facts from temporal modification – the compatibility with adverbs of duration - suggest that *fast* is in front of the entire VP.

In section 7.3 we examine Subject Object Result-verbs like *erreichen* (“reach”) and *verlieren* (“lose”). As before, temporal modification suggests that *fast* modifies the entire VP. Interestingly enough, we do not have a positional effect here. This can be explained if two-place states embed VoiceP and AgrOP under BECOME (v. (Stechow 1996)).

In section 7.4 we discuss incremental theme verbs. As their change of state is not punctual they allow us to distinguish clearly between the resultative and the scalar reading. Here, inner *fast* never has a resultative reading. Only the position above BECOME seems to be possible.

Section 7.5 treats resultative verbs of motion. Here, inner *fast* modifies the direction or the manner of motion. Again, result modification is excluded.

Our conclusion will be the following. Inner *fast* only appears directly above VP. The resultative position and the position above Voice-P are both excluded. However, the copula+adjective constructions which allow for *res-fast* show that there are no semantic reasons for the lack of result modification. Hence, this possibility must be excluded structurally.

7.1. Verbs without Result State (*Activities and Statives*)

There are two groups of verbs without BECOME in their decomposition: *activities* and *statives* ((Vendler 1957) 1967, (Dowty 1979) 1979 and many others). Inner *fast* means that the *state/activity* takes place to a certain degree:

(39) *Statives*

- a. weil Max seine Lehrerin fast haßte
because Max his teacher almost hated
- b. weil sie fast krank war
because she almost sick was

(40) *Activities*

- a. weil sie den Schlager fast grölten
because they the song almost bellowed
- b. weil das Pferd fast galoppierte
because the horse almost galloped

(39a) means that there is a state of almost hating, and (40a) means that there is an activity of almost bellowing. Again we ask what the exact position of inner *fast* is. Before we can address this issue, we have to think about the structural representation of verbs expressing states or activities. It is evident that they do not have a result phrase, but it is less clear whether they possess a VoiceP.

According to (Kratzer 1993), we assume that Voice contains the relations that connect the event with the subject, i.e. AGENT or HOLDER. Furthermore, Voice checks the accusative, which is realised in SpecAgrO. As a consequence, verbs with Voice are never unaccusative ((Stechow 1996), p. 105ff.). If we assume that the AGENT-subject of activities is introduced by Voice, we expect them to be (at least potential) accusative markers. This expectation is borne out by the facts: activities are never unaccusative. One-place activities like *tanzen* “dance” are syntactically unergative, two-place activities like *schlagen* “hit” are transitive. In contrast, one-place states are syntactically unaccusative: they are expressed by adjectival predicates ((Rapp 1997, p. 60)). We conclude that they do not possess a VoiceP.

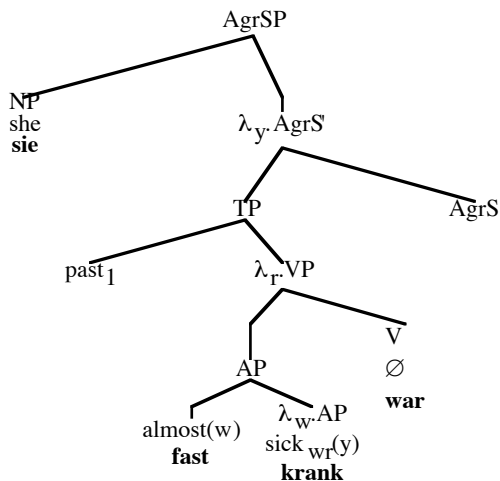
The most delicate case is represented by transitive two-place states. Do they possess a VoiceP which introduces a HOLDER-Relation towards the event described by the VP, or is the accusative checked by some other feature? Whether the subject of a two-place stative is actually introduced by the HOLDER-Relation seems to be an empirical matter. In our opinion, the *fast*-data show that at least for psychological statives like *hassen* “hate” a decomposition into Voice and VP makes sense.

We will proceed as follows. First, we examine the inner *fast*-modification of the unaccusative one-place statives. We show that *fast* can be a VP-modifier as well as an AP-modifier. Second, we show that in the case of activities inner *fast* intervenes between Voice and VP. As psychological statives behave like activities with inner *fast*, we assume that they are also decomposed into Voice and VP.

7.1.1.

One-place Statives

We represent agentless one-place states expressed by adjectives in the following way:

(41) *One place statives*

These verbs are syntactically unaccusative because their only argument is embedded under the adjectival state (cf. (Rapp 1997)). Note that we do not distinguish between states and times in this construction since we see no linguistic need to do so, at least not for the time being.

In (41) it is assumed that *fast* modifies the AP. However, a modification of the copula VP should not be excluded. With the copula *sein* the two modifications do not differ in meaning. But if we look at other copulas we notice that there are indeed two readings:

- (42) weil die Milch fast warm blieb (ambiguous)
because the milk almost warm remained

The AP-modification means that the milk remained in the state of being almost warm; hence it is not necessary to assume it had ever been really warm. The VP-modification means that the milk almost remained in the state of being warm: in this case it should have been warm before. The most likely state of affairs described by that reading is that the milk became slightly cooler. The second reading is somewhat marginal, because it corresponds to what we have called the counterfactual reading. It would be better expressed by a subjunctive sentence:

- (43) weil die Milch fast warm geblieben wäre
because the milk almost warm remained were

We assume the following semantics for *remain*:

- (44) REMAIN is of type $\langle s, \langle i, \langle \pi, t \rangle \rangle \rangle$, i the type of eventives and/or times and $\pi = \langle s, \langle i, t \rangle \rangle$.
 $\| \text{REMAIN} \|(w)(s)(P)$ is only defined, if $P(w)$ is defined for any part of s and s is longer than a moment. If defined:
 $\| \text{REMAIN} \|(w)(s)(P) = 1$ iff $\exists s_1: s_1 \succ\prec s \ \& \ P(w)(s_1) = 1 \ \& \ \exists s_2: s \succ\prec s_2 \ \& \ P(w)(s_2) = 1 \ \& \ \forall s' [s' \subseteq s \rightarrow P(w)(s') = 1]$

Here are the formulae representing the two readings discussed.

- (45) a. $\text{past}_1 \lambda_r [\text{REMAIN}_{rw}(\lambda w \mathbf{almost}(w)(\lambda w \lambda s \mathbf{warm}_{ws}(\mathbf{the \ milk})))]$
 b. $\text{past}_1 \lambda_r [\mathbf{almost}(w)(\text{REMAIN}_{rw}(\lambda w \lambda s \mathbf{warm}_{ws}(\mathbf{the \ milk})))]$

It is obvious that gradable adjectives like *warm* need a more elaborate representation. The standard treatment is to represent them as expressing relations between individuals and degrees/extents (cf. e.g. (Seuren 1984), (Stechow 1984)). This issue is ignored in this paper.

We conclude that inner *fast* exhibits a scope interaction with the copula *bleiben* “remain”, although this verb has an almost trivial meaning. Now consider the change of state-copula *werden* “become”:

- (46) a. weil die Nordsee fast warm wurde

-
- b. $\exists e[e \subseteq \text{past}_1 \ \& \ \text{BECOME}_{ew}(\lambda w.\mathbf{almost}(w)(\lambda w\lambda s.\mathbf{warm}_{ws}(\mathbf{the \ North \ Sea})))]$
- c. $?\exists e[e \subseteq \text{past}_1 \ \& \ \mathbf{almost}(w)(\text{BECOME}_{ew}(\lambda w\lambda s.\mathbf{warm}_{ws}(\mathbf{the \ North \ Sea})))]$
- d. $\# \mathbf{almost}(w)(\exists e[e \subseteq \text{past}_1 \ \& \ \text{BECOME}_{ew}(\lambda w\lambda s.\mathbf{warm}_{ws}(\mathbf{the \ North \ Sea}))])$

Reading (46d) is what we have called the counterfactual reading. As was already noted, it has to be expressed by means of the subjunctive. Reading (46c) is possible but not very plausible: we do not know how to describe an event that is an almost becoming of something. The most likely interpretation is that (46c) describes a state that is very close to a change of state. Hence, in this reading inner *fast* turns a change of state predicate into a state. In (46b) *fast* modifies the adjectival result state. Evidently, reading (46b) is the most prominent one if we consider the result state to be gradable as in (46a). Consider two other examples:

- (47) a. weil der Junge fast dunkelrot wurde
 because the boy almost darkred became
 weil der Junge fast rot wurde
 because the boy almost red became

In (47a) the gradable adjective yields an AP-modifying interpretation for *fast*. By contrast, the unmarked interpretation for *fast* in (47b) is the VP-modifying one. This analysis is supported by facts from temporal modification. (47a), describing a change of state, allows for frame adverbials, (47b), describing a state, allows for an adverb of duration:

- (48) a. weil der Junge in 10 Sekunden/*10 Minuten lang fast dunkelrot wurde
 because the boy in 10 seconds/*for 10 minutes almost dark red became
 weil der Junge 10 Minuten lang/*in 10 Sekunden fast rot wurde
 because the boy for 10 minutes/*in 10 seconds almost red became

We conclude that the unaccusative copula+adjective constructions provide two positions for inner *fast*: one of them is the AP-modifying one, the other one the VP-modifying one. Hence, with a change of state copula like *werden* “become” we get a resultative reading as well as a sc2-reading, where the latter has marginal status. In section 7.2 we will show that the resultative position is excluded as soon as the result state is part of a decomposition structure.

7.1.2.

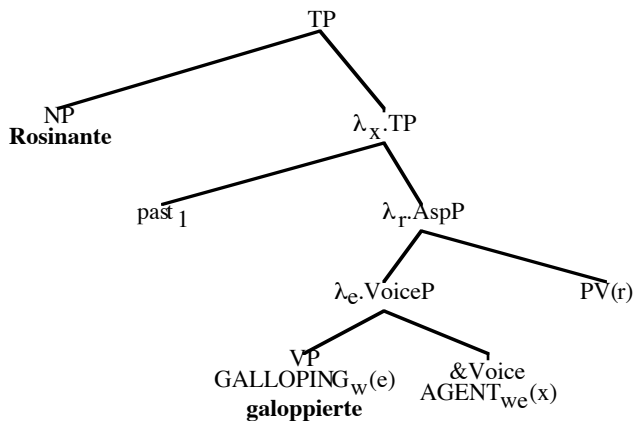
Activities and Psychological Statives

(Kratzer 1993) decomposes activities into AGENT + VP, and AGENT is located in the head of VoiceP. If we adopt this idea for our analysis, a sentence like

- (49) weil Rosinante galoppierte
because Rosinante galloped

would have the following s-structure:

(50)

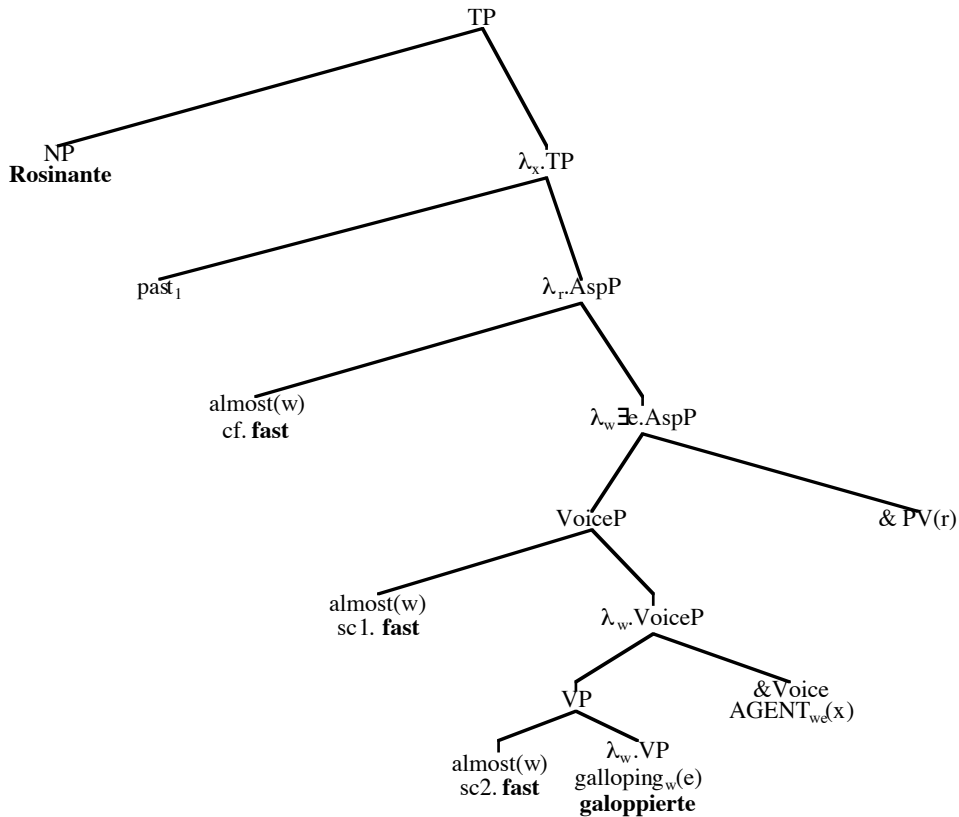


The question we want to address is this: does the behaviour of *fast* give us any evidence that justifies this kind of decomposition? The answer will be that we need the decomposition in order to express the plausible scalar reading. We will see, however, that our argument will not be very strong. Consider the following sentence:

- (51) weil Rosinante fast galoppierte
because Rosinante almost galloped

Assuming Kratzer's decomposition, we have three different positions for *fast* that are sources for potential different readings:

(52)



We know that “counterfactual” *fast* requires the subjunctive, so the highest post subject position is ruled out on stylistic grounds. But we have two scalar positions, which are labelled as sc1 and sc2, respectively:

- (53) sc1. $?\exists e[e \subseteq \text{past}_1 \ \& \ \mathbf{almost}(w)(\lambda_w[\text{AGENT}_{ew}(\mathbf{Rosinante}) \ \& \ \text{GALLOPING}_w(e)])]$
 sc2. $\exists e[e \subseteq \text{past}_1 \ \& \ \text{AGENT}_{ew}(\mathbf{Rosinante}) \ \& \ \mathbf{almost}(w)(\lambda_w.\text{GALLOPING}_w(e))]$

The reading (sc2) makes sense: Rosinante performed an action that was almost a galloping. It is not so clear, however, that the first reading exists: here we have an event of which it is unclear whether Rosinante is its agent. For instance, the event may be a galloping done by some other horse but it may nearly have been done by Rosinante. Clearly, this is not what we are after. If we would not decompose the VP, only the first reading would be available for “inner” *fast*. This may be a point in favour of Kratzer’s decomposition, but the argument is not very strong, due to the vagueness of our meaning for *fast*. In any case, Kratzer’s decomposition allows us to have a reasonable representation of the scalar reading, and that will be enough for the present purposes.

Exactly the same reasoning holds for two-place activities. The following sentence also offers two positions for inner *fast*:

- (54) weil sie das Lied fast grölten
 sc1. $?\exists e[e \subseteq \text{past}_1 \ \& \ \mathbf{almost}(w)(\lambda_w[\text{AGENT}_{ew}(\mathbf{sie}) \ \& \ \text{BELLOWING}_w(e)(\mathbf{the \ song})])]$
 sc2. $\exists e[e \subseteq \text{past}_1 \ \& \ \text{AGENT}_{ew}(\mathbf{sie}) \ \& \ \mathbf{almost}(w)(\lambda_w.\text{BELLOWING}_w(e)(\mathbf{the \ song}))]$

Among these two positions, only sc2 makes sense: in our intuition the AGENT-relation is not modified by *fast*.

In (Stechow 1996) it has been noted that VP-modification of *activities* makes little sense with *wieder* in most cases. (Stechow 1996) is reluctant, however, to exclude the inner modification altogether. A possible text that might require that representation is this:

- (55) Erst sangen die Eltern den Schlager.
 First sang the parents the song
 Später sangen die Kinder ihn wieder.
 Later the children sang it again

It is not necessary that the children had sung the song before; the song had been sung before by someone else. If so, not only *fast* but also *wieder* requires the decomposition assumed here for activities.

Now let us consider transitive statives. Psychological verbs like *hassen* “hate”, *glauben* “believe” behave like activities. First, we have strong intuitions that inner *fast* does not include the agent relation:

- (56) weil Fritz seine Lehrerin fast haßte
 because Fritz his teacher almost hated

Second, it is possible to invent a context where *wieder* allows for an inner reading:

- (57) Vor der Oktoberrevolution glaubten die Bauern in Rußland an ein Leben nach dem Tode.

Before the October revolution believed the farmers in Russia in a life after the death
 Heute glauben ihre Kinder wieder daran.
 Today believe their children again in it

Hence, we assume that the subject of psychological statives is introduced by Voice and that it bears the HOLDER relation to the event described by the VP.

The situation is different for locative statives like *umgeben* “surround”. As these verbs are not gradable, there is no evidence from *fast* for or against decomposition. However, *wieder* shows us that we should not decompose these verbs. Though they allow for repetitive *wieder*, inner *wieder* is excluded:

- (58) a. 1920 umgaben diese Bretter einen Schatz.
 1920 surrounded these planks a treasure
 Jetzt umgeben sie ihn wieder.
 Now surround they it again.
- b. 1920 umgaben einige Bretter den Schatz.
 1920 surrounded some planks the treasure.
 *Jetzt umgibt eine Eisenwand ihn wieder.
 Now surround an iron wall it again.

We conclude that *umgeben* “surround” is not decomposed into Voice and VP. It is simply represented by the predicate AROUND embedded under VP:

(59) $\| \text{AROUND} \|(w)(t)(b)(a) = 1$ iff a is around b in w at t.

According to (Rapp 1997, p. 144 f.), there is an important difference between psychological and locative statives, which is proved by the fact that only the former allow for the passive and the imperative. The presence or absence of Voice could be responsible for this differences as well. Note, however, that the purely cognitive psychological states (*wissen* “know”, *kennen* “know”) behave like locatives (cf. (Rapp 1997)): they do not tolerate the passive, the imperative or an intermediate *wieder*. Hence, we assume that they do not possess a VoiceP, but we have not addressed the problem in detail. However, the *fast*- and *wieder*-data support this classification of atelic verbs given in (Rapp 1997) for independent reasons.

The upshot of the discussion of activities and stative verbs is that their behaviour under modification by *fast* does not provide a strong support for a decomposition along the lines indicated in (Dowty 1979) or (Kratzer 1993). However, Kratzer's decomposition of the VP into Voice + VP allows us to get the intuitively correct scalar reading sc2 for inner *fast*.

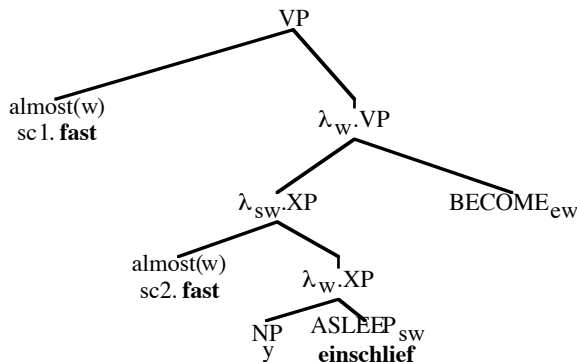
7.2. *Subject Result-Verbs*

Subject Result-verbs are one-place verbs. Their subject is the only argument of the embedded state: hence they are syntactically unaccusative (c.f. (Rapp 1997)). Use with the preterite, *fast* yields an inner reading:

- (60) weil der Junge fast einschlie
 because the boy almost in slept

The following structure shows the different positions for inner *fast*:

(61)



XP is the category describing the resultant state. Our question is whether *fast* is above BECOME or directly above the result state. Due to the vague semantics of *fast*, it is not clear whether and how the two representations differ in meaning:

- (62) a. **almost(w)** λ_w.BECOME_{ew} λ_sλ_w.ASLEEP_{sw}(**the boy**)

”e is almost a becoming with the result that the boy is asleep”

- b. BECOME_{ew} λsλw. **almost**(w) λw.ASLEEP_{sw}(**the boy**)

”e is a becoming with the result that the boy is almost asleep”

The first reading presumably expresses a state, namely the state which is almost an event of falling asleep, so the use of the event variable *e* might be somewhat confusing, but we have to use it, because the predicate BECOME requires an event as its argument. The second reading expresses an event with a graded result, an almost being asleep. In her discussion of verbs of change, (Fabricius-Hansen 1989) assumes in fact that the two readings exist, and she speaks of semi-telic verbs. If this is so, our theory certainly can express this.

There may be a way to decide which of the two readings exists. The second reading is an accomplishment and should therefore not be modifiable by adverbs like “for two minutes” which say that the event should take place at any subinterval of two minutes, an impossibility (cf. (Dowty 1979)). On the other hand, statives are not compatible with adverbs like “in two minutes”. The following contrast suggests that the modification by *fast* changes an accomplishment into a stative:

- (63) a. weil der Junge *zwei Minuten lang/^{OK}in zwei Minuten einschlieft
 “because the boy *for two minutes/^{OK}in two minutes in slept”
 b. weil der Junge ^{OK}zwei Minuten lang/*in zwei Minuten fast einschlieft
 “because the boy for two minutes/*in two minutes almost in slept”
 c. weil der Junge ^{OK}zwei Minuten lang/*in zwei Minuten fast eingeschlafen wäre
 “because the boy for two minutes/*in two minutes almost in slept were

(63a, b) show that inner *fast* changes the aspectual class of a predicate: it turns a change of state predicate into a stative predicate. This is explained if we assume that *fast* is located immediately above BECOME. In (62a) the *fast*-modification creates a stative interpretation: the boy is in a state which is very near to a falling asleep, but actually no change of state takes place at all. It is important to note that inner *fast* and counterfactual *fast* do not really differ in meaning with non-causative BECOME-verbs: both (63b) and (63c) describe a state that is very close to falling asleep. This counterfactual touch of inner *fast* is due to the specific semantic properties of Subject Result-verbs: if we assume that *fast* is a VP-modifier, there is no part of the verb meaning above *fast*. The question remains whether (63b) and (c) differ in logical form.

For the time being, we will assume that they do: in (c) *fast* is under the Asp-node whereas the subjunctive requires that it is located above it.

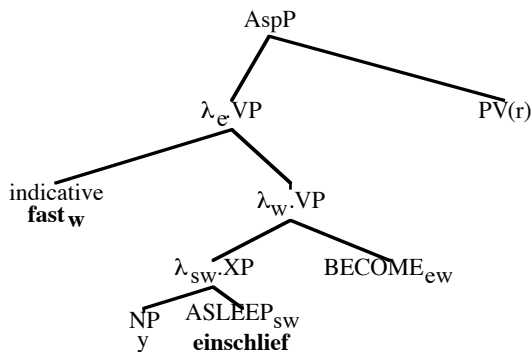
Finally, consider some Subject Result-verbs which allow for inner *fast* though a result modification is excluded:

- (64) a. Der Ballon platzte fast.
The balloon burst almost
- b. Das Seil riß fast.
The rope broke almost

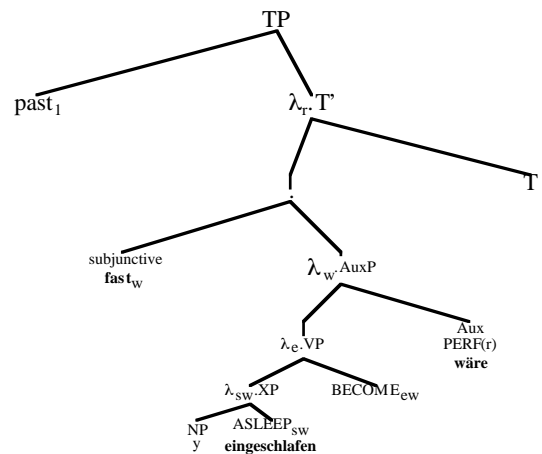
Intuitively, the only reading of the sentences in (64) is a stative one. Again we conclude that *fast* is above BECOME and under Asp. So our official LFs for the subjunctive and indicative sentence with inner *fast* are these:

(65)

Indicative inner *fast*



Subjunctive inner *fast*



We conclude that inner *fast* has to be above BECOME with Subject Result-verbs, but we would like to point out an interesting fact.

Again, we stress the fact that the position between BECOME and the result phrase XP is accessible for *fast* if XP has a genuine phrasal character. As we have shown in 7.1.1, a modification of the result phrase is possible as soon as the resultative predicate is split into copula + adjective:

- (66) a. weil die Milch fast kühl wurde (resultative)

- because the milk almost cool became
- b. ?weil die Milch fast abkühlte (scalar)
- because the milk almost down cooled

While (66a) has a resultative meaning, (66b) is somehow odd, although the verb *abkühlen* should mean exactly the same in terms of decomposition. We do not understand the sentence very well, which is due to the fact that we do not know what a state is which is an almost becoming cool. Under the perspective of decomposition in the syntax, this contrast is rather unexpected, but we find a similar contrast with adverbs expressing repetition.

- (67) a. weil die Milch wieder abkühlte (repetitive/restitutive)
because the milk again (wieder) down cooled
- b. weil die Milch erneut abkühlte (repetitive/*restitutive)
because the milk again (erneut) down cooled
- c. weil die Milch wieder kühl wurde (repetitive/restitutive)
because the milk again (wieder) cool became
- d. weil die Milch erneut kühl wurde (repetitive/restitutive)
because the milk again (erneut) cool became

The adverbs *wieder* and *erneut* mean exactly the same, but *erneut* cannot look into the decomposition of a verb: While (67a) allows for a restitutive reading, in (67b) no modification of the result phrase is possible. As soon as the result phrase is syntactically represented by an AP, it can be modified not only by *wieder*, but also by *erneut*: Both (67c) and (67d) have a repetitive *and* a restitutive reading. (Stechow 1996) takes this as evidence that there must be a distinction between “full” lexical heads and functional heads which are used for the decomposition of verbs. Functional heads are the natural borders of the “word” and most adverbs cannot be located inside of them. *wieder* is a notorious exception. In some sense, it behaves like a morpheme. The literature about English suggests that *almost* behaves similarly, but *fast* does not. It behaves like an “ordinary” adverb and cannot look into a word. In a way, this is a disappointing result, because our hope was that *fast* would reveal something about the nature of decomposition.

7.3. Subject Object Result-Verbs

Certain verbs describe a change of state that concerns both their subject and their object: *erreichen* (“reach”), *vergessen* (“forget”), *erfahren* (“learn”). Subject and object are both arguments of a stative under BECOME. In (Rapp 1997) it is claimed that the embedded two-place state is either locative (*erreichen* “reach”) or psychological (*vergessen* “forget”). Let us take the locative *erreichen* as an example of the behaviour of Subject Object Result-verbs with *fast*. We assume the following representation:

- (68) a. weil der Soldat die Stadt erreichte
because the soldier the town reached
b. $\exists e e \subseteq \text{past}_1 \ \& \ \text{BECOME}_{ew} (\lambda s \lambda w. \text{LOC}_{sw}(\mathbf{town})(\mathbf{soldier}))$

LOC is an abstract predicate meaning that someone is located at some place:

- (69) LOC is of type $\langle s, \langle i, \langle e, \langle e, t \rangle \rangle \rangle \rangle$.
 $\| \text{LOC} \| (w)(t)(b)(a) = 1$ iff a is located at b in w at t.

The subject of verbs of location is not introduced by a voice head. For (Hale and Keyser 1994), verbs of these kinds are of the category P of (two place) prepositions. In many cases, this assumption even makes sense morphologically. We do not want to commit ourselves to this view, but our analysis is compatible with it.

As the Subject Object Result-verbs do not have a VoiceP, inner *fast* should have a counterfactual touch if *fast* is located higher than VP. This prediction is borne out by the facts. As in the preceding section, it is difficult to distinguish between the counterfactual reading expressed by the subjunctive and the indicative inner reading on intuitive grounds. As before, we assume, however, that the two have different LFs:

- (70) a. weil der Soldat fast die Stadt erreichte (stative reading)
 $\exists e e \subseteq \text{past}_1 \ \& \ \mathbf{almost}(w)(\lambda w. \text{BECOME}_{ew}(\lambda s \lambda w. \text{LOC}_{sw}(\mathbf{t})(\mathbf{s})))$
 b. weil der Soldat fast die Stadt erreicht hätte (counterfactual reading)
 $\mathbf{almost}(w)(\lambda w. \exists e [e \subseteq \text{past}_1 \ \& \ \text{BECOME}_{ew}(\lambda s \lambda w. \text{LOC}_{sw}(\mathbf{t})(\mathbf{s}))])$

In theory, we could expect a resultative modification under *fast* if we consider the copula *werden* (BECOME) plus a PP:

- (71) *Der Leutnant läßt den Soldat fast auf den Gipfel werden
 The lieutenant lets the soldier almost on the peak become

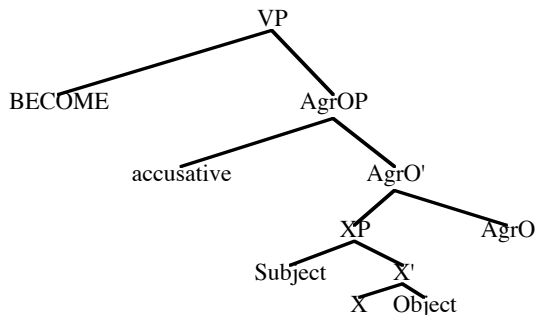
Since *lassen* “let” is an ECM-verb, one would expect the sentence to be grammatical. Hence *fast* should be able to modify the PP *auf den Gipfel*. But for reasons that are not well understood, the copula *werden* has many restrictions as to its complements. It does not tolerate locative or directional PPs. For many pertinent observations, see (Vendler 1957).

An interesting property instantiated by Subject Object Result-verbs is that they do not show a positional effect with *fast/wieder*:

- (72) a. weil der Soldat wieder die Stadt erreichte (restitutive/repetitive)
 because the soldier again the town reached
 b. weil der Soldat die Stadt wieder erreichte (restitutive/repetitive)
 because the soldier the town again reached
- (73) a. weil der Soldat fast die Stadt erreichte (stative reading)
 because the soldier almost the town reached
 b. weil der Soldat die Stadt fast erreichte (stative reading)
 because the soldier the town almost reached

fast and *wieder* always allow for an inner reading, independently of their position. This can be explained by the assumption that Subject Object Result-verbs license the accusative under BECOME ((Stechow 1996)):

(74)



This structure explains why there is no positional effect. Both adverbs can have an inner reading with the accusative position in their scope: inner *fast* dominates the VP, inner *wieder*

dominates AgrOP. We assume that in (72) and (73) the a-examples show the canonical word order. In the b-examples, the direct object is scrambled.

Our analysis depends, of course, on assumptions concerning case assignment: the accusative position is higher than the phrase which introduces the semantic subject. This assumption is not compatible with (Kratzer 1993) but it seems to be in agreement with work in the minimalist program ((Chomsky 1992)).

We conclude that the lack of a positional effect with Subject Object Result-verbs is due to the fact that they license accusative under BECOME. In contrast to *fast*, inner *wieder* can be attached to the result node PP giving rise to the restitutive reading. This complementary distribution of the two adverbs follows from the assumption that *fast* cannot look into a decomposition, but *wieder* can.

7.4. *Incremental Theme Verbs*

In this section we treat a subcategory of change of state verbs, incremental theme verbs. Their change of state is not punctual but gradual. (Dowty 1991, p. 567), following (Krifka 1989), gives the following definition for incremental theme verbs: "If x is part of y, then if a telic predicate maps y (as Theme) onto event e, it must map x onto an event e' which is part of e."

With incremental verbs, the change of state of an object implies that the object can be divided into smaller parts which undergo the change one after the other: if you eat a cake in five minutes, you eat part of the cake in every minute. Note that there are not only incremental Object Result-verbs like *mähen* "mow", *trinken* "drink", but also incremental Subject Result-verbs like *verdampfen* "evaporate", which are syntactically unaccusative (cf. (Rapp 1997)). A better term for some of these is "decremental", since the object is not only gradually affected but disappears. We do not distinguish between incrementality and decrementality, though a more careful analysis may reveal that we actually should do this (cf. (Stechow 1997)).

Now, incremental theme verbs give us good evidence that *fast* is not a result modifier. Recall that in the case of punctual change of state verbs like *erwürgen* ("strangle") we did not have strong intuitions whether *fast* was scalar or resultative. With incremental verbs, the situation is different. As the change of state is gradual, a modification of the VP is intuitively different from a modification of the result phrase. Take the eating of a cake as an example. The VP-modifying scalar reading would mean that the change of state did not take place at all in the

described manner. The resultative reading would mean that it was not finished. Hence, incremental verbs give us a chance to distinguish clearly between scalar and resultative *fast*.

To formalise the incremental verbs we use the predicate DEV:

(75) Er mäht den Rasen.

$AG_{ew}(\mathbf{he}) \ \& \ MOWING_w(e) \ \& \ DEV_{ew}(\mathbf{the \ lawn})(\lambda y \lambda s \lambda w. MOWN_{ws}(y))$

For the purpose of this paper, we could leave the manner part $MOWING_w(e)$ away. We include it in order to be consistent with (Rapp 1997), where it is argued that verbs with this lexical structure are exactly those which have a facultative direct object. Here is an incremental verb without a manner component:

(76) Das Wasser verdampft.

$DEV_{ew}(\mathbf{the \ water})(\lambda y \lambda s \lambda w. EVAPORATED_{ws}(y))$

And this is the semantics for DEV, which makes precise the informal notation used in (Rapp 1997):

(77) DEV is of type $\langle s, \langle i, \langle \alpha, \langle \pi, t \rangle \rangle \rangle \rangle$, π of type $\langle e, \langle s, \langle i, t \rangle \rangle \rangle$, α of type e .

$\|DEV\|(w)(e)(x)(P)$ is only defined, if $P(w)(e')(x)$ is not defined for any e' that is a proper part of e .

If defined:

$\|DEV\|(w)(e)(x)(P) = 1$ iff

a. $\exists f[f(e) = x \ \& \ \text{for any initial part } e' \ \text{and } e'' \ \text{of } e \ \text{with } e'' \ \text{a part of } e': f(e'') \ \text{is a part of } f(e'), \ \text{and}$

b. for any initial part e' of e : $\|BECOME\|(P(f(e'))) = 1$].

DEV requires a "structured property of states" as argument: it is a relation between an event and a property + individual. This is encoded in a schönfinkelised manner, i.e., DEV first applies to the property and then to the argument of the property. The presupposition tells us that there is a change of state for every part of the object. As usual, the result is not defined for the time of the change of state.

In order to see how this works, let us evaluate (76):

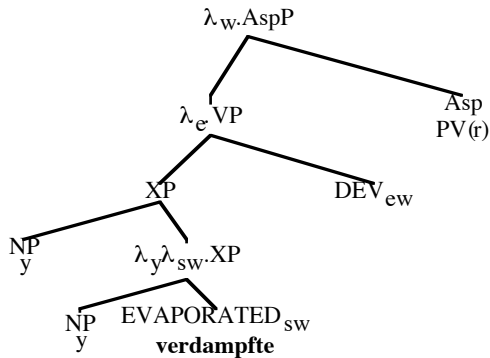
$\|DEV_{ew}(\mathbf{the \ water})(\lambda y \lambda s \lambda w. EVAPORATED_{ws}(y))\| = 1$ iff

$\exists f[f(e) = \text{the water} \ \& \ \forall e'[e' \text{ is initial part of } e \ \& \ e'' \text{ is initial part of } e \ \& \ e'' \text{ a part of } e' \rightarrow f(e'') \text{ is a part of } f(e')]$ &
 $\forall e'[e' \text{ is initial part of } e \rightarrow \|\text{BECOME} \|(w)(e')(\lambda s \lambda w. \text{EVAPORATED}_{ws}(f(e'')) = 1)\|]$

This means that for any initial segment e' of the event e , the water part $f(e')$ which corresponds to the segment e' has not evaporated at the beginning of e' , but it has evaporated at the end of e' . At the end of the entire event e , the entire water $f(e)$ has evaporated. This is exactly Krifka's semantics of incrementality/decrementality.

The LF which expresses the formula is slightly more complicated than the one for achievements: DEV does not simply embed a result phrase XP, but a structured result phrase, i.e., the object has to be extracted and adjoined to the XP:

(78)



A superficial look at the structure may suggest that the adjunction of the object y to its own host is semantically vacuous because it reduces to what we had before the adjunction by means of λ -conversion. But this is not the way we evaluate the LF: y is the first argument of DEV_{ew} while the abstract $\lambda_y \lambda_s \lambda_w \text{XP}$ is the second one.

We find exactly the same distribution of *fast* and *wieder* as in the last section: *fast* can only attach to VP, but it cannot modify the lowest XP. *wieder*, on the other hand, may occur in both positions, i.e., we have a resultative ("restitutive") reading for *wieder* but not for *fast*.

- (79) a. weil das Wasser fast verdampfte
 b. **almost**_w $\lambda_w[\text{DEV}_{ew}(\text{the water})(\lambda y \lambda s \lambda_w. \text{EVAPORATED}_{ws}(y))]$ (scalar)
 c. * $\text{DEV}_{ew}(\text{the water})(\lambda y \lambda s \lambda_w. \text{almost}_w[\lambda_w. \text{EVAPORATED}_{ws}(y)])$ (*resultative)

- (80) a. weil das Wasser wieder verdampfte

- b. **again_e** $\lambda_e[\text{DEV}_{ew}(\text{the water})(\lambda_y\lambda_s\lambda_w.\text{EVAPORATED}_{ws}(y))]$
 (repetitive)
- c. ^{OK} $\text{DEV}_{ew}(\text{the water})(\lambda_y\lambda_s\lambda_w.\text{again}_s[\lambda_s.\text{EVAPORATED}_{ws}(y)])$ (restitutive)

These facts corroborate our conjecture that *fast* cannot look into the decomposed VP, while *wieder* can. Transitive incremental verbs behave exactly alike. We recall first that *wieder* behaves in the usual way:

- (81) a. Melina mähte den Rasen wieder. (repetitive/restitutive)
 Melina mowed the lawn again
- b. Melina mähte wieder den Rasen. (only repetitive)
 Melina mowed again the lawn

The first reading is expressed with *wieder* modifying VoiceP, the second one is obtained by attaching *wieder* to the result phrase XP. There may be intermediate readings, but these do not concern us here. As we would expect, *fast* does not have the resultative reading, e.g.,

- (82) a. Melina mähte den Rasen fast. (only scalar)
 Melina mowed the lawn almost
- b. *Melina mähte fast den Rasen.⁵ (OK with Subjunctive II)
 Melina mowed almost the lawn

It follows from the previous discussion that (82) must have the representation

- (83) $\text{AG}_{ew}(\mathbf{M.}) \ \& \ \mathbf{almost}_w(\lambda_w[\text{MOWING}_w(e) \ \& \ \text{DEV}_{ew}(\mathbf{th-I.})(\lambda_y\lambda_s\lambda_w.\text{MOWN}_{sw}(y))])$,

⁵ 2. Manfred Bierwisch remarks that (82b) has a scalar reading in the following context:

(i) Melina mähte fast den Rasen, so niedrig hatte sie die Räder eingestellt.

Melina almost mowed the lawn, so deep had she adjusted the wheels

We think this means that the car that Melina was driving was almost mowing the lawn. It seems to us that this is interpreted in analogy to locative verbs of touching such as:

(ii) Ihre Haare berührten fast seine Wange.

Her hair almost touched his cheek.

In section 7.1.2 we said that these are not decomposed: a two place stative XP is embedded under a semantically empty light verb V. For instance, the first sentence is analysed as:

(iii) **almost(w)**_{[VP V [XP her hair touch_{wt} his cheek]]}

We have to make sure that accusative can assigned inside VP. This is the intuition. But a direct analysis of Bierwisch sentence seems not possible in our system.

while the representation

(84) $AG_{ew}(\mathbf{M.}) \ \& \ MOWING_w(e) \ \& \ DEV_{ew}(\mathbf{th-l.})(\lambda y \lambda s \lambda w. \mathbf{almost}_w(\lambda w[MOWN_{sw}(y)]))$

is doubtful on semantical grounds, because it implies that no part of the lawn is mown after the action. It is very hard to imagine such a scenario and certainly the sentence does not mean that. Anyhow, it seems to be safe to assume that a resultative reading is excluded for syntactic reasons. A remark on the structure is in order. With (Rapp 1997) we assume that the lexical information of verbs of this class is represented in two positions: it describes the result and the manner of the action. If we neglect the semantic structuring of the XP, the syntactic structure of the VoiceP is this:

(85) $[_{ViceP} \text{Melina } [_{VP} [_{VP} [_{XP} \text{the lawn MOWN}] \text{DEV}] \text{MOWING}] \text{AG}]$

fast must be attached to the higher VP. An attachment to the lower VP is contradictory, because a MOWING that doesn't generate an object MOWN is not a MOWING. Thus, there is a close connection between the manner meaning and the result meaning, which our theory has not formalised.

Some comments on the scalar reading are helpful here. A scalar reading is only available if the verb opens a scale. Consider the following contrast:

- (86) a. ^{??}Rafi aß den Kuchen fast.
 Rafi ate the cake almost
- b. Rafi fraß den Kuchen fast. (only scalar)
 Rafi devoured the cake almost"

The examples in (86) cannot mean that the cake was almost eaten/devoured. To get a scalar reading, it must be possible to imagine a kind of graduation. In (86b), a scale is opened by the verb *fressen* ("devour"), which denotes the eating activity performed by animals. So there is eating, and eating in a hasty, uncontrolled manner. This is the scale. By contrast, it is hard to open a scale with (86a): being eaten is one of the things we expect to happen to a cake.

Of course, the same reasoning holds for *mähen* "mow". If we accept (82a) with a scalar reading, we are forced to imagine a scale being activated by the verb. This could be the case if Melina is a goat eating grass in a way that amounts to a mowing. Hence, it is not always easy to produce a scalar reading, but still it is the only one available for inner *fast*.

The lack of resultative *fast* must be a lexical/syntactic property of our variant of German. According to (Dowty 1979) (1979:58), English *almost* can be a result modifier of incremental verbs. He assumes that the sentence *John almost painted a picture*, has two readings: “(a) John had the intention of painting a picture but changed his mind and did nothing at all, or (b) John did begin work on the picture and he almost but not quite finished it.” None of these readings is possible for a German preterit sentence. As we observed in section 6, in German the (a)-reading requires the subjunctive. If we assume that the *fast*-generalisation holds for German, but not for English, both phenomena are explained. Not only resultative *fast/almost*, but also counterfactual *fast/almost* used with the preterit would attach to a non-visible functional head.

7.5. Verbs of Motion

Verbs of motion can be causative (*schieben* “pull”) or non-causative (*sich bewegen* “to move”). Syntactically, the causative verbs are transitive, the non-causative verbs are unaccusative in English and very often reflexive in German. We have already shown the positional effects of transitive verbs with *fast* and *wieder* in detail. For the sake of simplicity, we will therefore focus on non-causative verbs of motion in this section, but our considerations will apply to the causative verbs as well.

Let us forget about the fact that verbs of motion are incremental in some sense as well: the motion gradually affects a path. The notion of path has been analysed in great detail in (Cresswell 1978). We could analyse the affection of the path by a special version of the BECOME-operator along the lines of the following paragraph, and we might, following (Egg 1993), call this operator CHANGE. For the purpose of our investigation, the special nature of this operator is immaterial, however. So in order to simplify things, let us follow (Dowty 1979) and analyse directional prepositions and decomposed verbs of motion by means of our version of the BECOME-operator.

Interestingly enough, *wieder* and *fast* show a special positional effect with verbs of motion:

(87) a. weil sie wieder zum Haus rannte

because she again to the house ran
 weil sie zum Haus wieder rannte
 because she to the house again ran

- (88) a. weil sie fast zum Haus rannte
 because she almost to the house ran
 weil sie zum Haus fast rannte
 because she to the house almost ran

(87a) shows the usual *wieder*-ambiguity. There is a repetitive (89a), a restitutive (89b), and an intermediate reading (89c) – the latter was discussed in section 7.1.2:

- (89) a. **again**_{ew} $\lambda e[AG_{ew}(x) \ \& \ \mathbf{run}_w(e) \ \& \ BECOME_{ew}(\lambda s\lambda w(LOC_{sw}(\mathbf{the \ house})(x)))]$
 (repetitive)
 b. $AG_{ew}(x) \ \& \ \mathbf{run}_w(e) \ \& \ BECOME_{ew}(\lambda s\lambda w(\mathbf{again}_{sw}[\lambda s.LOC_{sw}(\mathbf{the \ house})(x))])$
 (restitutive)
 c. $AG_{ew}(x) \ \& \ \mathbf{again}_{ew} \ \lambda e[\mathbf{run}_w(e) \ \& \ BECOME_{ew}(\lambda s\lambda w(LOC_{sw}(\mathbf{the \ house})(x)))]$

Note that the subject of the directional PP is controlled by the subject of VoiceP. The control is indicated by the choice of the same variable.

As soon as *wieder* follows the directional phrase, there is only one reading, which is distinct from the three other ones. (87b) means that only the manner component was repeated:

- (90) $AG_{ew}(x) \ \& \ \mathbf{again}_{ew} \ \lambda e[\mathbf{run}_w(e)] \ \& \ BECOME_{ew}(\lambda s\lambda w(LOC_{sw}(\mathbf{the \ house})(x)))$

There is a similar positional effect for *fast*. (88a) means that she did a running which was almost into the house. This is a direction which does not lead quite into the house, but almost. (88b) means that she did an almost running, perhaps a very quick walking, into the house. We assume that in the first case the adverb is adjoined to the directional PP, in the second to the manner-VP:

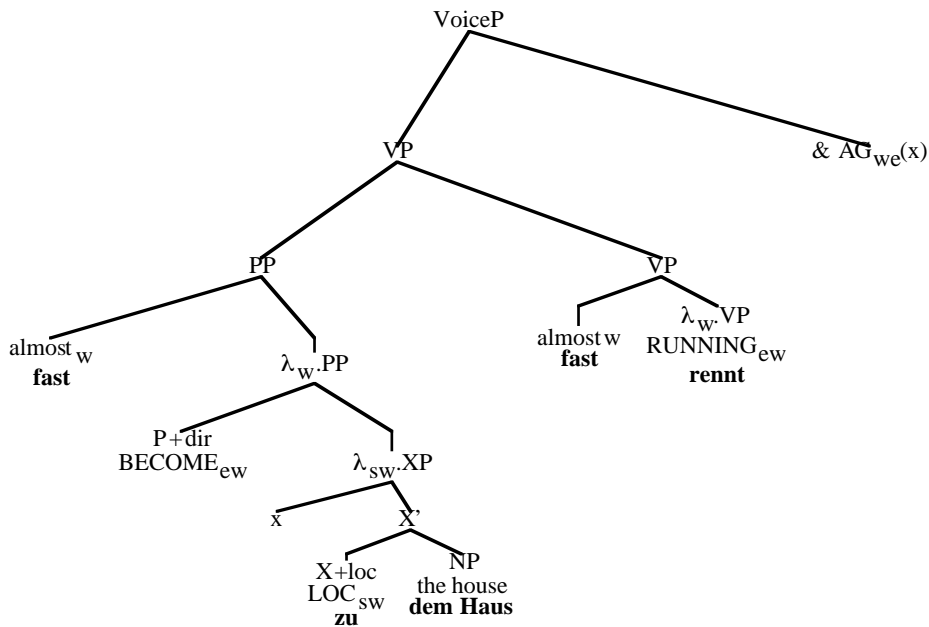
- (91) a. $AG_{ew}(x) \ \& \ \mathbf{run}_w(e) \ \& \ \lambda_w.\mathbf{almost}_w[BECOME_{ew}(\lambda s\lambda w(LOC_{sw}(\mathbf{the \ house})(x)))]$
 b. $AG_{ew}(x) \ \& \ \lambda_w.\mathbf{almost}_w[\mathbf{run}_w(e)] \ \& \ BECOME_{ew}(\lambda s\lambda w(LOC_{sw}(\mathbf{the \ house})(x)))$

(88a) does not have a resultative reading, however. The following LF is excluded:

(92) * $AG_{ew}(x) \ \& \ \mathbf{run}_w(e) \ \& \ \mathbf{BECOME}_{ew}(\lambda s \lambda w(\mathbf{almost}_w[\lambda_w.LOC_{sw}(\mathbf{the \ house})(x)]))$

We conclude that, as usual, *fast* does not have access to the XP expressing the result state. Depending on its position, it modifies either the entire directional PP or the manner-VP:

(93)



The tree shows that verbs of motion with an open directional offer two scalar positions for *fast*. It is interesting to observe that *fast* does not have access to the directional information if it is expressed by decomposition, i.e., if the directional is part of the lexical meaning of the verb. The verb *besteigen* “climb” illustrates the point:

(94) ?Der Junge bestieg den Hügel fast.

The boy climbed the mountain almost

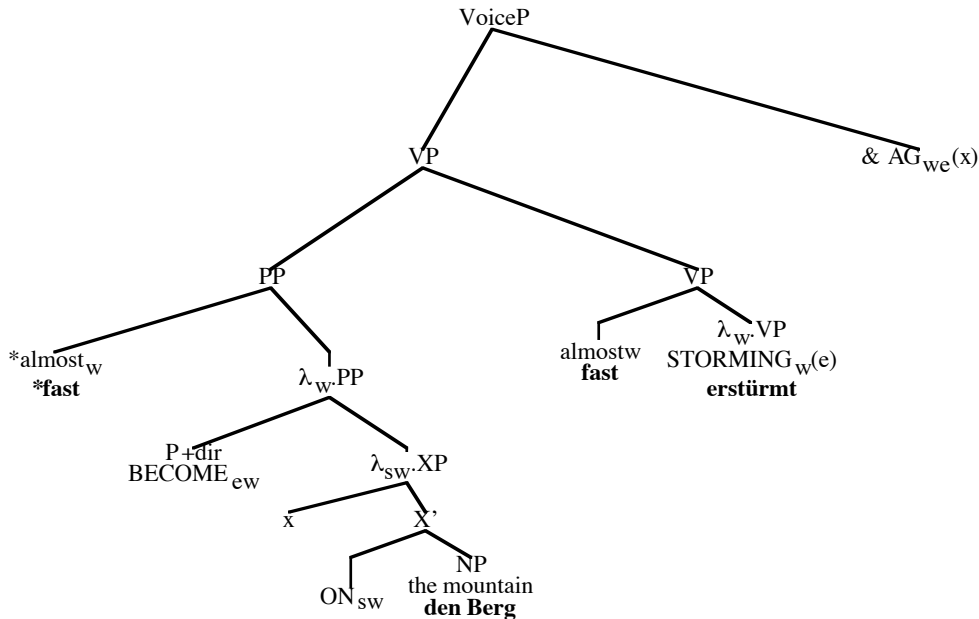
(94) means neither that the boy did a large part of a climbing of the hill nor that he followed a path which does not lead quite up to the top of the hill. If the sentence means any thing at all, then that the boy did something that was almost a climbing of the hill. This VP-modifying reading is more likely if we use a verb like *erstürmen* “storm”, which induces a scale:

(95) Der Junge erstürmte den Hügel fast.

The boy storms the hill almost

The difference between (94) and (95) is that the latter contains a gradable MANNER-component, whereas the former does not. The following tree shows that it is the MANNER-component of *erstürmen* that gives us the position for inner *fast*:

(96)



While this representation correctly represents the meaning, we cannot be entirely happy with it. BECOME is classified as a preposition P and should be visible for *fast*, contrary to the facts. Now, verbs like *erstürmen* must be applicative verbs in some sense, i.e., the directional preposition is incorporated into the verb (cf. (Baker 1988)). Hence it is not visible anymore. We will not attempt to give the correct analysis for the verb. Note that a representation without any decomposition would have the problem that there would be no manner component that could be modified by *fast*. Thus, the analysis might at least be partially correct.

Whatever the correct approach is, *besteigen* “climb” has exactly the same structural representation. Like *erstürmen* it disallows for a modification of the directional component. In contrast to *erstürmen* “the VP-component “CLIMBING” does not open a scale. Hence, it cannot easily be modified by *fast*.

The discussion of the verbs of motion points out once more that *fast* can only attach to projections with a visible lexical head. Obviously, the VP-component is such a projection: a *fast*-

modification is possible, if the verb opens a scale. Resultative *fast* is excluded, because the result phrase XP is always given by decomposition. A *fast*-modification of the directional phrase is possible if its head is a morphologically visible preposition.

7.6. Conclusion

In our dialect, *fast* cannot modify the result state if the latter is introduced by lexical decomposition. This means that *fast* cannot be adjoined to abstract functional phrases. There cannot be semantic grounds for this behaviour, because the result state can be modified if it is introduced by a projections with a morphologically visible head. Recall that scalar *fast* does not attach to VoiceP, but to VP. *wieder*, on the other hand, behaves differently. It can attach to any functional projection which is an appropriate argument for that adverb.

If the *fast*-generalisation is responsible for the lack of sc1-*fast* and res-*fast* in decomposition structures, we have to assume that only the verbal head V is morphologically visible – an interesting consequence for our decomposition structures. Our prediction is that those German speakers who allow for a counterfactual reading of *fast* with the preterit accept the resultative reading of inner *fast* as well. Both phenomena depend on the same parameter. We have not investigated the variation among German speakers systematically. However, the difference between English and (our) German can be explained by assuming that the *fast*-generalisation holds for (our) German, but not for English. English allows for counterfactual *almost* with the preterit as well as for resultative *almost*. Hence, the two phenomena seem to be closely related. It is an advantage of our theory that they can be captured by one single generalisation.

8. LEXICALLY EXPRESSED COMPLETION

8.1. *Fast as a Modifier of Result States?*

We have argued that *fast* does not have access to a result state which is expressed by an XP in a decomposition structure. Here are some apparent counterexamples:

(97) Er mähte den Rasen fast fertig.

-
- He mowed the lawn almost completely
- (98) Er schob den Wagen fast bis nach Berlin.
He pulled the car almost up to Berlin
- (99) Der Rasen ist fast gemäht.
The lawn is almost mown
- (100) Er hat den Rasen jetzt fast gemäht.
He has the lawn now almost mown

We will argue that these constructions do not exhibit modifications of an abstract result-XP contained in a decomposition. In (97) and (98), an adverb of completion is added to an incremental theme verb and a directional verb, respectively. The semantics of the adverb will make sure that a modification of Adv + VP or Adv + PP by *fast* yields more or less the same meaning as modification of the result state of a decomposition (8.2 and 8.3). In (99) and (100), the access to the result state is due to specific syntactic constructions, viz. the adjectival passive and the perfect (8.4 and 8.5).

8.2. fertig/ganz/vollständig “completely”

As we have seen in the last section, incremental theme verbs do not allow for a result modification by *fast*. The situation is different if an adverb like *fertig* “ready” or *ganz/vollständig* “entirely/completely” is added. While (101a) is unacceptable, (101b) is correct:

- (101) a. ^{??}Sie mähte den Rasen fast.
She mowed the lawn almost
- b. Sie mähte den Rasen fast fertig/ganz/vollständig.
She mowed the lawn almost completely

The following example shows that *fast* has to precede the adverb of completion in order to achieve a “result” modification. If *fast* follows the adverb, only a scalar reading is available:

- (102) *weil sie den Rasen ganz/vollständig/fertig fast mähte

because she the lawn completely almost mowed

It follows that *fast* modifies a projection to which an adverb of completion has been adjoined and the “result” interpretation is produced by a combination of *fast* and the adverb.

We will interpret adverbs of completion as modal operators. The idea is that an action with property P is completed iff there is no possible world where the action is a bigger P-action.

(103) $\| \text{COMPL} \| ((w)(e)(P) = 1 \text{ iff } \neg \exists w' \exists e' [e \text{ proper part of } e' \ \& \ P(w')(e') = 1])$

Note that this operator can only apply to change of state verbs. It may well be the case that adverbs of completion have been treated along these lines in the literature, but no such analyses is known to us.

If we disregard tense, the formalisation of (101b) is something like the following formula.

(104) $AG_{ew}(\text{she}) \ \& \ MOWING_w(e) \ \& \ \mathbf{almost}_w \ \lambda w.COMPL_{ew} \ \lambda w \lambda e.DEV_{ew}(\mathbf{the} \ \mathbf{lawn})(\lambda y \lambda w \lambda s.MOWN_{sw}(y))$

The formula can be paraphrased as: “She is the agent of action e which is almost a complete mowing of the lawn.” Note that the COMPL-Operator is not adjoined to VoiceP: it only modifies the change of state component VP. The effect of adjoining both COMPL and *fast* to VP is that we get a “pseudo-resultative” reading: if a change of state event is almost completed, the result state is almost reached.

8.3. bis “up to” with Incremental Path Verbs

Directional PPs are treated alike: *bis* “up to/until” is analysed as the COMP-operator for directionals. Here are the relevant data.

- (105) a. Er schob den Wagen fast nach Berlin. (scalar)
 He pulled the car almost to Berlin
- b. Er schob den Wagen fast bis nach Berlin. (pseudo-resultative)
 He pulled the car almost up to Berlin

(106) a. Er lief fast nach Berlin. (scalar)

He walked almost to Berlin

- b. Er lief fast bis nach Berlin (pseudo-resultative)
 He walked almost up to Berlin.

Once again, a result reading is only possible if *fast* precedes *bis*:

- (107) a. *weil er bis fast nach Berlin rannte
 because he up almost to Berlin ran
 b. weil er bis nach Berlin fast rannte (scalar)
 because he up to Berlin almost ran

The distribution of the data follows from our analysis. For convenience, we indicate the formulas expressing the sentences in (106):

- (108) a. #AG_{ew}(**x**) & **almost**_w[λ_w.BECOME_{ew}(λ_wλ_s.LOC_{sw}(**Berlin**)(**x**))] & RUNNING_w(e)
 b. AG_{ew}(**x**) & **almost**_w[λ_w.COMPL_{ew} λ_wλ_e.BECOME_{ew} λ_wλ_s.LOC_{sw}(**Berlin**)(**x**) & RUNNING_w(e)]

The reader has to bear in mind that the “scalarity” expressed by (108a) concerns the meaning of the directional PP only, i.e., the directional expresses an “almost to Berlin” direction. If we grade the meaning of the manner component expressed by the verb of movement, we have to modify the verb alone and the adverb has to follow the directional PP as in (107b). And this is the formula expressing that reading:

- (109) AG_{ew}(**x**) & [COMPL_{ew} λ_wλ_e.BECOME_{ew} λ_wλ_s.LOC_{sw}(**Berlin**)(**x**)] & **almost**_w
 λ_w.RUNNING_w(e)

8.4. *Adjectival Passives*

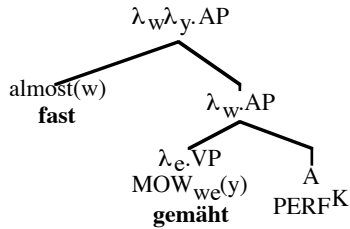
In section 2 we briefly mentioned Kratzer’s analysis of the adjectival passive (Kratzer 1993). The essential feature is that the adjectival head introduces the result state of an action, which is called *target state* by Kratzer. If *fast* operates on an adjectival passive phrase, we obtain a property true of a state if the state is almost the target state of the action described by the VP. As it stands, Kratzer’s analysis is not compatible with our more refined analysis of incremental verbs. So let us forget this for the time being and let us assume her simpler analysis of the verb “to mow”.

(110) MOW (in the style of (Kratzer 1993) is of type $\langle s, \langle i, \langle e, t \rangle \rangle \rangle$.

$\| \text{MOW} \|(w)(e)(y) = 1$ iff y is mown in w at the target state of e .

The LF of the adjectival participle in sentence (99) together with its *fast*-modifier would then be this:

(111)



PERF^K is Kratzer's perfectiviser which must not be confused with our PERF(ect)-operator, which is used in the next section.

(112) Kratzer's perfectiviser PERF^K is of type $\langle \langle i, t \rangle, \langle i, t \rangle \rangle$.

$\| \text{PERF}^K \|(P)(s) = 1$ iff $\exists e[s$ is the target state of e & $P(e) = 1$].

Thus, (111) expresses the property which is true of a subject y in a word w at state s if s is almost the target state of an event e which is a mowing of y in w . If we predicate the AP of the subject "the lawn", we have an analysis of sentence (99).

Kratzer's analysis is compatible with our assumption that *fast* cannot look into a decomposition, but it has some problematic features. To begin with, the meaning rule (112) presupposes that it makes sense to speak of target states of events. This is common practice in the literature, for instance, (Parsons 1990) speaks of culmination points of events, target states etc. Events, however, are individuals of a certain kind, and we have to make sure that we consider only events for which the notion makes sense. Furthermore, there should be only one target state pro event. But why should the target state of the mowing of my lawn be that the grass is short? It could be very well that the gas tank of the lawn-mower is nearly empty, that I have finished my work etc. In other words, the notion does not make much sense without a lexical description. In fact, the lexical content of resultative verbs tells us exactly what the target state is.

The other problem with Kratzer's analysis is that it is not compatible with the more complicated analysis we gave for incremental verbs. To improve the situation, we assume that the adjectival perfectiviser PERF' gives us the lexically determined result state and presupposes that

an event generating this state occurs just before. In an informal way, this point of view is defended in (Rapp 1997). The following semantics is due to (Stechow 1998)

(113) *adjectival passive*

PERF^S is of type $\langle \pi, \pi \rangle$, where $\pi = \langle s, \langle i, \langle e, t \rangle \rangle \rangle$.

$\| \text{PERF}^S \|(P)(w)(x)(s)$ is only defined, if there is an preceding event e abutting s , such that

a. $\| \text{BECOME} \|(w)(e)(\lambda w \lambda s [P(w)(s)(x)]) = 1$ iff P is an achievement/accomplishment

b. $\| \text{DEV} \|(w)(e)(x)(\lambda x \lambda w \lambda s [P(w)(s)(x)]) = 1$ iff P is an incremental property.

If defined, $\| \text{PERF}^S \|(P)(w)(x)(s) = 1$ iff $(P)(w)(x)(s) = 1$.

Given this semantics, the sentence *Der Rasen ist gemäht* would be represented by the following formula:

(114) $\text{PERF}^S(\text{MOWN})(w)(\text{pres}_1)(\text{the lawn})$

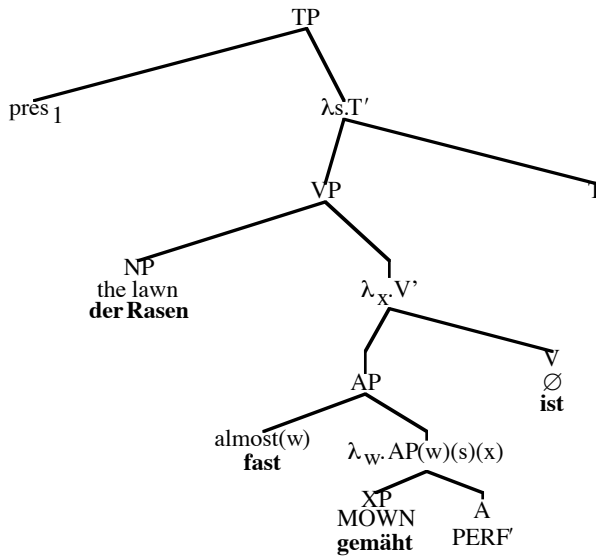
This presupposes:

$\exists e [e \succ\prec g(\text{pres}_1) \ \& \ \| \text{DEV} \|(w)(e)(\text{the lawn})(\lambda x \lambda w \lambda s [\| \text{MOWN} \|(w)(s)(x)]) = 1]$.

And it is true iff the lawn is mown in w at $g(\text{pres}_1)$.

“ $\succ\prec$ ” stands for the abutting relation. Recall that we do not distinguish between times, states and events. For convenience we give the LF for sentence (99):

(115)



If we carry out several λ -conversions, the formula reduces to the following expression:

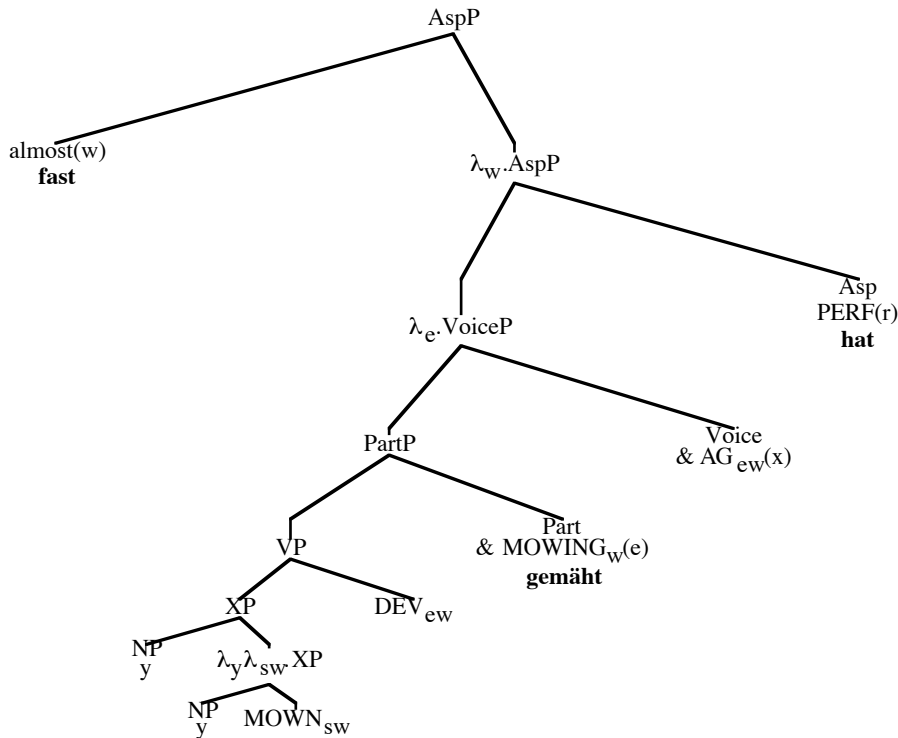
(116) **almost(w)(λw [PERF^S(MOWN)(w)(pres₁)(**the lawn**)])**

This means that the lawn is almost mown at the present time.

8.5. *Perfect*

The PERF-aspect is an existential quantifier which is expressed by an auxiliary (*haben/sein*). Hence we have a visible projection and *fast* can be attached to that. Here is the tree for the complex VP *fast gemäht hat* in (100):

(117)



Recall that x is the trace of the subject and y is the trace of the object. AgrO is above AspP. The tree is complicated but it is not very different from the tree for the finite verb in the simple past *mähte* “mowed”. The main difference is that the aspect is expressed by a word and therefore has a projection visible for *fast*. The entire formula which expresses the meaning of sentence (100) is the following one:

(118) **almost**(w)[λ_w.PERF(pres₁)(λ_e[DEV_{ew}(**the lawn**)(λ_yλ_{sw}.MOWN_{sw}(y)) & MOWING_w(e) & AG_w(e)(**he**)]]

With respect to the contextually given assignment g , this means that the time $g(\text{pres}_1)$ is almost after an event which is mowing of the lawn done by him. For the semantics to work, it is important that **almost** contains a negation. Otherwise, the relative scope between **almost** and PERF would not matter because PERF does not contain a world variable but it is merely an existential quantifier over events.

It should be obvious that this analysis raises a number of questions. Among other things, it is not obvious that the PERF-information is located in the auxiliary and not in the participle. In

that case, the auxiliary would be semantically empty. It could very well be that this alternative is the correct one (cf. (Musan 1998)) The following topicalisation seems to support the alternative:

- (119) Fast gemäht hat er den Rasen jetzt.
 Almost mown has he the lawn now

If this sentence did express the proposition that the lawn is close to be mown, then the PERF-information has to be located in the participle head. But we are not so sure that the sentence really means that. A more careful analysis of participles has to be postponed to another occasion (cf. (Stechow 1998)).

9. FAST AND NEGATION

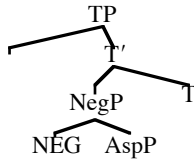
We will make the following points in this section. *fast* is a positive polarity item (PPI), i.e., it cannot occur in the scope of a negation. The sentential negation is located above VoiceP. Therefore, *fast + nicht* should always trigger the subjunctive II, because it is outside VoiceP. There are counterexamples to that prediction. We will argue that *fast + nicht* can also be a complex particle which is synonymous with *kaum* “barely”. This particle can occur in a scalar position.

The following data show that *fast* is a positive polarity item in the strict sense that it cannot occur in the scope of the sentential negation *nicht*:

- (120) a. *Er hasste sie nicht fast
 He hated her not almost
 b. *Sie schlief nicht fast ein
 She slept not almost in

According to Diesing (1992), the sentential negation (NEG) is located very high in the sentence, between INFL (our AgrS) and the classical VP (our AgrO). We will assume the following LF for negated sentences:

(121)



NEG is either an abstract negation, which is made visible by a “cohesion” in the sense of (Bech 1955/57), i.e., negative indefinite articles like *kein*, which have no negative meaning but are NPIs. Or NEG is a visible adverb, i.e., *nicht*. It follows that sentence (122a) has the representation (122b):

- (122) a. sie den Schlager nicht grölten
 b. \neg PV(past_I)(λe [AG_w(e)(**they**) & BELLOWING_{ew}(**the song**)])

Deictic terms are scrambled past NEG in German ((Diesing 1992)). The prediction following from these assumptions is that a *fast* above NEG should go in tandem with the counterfactual reading and Subjunctive II. Scalar readings and the preterit should be excluded in this configuration. There are many sentences fulfilling this expectation:

- (123) a. Er hätte den Zug fast nicht erreicht.
 He had the train almost not reached
 b. Ich wäre gestern fast nicht nach Berlin gefahren.
 I were yesterday almost not to Berlin travelled

The following sentences are apparent counterexamples to the prediction, however.

- (124) a. Es regnete fast nicht/kaum.
 It rained almost not/barely
 b. Sie atmete fast nicht/kaum.
 She respired almost not/barely

These sentences have no counterfactual touch and we therefore conclude that the negation adverb cannot be the sentential negation. In fact, we believe that *fast* + *nicht* may form a complex adverb, which is synonymous with *kaum* “barely”:

- (125) *fast* + *nicht* may form a complex adverb synonymous with *kaum* “barely”.

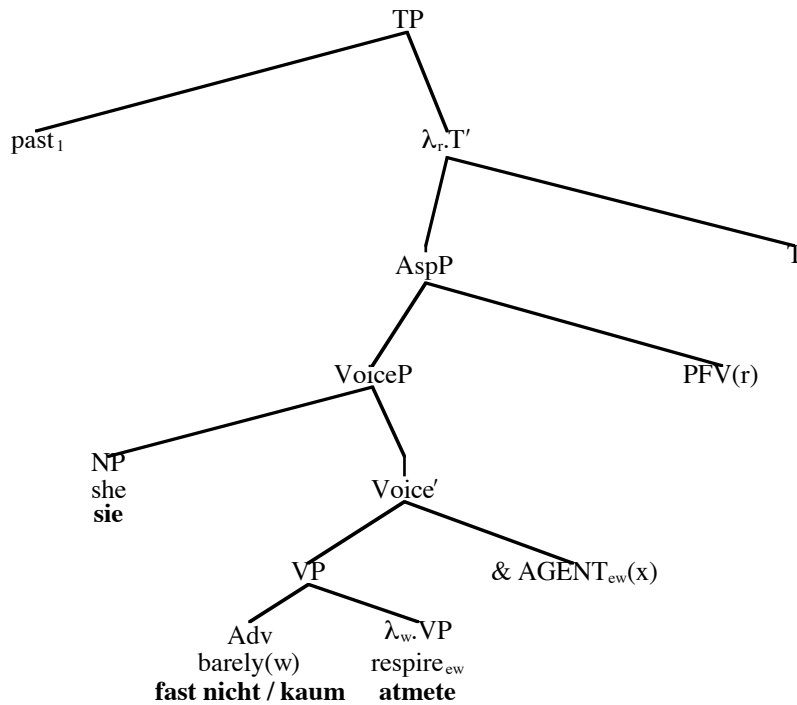
$\| \text{almost} + \text{NEG} \| (p)(w) = \| \text{barely} \| (p)(w) = 1$ iff

- a. $\exists w'$: w' is almost identical to w & $p(w') = 0$, and
- b. $p(w) = 1$.

The LF of

(124b) is the following structure:

(126)



Though *fast* + *nicht* and *kaum* are synonymous according to rule (125), there is a syntactic difference between the two. If *fast* figures as a sentence adverb, it selects the Subjunctive II. *kaum* as a sentential adverb has a meaning different from *fast* + *nicht*, as can be seen from the non-synonymy of the following two statements:

(127) a. Er hätte das Examen fast nicht bestanden.

He had the exam almost not passed

“He almost did not pass the exam”

- b. Er hätte das Examen kaum bestanden.

He had the exam hardly passed

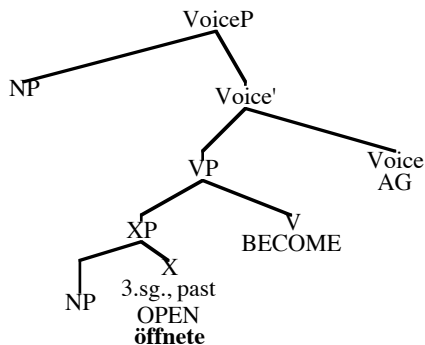
“He hardly would have passed the exam”

As a sentential adverb, *kaum* means “hardly”, not “barely”. Thus, a lexical ambiguity seems to be involved here, which makes the facts even more baffling.

10. WHAT IS A LEXICAL ENTRY

Any decompositional approach has the difficulty (and duty) to say what the lexical entry of decomposed verb (or other head) is. The most traditional and redundant view is that a lexical entry is a tree with the heads filled and with the NP/DP-arguments left open. Something like this is said in (Hale and Keyser 1994), and this will be our official position. Thus the entry for the finite form *öffnete* “opened” is the following structure:

(128)



There is little redundancy in the representation of *VoiceP*. In fact, the representation differs from traditional entries in terms of subcategorisation features only in so far as we have more than one head. The structure above *VoiceP* should be deducible from general principles, such as case checking and the checking of the finite verb features.

11. THE VISIBILITY PARAMETER FOR D-ADVERBS

Almost is a classical witness for decomposition in English, but *fast* has no access to the result phrase XP in the decomposition. Our data behave consistently in this respect. We have proposed to treat the contrast by the principle that *fast* can only attach to projections that have a “visible” head. The visibility cannot be an absolute notion, but has to be relativised to particular adverbs, to dialects, and to speakers. In the text, we have spoken of the *fast*-generalisation, but the principle behind it seems to be more general, and the *Visibility Parameter for D-adverbs* should capture it. The following list shows which adverb can see which projection:

(129)

Adverb	projections seen	Our German	English
wieder/again	TP	?	?
“	AspP	+	+
“	VoiceP	+	+
“	BECOME-P	+	+
“	XP	+	+
erneut “again”	TP	-	?
“	AspP	?	+
“	VoiceP	+	?
“	BECOME-P	+	?
“	XP	-	?
fast/almost	TP	-	+
	AspP	-	+
“	VoiceP	-	+
“	BECOME-P	+	+
“	XP	-	+

The chart shows that the head which carries BECOME is visible for *fast* “almost” and hence must be a visible head. But an attachment to XP, VoiceP, AspectP and TP seems not possible. English *almost* can attach to each of these projections and so can German *wieder*. The German adverb

erneut means the same as *wieder*, but it cannot modify the result phrase XP. On the other hand, *erneut* must have access to VoiceP, because it expresses repetition.

The **visibility parameter for D-adverbs** therefore means that functional projections are visible for D-adverbs.

Of course, the attachment must make sense, semantically. If *wieder* does not attach to TP, then this is due to semantic reasons: *wieder* has a time argument and must be in the scope of tense.

As we have shown, the principle also accounts for the impossibility of counterfactual *fast* with the preterit in German. We have noted *en passant* that other German speakers have a more liberal use of *fast*, though we have not carried out any systematic research. Furthermore, we have seen that *wieder* behaves rather differently. Many speakers seem to treat *fast* as a D-adverb.

Our account has important consequences for decomposition. If *fast* can attach to the BECOME-VP, then the head hosting BECOME must be “visible”. In view of the fact that BECOME is an abstract morpheme, one would rather have expected that this head is invisible. It is, however, an empirical result that *fast* can attach to BECOME-phrases. Therefore we have categorised BECOME as the lexical category V.⁶ The crucial theoretical assumption is that lexical categories always generate visible projections.

On the other hand, *fast* does not seem to attach to VoiceP. The reason for that is presumably semantic and the univisibility of VoiceP should therefore not be explained by the visibility parameter. If true, the result is nevertheless not trivial, because it provides evidence that we must separate the AGENT/HOLDER argument from the arguments of the stative root, i.e. the XP. This is an old idea originating with (Marantz 1984) and spelled out in more precise semantic terms in (Kratzer 1993).

One might dispute this kind of explanation and one might claim that the functional nodes in question are artefacts of the theory. But then one would have to explain the *wieder*-facts, the positional effects and the variation among speakers and languages. For the time being, we propose the following rough typology of visibility, where XP stands for the result phrase of a decomposition structure:

The visibility of BECOME corroborates recent proposals made in Distributive Morphology that classify BECOME as a “light verb” *v* (e.g. (Marantz 1997) or (Alexiadou

⁶ And, following (Dowty 1979), as P for the analysis of directionals.

1999)). In Distributive Morphology the lexical roots have no lexical category (V, A, P, N) at all. The root projection is called LP, “lexical projection”, in that theory. L is not a lexical category at all. It simply indicates the presence of a root. LP is precisely our XP, which has no lexical category at. Details aside, the theory developed here seems to be a variant of Distributive Morphology, though it has developed independently over the years, notably under the influence of (Baker 1988). It is interesting to note that we came to this particular conception of the morphology/syntax interface by semantic considerations: we wanted to explain why adverbs seem to have different meanings at different syntactic positions. The explanation is that they scopally interact with functional heads that have a meaning. These heads are not manifest in phonetic substance but they are visible at LF and D-adverbs attach to them.

As a final remark, we note that this paper builds on the decomposition of verbs assumed in (Stechow 1996). It provides some further details, but the essential features of the analysis are the same. Furthermore, it shows that the verb classification given in (Rapp 1997) can be fruitfully used to describe the *fast-* and *wieder-*data. The decompositions clearly recall for revisions and refinements, and other details like Case theory remain to be spelled out.

REFERENCES

- Abusch, D. (1993). Two Theories of Tense in Intensional Contexts. Proceedings of the 9th Amsterdam Colloquium.
- Alexiadou, A. (1999). On the Syntax of Nominalization and Possession: Remarks on Patterns of Ergativity. University of Potsdam.
- Atlas, J. D. (1984). “Comparative Adjectives and Adverbials of Degree: An Introduction to Radically Radical Pragmatics.” Linguistics and Philosophy 7: 347-377.
- Baker, M. (1988). Incorporation. A Theory of Grammatical Function Changing. Chicago, University of Chicago Press.
- Bech, G. (1955/57). Studien über das deutsche verbum infinitum. Kopenhagen, Det Kongelige Danske Akademie av Videnskaberne.
- Beck, S. (1996). Wh-constructions and transparent Logical Form, Tübingen.
- Bierwisch, M. (1997). ““Almost”, “Again”: A Speech for a Lexicalist Approach.” .

-
- Borer, H. (1988). On the Morphological Parallelism between Compounds and Construct. Yearbook of Morphology 1. G. Booij and J. v. Marle. Dordrecht, Foris: 45-65.
- Chomsky, N. (1992). A Minimalist Program for Linguistic Theory. Cambridge, MA, MIT Press.
- Chomsky, N. (1995). The Minimalist Program. Cambridge, MA, MIT Press.
- Cresswell, M. J. (1973). Logic and Languages. London, Methuen.
- Cresswell, M. J. (1978). "Prepositions and points of view." Linguistics and Philosophy 2: 1-41.
- Diesing, M. (1992). Indefinites. Cambridge MA, MIT Press.
- DiSciullo, A. M. and E. Williams (1987). On the Definition of Word. Cambridge MA, MIT Press.
- Dowty, D. (1979). Word Meaning and Montague Grammar. Dordrecht, Reidel.
- Dowty, D. (1991). "Thematic Proto-Roles and Argument Selection." Language 67(3): 547-619.
- Egg, M. (1993). Aktionsart und Kompositionalität. Zur kompositionellen Ableitung der Aktionsart komplexer Kategorien, Universität Konstanz.
- Fabricius-Hansen, C. (1983). Wieder éin *wieder* ? Zur Semantik von *wieder*. Meaning, Use, and Interpretation of Language. R. Bäuerle, C. Schwarze and A. v. Stechow. Berlin, de Gruyter.
- Fabricius-Hansen, C. (1989). "Tempus im indirekten Referat." .
- Hale, K. and J. Keyser (1994). On Argument Structure and the Lexical Expressions of Syntactic Relations. The View from Building. K. a. J. K. Hale. Cambridge, Massachusetts, MIT Press. **20**: 53-109.
- Heim, I. (1994). "Comments on Abusch's theory of tense." Manuscript, M.I.T.(Tempus).
- Jackendoff, R. (1990). Semantic Structures. Cambridge, Massachusetts, The MIT Press.
- Kaspar, W. (1987). Semantik des Konjunktivs II in Deklarativsätzen des Deutschen. Tübingen, Niemeyer.
- Klein, W. (1994). Time in Language. London and New York, Routledge.
- Kratzer, A. (1993). The Event Argument and the Semantics of Voice.
- Kratzer, A. (1998). "More Structural Analogies Between Pronouns and Tenses." SALT VIII, MIT, May 1998.
- Krifka, M. (1989). Nominalreferenz und Zeitkonstitution. München, Wilhelm Fink.
- Marantz, A. (1984). On the Nature of Grammatical Relations. Cambridge, Mass., MIT Press.

-
- Marantz, A. (1997). No escape from Syntax: Don't try a morphological analysis in the privacy of your own lexicon., Ms., MIT.
- McCawley, J. D. (1971). Prelexical Syntax. 22nd Annual Round Table on Linguistics, Georgetown University Press.
- Morgan, J. (1969). "On Arguing About Semantics." Papers in Linguistics **1**: 49-70.
- Musan, R. (1998). "The core semantics of the present perfect." ZAS Papers in Linguistics **10**: 113 - 145.
- Parsons, T. (1990). Events in the Semantics of English. A Study in Subatomic Semantics. Cambridge MA, MIT Press.
- Partee, B. (1973). "Some Analogies between Tenses and Pronouns in English." Journal of Philosophy **70**: 601-609.
- Paslawska, A. (1998). "Transparente Morphologie und Semantik eines deutschen Negationsaffixes." Linguistische Berichte **175**: 353-385.
- Rapp, I. (1997). Partizipien und semantische Struktur. Tübingen, Stauffenburg Verlag Brigitte Narr GmbH.
- Sadock, J. M. (1981). Almost. Radical Pragmatics, Academic Press: 257 - 271.
- Seuren, P. (1984). "The comparative revisited." Journal of Semantics **3**.
- Stechow, A. v. (1984). "Comparing Semantic Theories of Comparison." Journal of Semantics **3**: 1-77.
- Stechow, A. v. (1995). Lexical Decomposition in Syntax. Lexical Knowledge in the Organisation of Language. U. Egli, P. E. Pause, S. Christoph, A. v. Stechow and G. Wienold. Amsterdam/ Philadelphia, Benjamins: 81-177.
- Stechow, A. v. (1996). "The Different Readings of *Wieder* "Again": A Structural Account." Journal of Semantics **13**: 87-138.
- Stechow, A. v. (1997). Verben des Entstehens (und Vergehens?)., Vortrag auf der DGfS, Düsseldorf.
- Stechow, A. v. (1998). Participles II in German, To appear in the proceedings of the Bergamo Conference on Tense and Mood Selection.
- Vendler, Z. (1957). "Verbs and Times." The Philosophical Review **66**: 143-160.
- Zimmermann, T. E. (1993). "On the proper treatment of opacity in certain verbs." Natural Language Semantics **1**(2): 149-179.

Zimmermann, T. E. (1993). "Zu Risiken und Nebenwirkungen von Bedeutungspostulaten."
Linguistische Berichte **146**: 263-282.