

Resultative Secondary Predicates and Prefixes in German and Dutch

Ava Creemers¹

University of Pennsylvania

creemers@sas.upenn.edu

1 Introduction

- In this talk, I focus on adjectival resultative constructions, which consist of a *Means* predicate and a *Result* predicate (formed by a resultative secondary predicate, henceforth RSP), and on verbal prefixes in German and Dutch.²

(1) *subject* **Means** *object* **Result**
 John hammered the metal flat

- For German, Kratzer (2005) notes that prefixed verbs are incompatible with adjectival resultatives (examples adapted from Kratzer 2005, pp. 181-182).

(2) a. Sie haben uns **arm geraubt**. [RSP]
 they have us poor robbed
 ‘They robbed us poor.’

b. Sie haben uns **be-raubt**. [prefix]
 they have us BE-robbed
 ‘They robbed (from) us.’

c. *Sie haben uns **arm be-raubt**. [*RSP + prefix]
 they have us poor BE-robbed

(3) a. Sie haben ihn **tot geschossen**. [RSP]
 they have him dead shot
 ‘They shot him dead.’

b. Sie haben ihn **er-schossen**. [prefix]
 they have him ER-shot
 ‘They shot him (down).’

c. *Sie haben ihn **tot er-schossen**. [*RSP + prefix]
 they have him dead ER-shot

¹Many thanks are due to David Embick, Florian Schwarz, Alison Biggs, and Beatrice Santorini for invaluable feedback and discussions. I would also like to thank Ava Irani, Luke Adamson, Faruk Akkuş, and the audience at FMART for feedback and discussions. Finally, I would like to thank Nadine Bade, Alex Göbel, Melly Hobich, Carina Kauf, Marten Stelling, and Richard Zimmerman for German judgments. Errors are my own.

²I focus on adjectival RSPs—not on PPs such as *into slices/in pieces*. I further focus mostly on inseparable prefixes such as *ver-*, *be-*, *ent-*, *zer-*, and *er-*. However, this analysis can also be applied to separable prefixes (particles).

- In Dutch, a similar effect has long been observed (Hoekstra 1988; Hoekstra, Lansu, and Westerduin 1987; Neeleman and Weerman 1993, i.a.).

(4) a. Ik **plant** de tuin **vol**. [RSP]
 I plant the garden full
 ‘I plant/cultivate the (entire) garden.’

b. Ik **be-plant** de tuin. [prefix]
 I BE-plant the garden
 ‘I plant/cultivate the (entire) garden.’

c. *Ik **be-plant** de tuin **vol**. [*RSP + prefix]
 I BE-plant the garden full

(5) a. Jan **buigt** de stang **krom**. [RSP]
 John bends the bar bent
 ‘John bends the bar bent.’
 (i.e., the bar becomes bent as the result of John bending it)

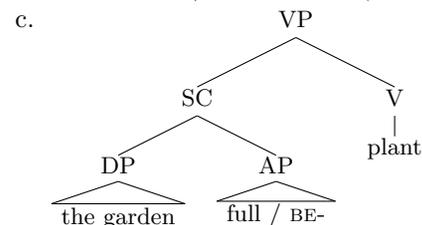
b. Jan **ver-buigt** de stang. [prefix]
 John VER-bends the bar
 ‘John bends the bar.’

c. *Jan **ver-buigt** de stang **krom**. [*RSP + prefix]
 John VER-bends the bar bent

- Hoekstra et al. (1978) argue that verbal prefixes and RSPs in Dutch occupy the same position in a Small Clause.

– The Means verb *plant* selects the Small Clause *the garden full* in (6a); whereas it selects the Small Clause *the garden BE-* in (6b).

(6) a. dat ik [_{SC} de tuin **vol**] plant
 that I the garden full plant
 b. dat ik [_{SC} de tuin **be-**] plant
 that I the garden BE plant
 ‘that I plant/cultivate the (entire) garden’



(Hoekstra et al. 1987)

- According to this account, RSPs and prefixes are, thus, in complementary distribution (i.e., competing for the same position), which would explain why they cannot co-occur.

- (9) a. Hans hat den Stock (ganz) **kaputt gebrochen**.
 Hans has the stick completely broken_a broken_v
 ‘Hans broke the stick and as a result it became completely broken.’
 b. Hans hat den Stock (ganz) **krumm gebogen**.
 Hans has the stick completely bent_a bent_v
 ‘Hans bent the stick and as a result it became completely bent.’

- And note the contrast with the prefixed versions of the verbs in (9):

- (10) a. *Hans hat den Stock kaputt **zer**-brochen.
 Hans has the stick broken_a broken_v
 b. *Hans hat den Stock krumm **ver**-bogen.
 Hans has the stick bent_a bent_v

2.2 Unaccusative verbs

- It is argued that in German, resultatives from unaccusative verbs are not possible (e.g., Wunderlich 1997:124).

- (11) *Der Toast **ver**-brannte **schwarz**.
 The toast burned black

- Many unaccusative verbs in German are prefixed: e.g., *erröten* ‘blush’, *erwachen* ‘wake up’, *ankommen* ‘arrive’, *entgleiten* ‘slip’, *zerbrechen* ‘break’.⁴

- ▶ But see (12) with *frieren* ‘freeze’:

- (12) Das Wasser **fro**r **fest**.
 the water froze solid
 ‘The water froze solid.’

- With *freeze* being an unaccusative verb whose subject originates in object position (Perlmutter 1978; Perlmutter and Postal 1984), (12) provides evidence against the claim that verbs in German resultatives never have an internal argument.

⁴Further examples in Wunderlich (1997) are **Die Steine rollten glatt* ‘The stones rolled smooth’ and **Das ganze Eis schmolz flüssig* ‘The whole ice melted liquid’. However, these examples are also ungrammatical under a resultative reading in Dutch and English. These sentences seem to express a Manner reading as opposed to a Result reading in German and Dutch (e.g., stones rolled down the hill in a smooth fashion; corresponding to the reading one gets for English if the adjective is changed into an adverb (i.e., *The stones rolled smoothly down the hill*). It has been shown that manner and result are often in complementary distribution: a given verb tends to be classified as a manner verb or as a result verb, but not both (Levin and Rappaport Hovav 1991, 1995; Rappaport Hovav and Levin 2010). Therefore, it is plausible that the Manner reading precludes a Result reading in these examples.

- Kratzer (2005) argues that the German counterpart of *freeze* shows mixed unaccusative / unergative behavior. The use of the auxiliary *haben* ‘have’ shows that *frieren* ‘freeze’ has unergative uses (13).

- (13) Es **hat** gefroren.
 it has frozen
 ‘The temperature was below freezing.’ (Kratzer 2005: 16-17)

- However, this does not show that the verb in (12) is unergative. In fact, my consultants inform me that when forming a perfect out of (12) the auxiliary *be* must be selected (14a), and that selecting *have* is ungrammatical (14b).⁵

- (14) a. Das Wasser **ist** fest gefroren.
 the water is solid frozen
 b. *Das Wasser **hat** fest gefroren.
 the water has solid frozen

- Moreover, the past participle of the unaccusative verb can be used as an attributive adjective, which is not possible with unergative verbs:

- (15) Das festgefrorene Wasser.
 the solid-frozen water
 ‘The water that is frozen solid.’

- ▶ This suggests that *freeze* in (12) is a true unaccusative, showing that resultatives *can* occur with verbs that have an internal argument.

2.3 Inherently Reflexive verbs

- Müller (2002), following Oppenrieder (1991, p. 133), argues that inherently reflexive verbs cannot appear in resultative constructions, “since the reflexive pronoun is obligatory and hence they do not have intransitive versions”.

- (16) *Karl **er**-holt sich ausgeruht / gesund.
 Karl relaxes REFL rested / healthy
 Intended: ‘As a result of relaxing Karl gets rested / healthy.’
 (Müller 2002: 216)

- Again, as with transitive and unaccusative verbs, many German relatively frequent inherently reflexive verbs are prefixed: in addition to (16), e.g., *sich verspäten* ‘be late’, *sich erkälten* ‘catch a cold’, *sich versprechen* ‘be mistaken’, *sich ergeben* ‘give up’, *sich verfahren* ‘get lost’.

- ▶ However, the following examples illustrate that resultatives in German can occur with inherently reflexive verbs like *schämen* ‘be ashamed’, as long as these verbs are not prefixed.⁶

⁵Note further that the interpretation of (12) is one in which the water is not the agent of the freezing event, which corresponds to what we expect from an unaccusative frame.

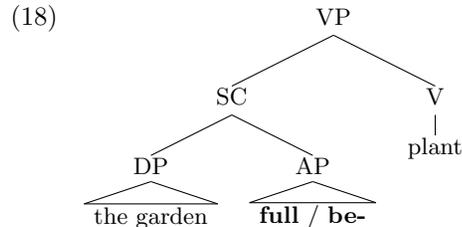
⁶I thank Beatrice Santorini for these examples.

- (17) a. Sie haben **sich krank geschämt**.
they have REFL sick shamed
'They were ashamed to the point of sickness.'
- b. Sie haben **sich krank geseht**.
they have REFL sick yearned
'They have yearned (for something) themselves sick.'
- c. Da kann man **sich** beim Lesen schon **totschämen**.
there can one REFL while reading really dead.shame
'So while reading (this) you can really be ashamed to death.'⁷

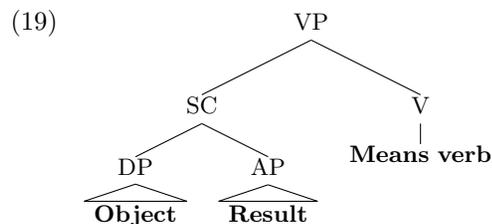
- **Interim summary:** When taking into account that *prefixes preclude RSPs*, it is clear that resultatives in German *can* occur with verbs that obligatorily express an internal argument.

3 Further consequences of a templatic account

- In a templatic account of the incompatibility of prefixes and RSPs, these elements occupy the same position in a Small Clause (Hoekstra et al. 1978, Hoekstra 1988).



- However, there are other consequences to a Small Clause account for resultative constructions that need to be taken into account.
- Specifically, in a Small Clause analysis (19), the Result predicate and the Object DP form a small clause to the exclusion of the Means predicate.



- This predicts that the object *never* holds a relationship to the Means predicate, as the object DP is not a syntactic argument of the verb (it is an argument of the Result predicate) (Hoekstra 1988; Kratzer 2005).
 - * Whenever the object is related to the Means predicate, this is argued to be pragmatic in nature—an inference that can be cancelled.⁸
 - * Note that this is different from English resultatives (Carrier and Randall 1992; Dowty 1979; Levin and Rappaport Hovav 1995; Simpson 1983).

- This has indeed been argued to be the case in German and Dutch.
- For **Dutch**, Hoekstra (1988) analyzes the object in resultatives as always unrelated to the Means event; i.e., objects are always ‘unselected’—even with transitive verbs (20).

- (20) a. Hij at **zich** moddervet.
he ate REFL very fat
'He made himself be fat by eating (a lot).'
- b. Zij schilderden **de verfpot** leeg.
they painted the paint pot empty
'They made the paint container be empty by painting.'
- c. Zij maaide **de zeis** bot.
she swept the scythe dull
'She made the scythe be dull by mowing.'

- If the examples in (20) are indeed transitive, this means that unselected objects are allowed with transitive verbs in Dutch.
- However, it seems like the verbs in (20) have at least some unergative uses in Dutch:

- (21) a. Ze waren nog aan het eten toen wij aankwamen.
'They were still eating when we arrived.'
- b. Jan is vandaag aan het schilderen.
'Today, John is painting.'
- c. De hele middag wordt er gemaaid.
'All afternoon, there will be sweeping.'

⁸Hoekstra (1988), for Dutch, argues that when the object is related to the Means predicate, this follows from a “shadow-interpretation”—an implication that can be cancelled. Similarly, Kratzer (2005) argues that, when the object is related to the Means predicate in a sentence like *the butler wiped the table clean*, this follows from an inference that *the table* was wiped, even though the DP *the table* does not start out as an argument of *wipe* in her analysis. Kratzer (2005:198) argues that the denotation of such a sentence describes “a property of actions that is true of any action that is a wiping activity and is also a completed action of causing the table to be clean.” Therefore, it can be inferred that “if a wiping activity was identical to a completed action of causing the table to be clean, then what was wiped was bound to be the table.” However, both accounts miss the generalization that when a verb does *not* have an unergative use, the object *needs* to identify the Patient of the Means event and cannot be unselected, as I show in this section.

⁷<http://www.geolítico.de/2014/03/23/beim-lesen-totschaemen/>; retrieved April 4, 2018.

– Instead, we should look at transitive verbs that do not have unergative uses, such as *break*.

- Neeleman and Weerman (1993:455) show that with a verb like *breken* ‘break’, the object *cannot* be interpreted as an instrument (i.e., as an unselected object) in a resultative construction (22a) (compare to 22b).

(22) a. *Jan heeft zijn handen **moe gebroken**. [unselected object]
John has his hands tired broken

Intended: ‘John made his hands tired from breaking something.’

b. Jan heeft de stok **kapot gebroken**. [selected object]
John has the stick broken_a broken_v

‘John broke the stick to pieces.’

- Similarly, for **German** it is easy to maintain that the object DP is never related to the Means predicate, if it were indeed true that transitive verbs cannot occur in resultatives.

– However, I showed that transitive verbs *can* occur with resultatives. Similar to Dutch, verbs like *break* cannot occur with an unselected object (23a), compare to (23b).

(23) a. *Hans hat seine Hände **müde gebrochen**. [unselected object]
Hans has his hands tired broken

Intended: ‘John made his hands tired from breaking something.’

b. Hans hat den Stock **kaputt gebrochen**. [selected object]
Hans has the stick broken_a broken_v

‘Hans broke the stick to pieces.’

– A clear contrast arises when we substitute *break* (23a) with a verb that has at least some unergative use.

(24) Hans hat seine Hände **müde gearbeitet**. [unselected object]
Hans has his hands tired worked

‘Hans worked (a lot) and as a result his hands were tired.’

- Similar to English,⁹ thus, in German and Dutch the object needs to identify the patient of the Means event and cannot be unrelated to the Means predicate when a verb does not have an unergative use. There is no obvious way to account for this under a Small Clause analysis.

⁹See Carrier and Randall (1992) for similar arguments against a (binary) Small Clause analysis for resultatives in English.

3.1 An additional point regarding unselected objects

- It is true that German and Dutch seem more liberal/flexible when it comes to which verbs may occur with unselected objects (see Embick 2004:378 and Hoekstra, Lansu, and Westerduin 1987 for this observation).

(25) a. The construction workers hammered me awake. (Embick 2004)

✓✓ SELECTED OBJECT

✓ UNSELECTED OBJECT

[English]

b. Die Bauarbeiter hämmerten mich wach.
the construction workers hammered me awake

✓ SELECTED OBJECT

✓✓ UNSELECTED OBJECT

[German]

c. De bouwvakkers hamerden mij wakker.
the construction workers hammered me awake

✓ SELECTED OBJECT

✓✓ UNSELECTED OBJECT

[Dutch]

- This seems to follow from the fact that more verbs in German and Dutch allow unergative uses (i.e., are activity-like), and therefore allow unselected objects, compared to English (cf. Carrier and Randall 1992).
- However, *given the fact that unselected objects are so frequent in German and Dutch*, it is even more striking that unselected objects are not possible with obligatory/core transitive verbs.

- See the appendix for further examples of unselected objects in German and Dutch, and sample semantic derivations.

Interim Summary

- Similar to Dutch, in German *prefixes* preclude RSPs, not transitivity.
 - Hoekstra accounts for this by arguing that prefixes and RSPs occupy the same slot in a Small Clause, and are therefore in complementary distribution (i.e., a templatic account).
- However, in contrast to predictions by a Small Clause account, I showed:
 - that not only unergative verbs occur in resultative constructions in German—contra Kratzer’s (2005) implementation of a Small Clause analysis;
 - that the object needs to identify the patient of the Means event when the means verb is obligatorily transitive.

4 A Semantic Account

- In this section I'll propose that the right generalization for the incompatibility of prefixes and RSPs is not templatic, but rather follows from a *semantic* restriction.
- It is well-known that **resultative constructions** express a causative relation between an event (the Means predicate) and its end state (the Result / RSP) (Levin and Rappaport Hovav 1995, i.a.).
- Similarly, the meaning of **prefixed verbs** (and particle verbs) in Dutch and German can be characterized as resultative, denoting a complex eventuality that includes an end-state (e.g., Blumenfeld 2001; McIntyre 2003; Svenonius 2004; Van Kemenade and Los 2003).

- (26) a. Ich hammere an die Wand.
I hammer on the wall
'I hammer on the wall.'
- b. Ich **zer**-hammere die Wand.
I ZER-hammer the wall
'I hammer the wall to pieces.'
- [German]

- (27) a. Ik graaf naar de schat.
I dig to the treasure
'I dig for the treasure.'
- b. Ik **be**-graaf de schat.
I BE-dig the treasure
'I bury the treasure.'
- [Dutch]

- ▶ The prefix renders the verb it attaches to resultative. In (26a/27a), the *hammering/digging* takes place without result, while in (26b/27b), the prefix adds a result state to the event.¹⁰

- How to account for the observation that prefixes preclude RSPs?

- (28) *Sie haben uns **arm be-raubt**.
they have us poor BE-robbed

- (29) *Ik heb de tuin **vol be-plant**.
I have the garden full BE-plant

- ▶ Instead of a 'templatic' account in which prefixes and RSPs are competing for the same position in a Small Clause, I propose that:

¹⁰I acknowledge that the prefixes contribute a more specific meaning that may differ for the different prefixes, and for different prefix+v+Root combinations. However, here I focus on the common core meaning of the prefixes, which I argue denotes some kind of state. I assume that the specific interpretation of the prefix+Root does not follow from a typical decompositional meaning, but is contextually determined based on the combination of a specific Root with a specific prefix.

Analysis

- The incompatibility of prefixes and RSPs follows from a principle akin to Tenny's Generalization (Tenny 1987, see also Giannakidou and Merchant 1999; Kratzer 2005):^a

- (30) **Tenny's Generalization:** Only one result is possible per (complex) event (based on Tenny 1987, as formulated by Giannakidou and Merchant 1999).

- ▶ The incompatibility of prefixes and RSPs then follows from a ban on multiple target states in a single event.

^aFor Tenny (1987): an eventuality may have at most one delimiter.

- Tenny (1987) uses this generalization to account for sentences like (31):

- (31) *John washed the clothes **clean white**. (Tenny 1987:44)

- Giannakidou and Merchant (1999) link the incompatibility of Greek verbs with RSPs to Tenny's generalization.

- (32) O Giannis skup-**ise** to piato tu (***katharo**).
the Giannis wiped the plate his clean
'Giannis wiped his plate clean.'

- It is argued that a verb like *skup-ise* denotes a complex eventuality that includes an end-state. The incompatibility of suffixed verbs with RSPs then follows from (30).

- Similarly, then, in Dutch and German, the incompatibility of prefixes and RSPs follows from the fact that both express a result state, and the requirement that no event predicate can characterize more than one target state.

5 Conclusions

- I have argued that:

- ▶ Verbal prefixes preclude RSPs in Dutch and German;
- ▶ German resultatives can occur with verbs that express their internal argument, not just with unergative verbs;
- ▶ The incompatibility between prefixes and RSPs follows from a restriction on the occurrence of multiple states in a single event.

- * If this is correct, this means that German and Dutch resultatives are not as different from English resultative constructions as has been previously argued.

Appendices

Appendix A: More on unselected objects

- German and Dutch do seem to be more liberal/flexible when it comes to which verbs may occur with *unselected objects* (see Embick 2004:378 and Hoekstra, Lansu, and Westerduin 1987 for this observation).
- More German examples are the following:

- (33) a. Sie haben den Laden leer gekauft.
they have the shop empty bought
'They bought the shop empty.'
- b. Sie haben den Teller leer gelöffelt.
they have the plate empty eaten.with.spoon
'They emptied the plate with a spoon.'
- c. Sie haben das Grundstück voll gebaut.
they have the plot full built
'They built the plot full.'
- (Kratzer 2005)

- Translations of these examples are ungrammatical in English:¹¹

- (34) a. ??/*They bought the shop empty.
Intended meaning: 'They bought so many items from the shop, and as a result the shop was empty.'
- b. ??/*They ate the bowl empty. / They ate the plate clean.
Intended meaning: 'They ate something from the bowl / plate, and as a result the bowl / plate is now empty / clean.'
- c. */?? They built the plot full.
Intended meaning: 'They built something on the plot, and as a result the plot was full.'

- I propose that more verbs in German and Dutch allow unergative uses (i.e., activity-like), and therefore allow unselected objects, compared to English (in line with Carrier and Randall 1992's account).

- ▶ It is not immediately clear how this cross-linguistic difference is compatible with an approach as offered in Levin (1999) and Rappaport Hovav and Levin (1998). They distinguish between *non-core transitive verbs* (NCTV) and *core transitive verbs* (CTV). For them, NCTVs are found with unselected objects in resultatives, while CTVs must express both

¹¹I asked five native English speakers for their judgments on these sentences. The distribution of judgments was as follows: for (a) 2x *, 2x ??/*, 1x grammatical/?; for (b) 3x ??, 1x ??/*, 1x *; and for (c) 3x *, 1x grammatical, and 1x ??/*.

participants in the syntax—and as a result, they are not found with unselected objects. However, in their account, languages are expected to show considerable agreement as to the make-up of their set of CTVs, so it would be unexpected to find cross-linguistic differences as a result of what verbs count as CTV.

- **However, more factors seem to play a role:** For (35) Müller (2002) reports that the object may be unselected, i.e., it can mean that Hans was riding a bicycle when he crashed into a car. However, half my consultants report that they do not get this reading: Hans needs to have driven the car himself and he could not have been on a bike.

- (35) Hans fuhr das Auto kaputt.
Hans drove the car damaged
'Hans drove the car to a wreck.'

- This is interesting, as it is not the verb that precludes unselected objects:

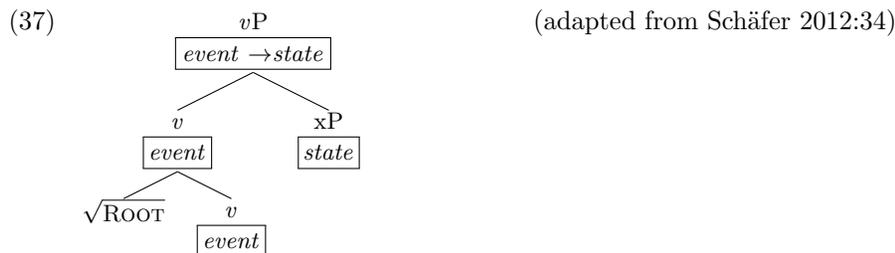
- (36) Hans fuhr die Blumen platt.
Hans drove the flowers flat
'Hans drove something on the flowers and as a result they became flat.'

- This suggests that whether an object may be *unselected* is a complicated interplay between grammatical requirements of a verb and our world knowledge: when there is a plausible object (one very plausibly drives a car, but one cannot drive flowers or a billboard), we prefer it to be the patient of the Means predicate.

Appendix B: A (tentative) account for resultatives

- Similar to English, an analysis for resultatives in Dutch and German needs to account for (i) the causative meaning, and (ii) selected vs. unselected objects.
- For (i), I'll assume that causative semantics is read off from the syntactic structure when an eventive *v*-head has a stative projection as its complement (following recent implementations of the relation between causative semantics and resultative syntax: Embick 2009; Giannakidou and Merchant 1999; Hale and Keyser 1993, 2002; Ramchand 2008; Schäfer 2007, 2012; Wood 2015, i.a.).

- In (37), the xP expresses the stative complement, and *event* → *state* should be read as an event causing a state (CAUSE(e,s)), or an event implicating a state (Hale and Keyser 1993; Higginbotham 2000).



- For (ii), resultatives require the expression of the argument that denotes the entity that changes state (the state *holder*; per the DOR). Following Levin and Rappaport Hovav (1995) and Levin (1999), I propose that this argument is required by the complex causative event structure.

► Both (i) and (ii) are expressed in (38).¹²

(38) a. **When v +root does not introduce an argument relation:**

If α is a branching node, $\{\beta, \gamma\}$ is the set of α 's daughters, and $\llbracket \beta \rrbracket$ expresses an eventuality that is an event, and $\llbracket \gamma \rrbracket$ expresses an eventuality that is a state, then: $\llbracket \alpha \rrbracket = \lambda y_e \lambda e_s. \exists e'_s. [\llbracket \beta \rrbracket](e) \wedge \text{CAUSE}(e, e') \wedge \llbracket \gamma \rrbracket(e') \wedge \text{HOLDER}(y, e')$

b. **When v +root introduces an argument relation:**

If α is a branching node, $\{\beta, \gamma\}$ is the set of α 's daughters, and $\llbracket \beta \rrbracket$ expresses an eventuality that is an event, and $\llbracket \gamma \rrbracket$ expresses an eventuality that is a state, then: $\llbracket \alpha \rrbracket = \lambda y_e. \lambda e_s. \exists e'_s. [\llbracket \beta \rrbracket](y)(e) \wedge \text{CAUSE}(e, e') \wedge \llbracket \gamma \rrbracket(e') \wedge \text{HOLDER}(y, e')$

- In (38), a semantic formula is returned according to which two eventualities (the event and the state) stand in a causative relation. The result is that the activity or accomplishment denoted by v is interpreted as causing the state denoted by the complement of v .
- The rule in (38) consists of two sub-rules: one that is triggered when v +root does not introduce an argument relation (38a), and one that is triggered when v +root does introduce an argument relation (38b).¹³

* Both rules require the expression of the argument that denotes the entity that changes state, but the rule in (38a) gives rise to *unselected objects* (39), and the rule in (38b) gives rise to *selected objects* (42), since the DP that is introduced in spec, vP functions as both an argument of the Means predicate and the argument that changes state. In that case, the object DP semantically saturates both thematic roles.¹⁴

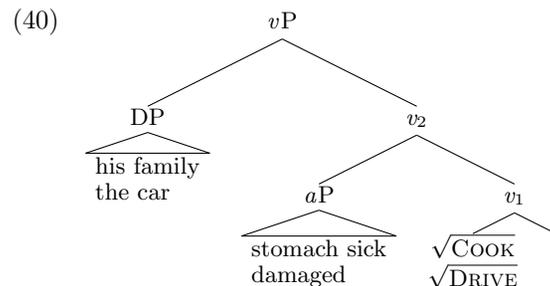
¹²I assume that v introduces an eventuality variable (in which the eventuality is either an event or a state) and that Root+ v determines the transitivity (i.e., introduces an argument relation in the case of transitive verbs).

¹³See the rules for Argument-taking Roots versus Non-argument-taking Roots in Embick (2004).

¹⁴Parsons (1990): An NP (corresponding to a single occurrence of a semantic variable) may simultaneously occupy more than one thematic role (p.c. Alison Biggs).

• **Derivation for unselected objects:**

- (39) Er hat seine Familie magenkrank gekocht.
he has his family stomach sick cooked
'He cooked his family stomach sick.'
[unselected object]



- (41) a. $\llbracket v_1 \rrbracket = \lambda e_s. [\mathbf{cook}(e)]$
b. $\llbracket \text{magenkrank} \rrbracket = \lambda e_s. [\mathbf{stomach\ sick}(e)]$
c. At v_2 , the rule in (38a) is triggered: $\llbracket v_2 \rrbracket = \lambda y_e \lambda e_s. \exists e'_s. [\mathbf{cook}(e) \wedge \text{CAUSE}(e, e') \wedge \mathbf{stomach\ sick}(e') \wedge \text{HOLDER}(y, e')]$
d. $\llbracket vP \rrbracket = \lambda e_s. \exists e'_s. [\mathbf{cook}(e) \wedge \text{CAUSE}(e, e') \wedge \mathbf{stomach\ sick}(e') \wedge \text{HOLDER}(\mathbf{his\ family}, e')]$

► This denotes the set of events that are cooking events and for which it holds that they cause some eventuality (state) of stomach sickness of which *his family* is the state holder / the argument that changes state.

• **Derivation for selected objects:**

- (42) Hans fuhr das Auto kaputt.
Hans drove the car damaged
'Hans drove the car to a wreck.'
[selected object]

- (43) a. $\llbracket v_1 \rrbracket = \lambda x_{\langle e \rangle} \lambda e_{\langle s \rangle}. [\mathbf{drive}(e) \wedge \text{PATIENT}(x, e)]$
b. $\llbracket \text{poor} \rrbracket = \lambda e_s. [\mathbf{drive}(e)]$
c. At v_2 , the rule in (38b) is triggered: $\llbracket v_2 \rrbracket = \lambda y_e. \lambda e_s. \exists e'_s. [\mathbf{drive}(e) \wedge \text{PATIENT}(y, e) \wedge \text{CAUSE}(e, e') \wedge \mathbf{damaged}(e') \wedge \text{HOLDER}(y, e')]$
d. $\llbracket vP \rrbracket = \lambda e_s. \exists e'_s. [\mathbf{drive}(e) \wedge \text{PATIENT}(\mathbf{the\ car}, e) \wedge \text{CAUSE}(e, e') \wedge \mathbf{damaged}(e') \wedge \text{HOLDER}(\mathbf{the\ car}, e')]$

► This denotes the set of events that are driving events of which *the car* is the patient/theme, and for which it holds that they cause some eventuality (state) of damage of which *the car* is the state holder / argument. The DP *the car*, in this case, therefore denotes two thematic roles: that of patient of the Means predicate, and that of State Holder of the Result predicate / the argument that changes state.

References

- Blumenfeld, Henrike (2001). “The Resultative Nature of the Mandarin Ba-Construction and the German Separable and Inseparable Prefix-Constructions: a Comparative Study”. In: Thesis, Linguistics Department, Swarthmore College.
- Carrier, Jill and Janet H Randall (1992). “The argument structure and syntactic structure of resultatives”. In: *Linguistic inquiry*, pp. 173–234.
- Dowty, David R (1979). *Word Meaning and Montague Grammar: The Semantics of Verbs and Times in Generative Semantics and in Montague’s PTO*. Reidel.
- Embick, David (2004). “On the structure of resultative participles in English”. In: *Linguistic Inquiry* 35.3, pp. 355–392.
- (2009). “Roots, states, and stative passives”. In: *Abstract for Root Workshop, University of Stuttgart*.
- Giannakidou, Anastasia and Jason Merchant (1999). “Why Giannis can’t scrub his plate clean: On the absence of resultative secondary predication in Greek”. In: *Greek Linguistics’ 97: Proceedings of the 3rd International Conference on Greek Linguistics. Athens: Ellinika Grammata*, pp. 93–103.
- Hale, Kenneth and Samuel Jay Keyser (1993). “On argument structure and the lexical expression of syntactic relations”. In: *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, pp. 53–109.
- (2002). *Prolegomenon to a theory of argument structure*. Vol. 39. MIT press.
- Higginbotham, James (2000). *On events in linguistic semantics*. Vol. 49. Oxford University Press Oxford.
- Hoekstra, Teun (1988). “Small clause results”. In: *Lingua* 74.2-3, pp. 101–139.
- Hoekstra, Teun, Monic Lansu, and Marion Westerduin (1987). “Complexe verba”. In: *Glott* 10, pp. 61–78.
- Kratzer, Angelika (2005). “Building resultatives”. In: *Event arguments: Foundations and applications*, pp. 177–212.
- Levin, Beth (1999). “Objecthood: An event structure perspective”. In: *Proceedings of CLS* 35, pp. 223–247.
- Levin, Beth and Malka Rappaport Hovav (1991). “Wiping the slate clean: A lexical semantic exploration”. In: *cognition* 41.1-3, pp. 123–151.
- (1995). *Unaccusativity: At the syntax-lexical semantics interface*. Vol. 26. MIT press.
- McIntyre, Andrew (2003). “Preverbs, argument linking and verb semantics: Germanic prefixes and particles”. In: *Yearbook of Morphology 2003*. Springer, pp. 119–144.
- Müller, Stefan (2002). *Complex predicates: Verbal complexes, resultative constructions, and particle verbs in German*. Vol. 13. CSLI publications Stanford.
- Neeleman, Ad and Fred Weerman (1993). “The balance between syntax and morphology: Dutch particles and resultatives”. In: *Natural language & linguistic theory* 11.3, pp. 433–475.
- Oppenrieder, Wilhelm (1991). *Von Subjekten, Sätzen und Subjektsätzen: Untersuchungen zur Syntax des Deutschen*. Vol. 241. Walter de Gruyter.
- Parsons, Terence (1990). *Events in the Semantics of English*. Vol. 5. Cambridge, Ma: MIT Press.
- Perlmutter, David (1978). “Impersonal passives and the unaccusative hypothesis”. In: *annual meeting of the Berkeley Linguistics Society*. Vol. 4, pp. 157–190.
- Perlmutter, David and Paul Postal (1984). “The 1-advancement exclusiveness law”. In: *Studies in relational grammar* 2, pp. 81–125.
- Ramchand, Gillian Catriona (2008). *Verb meaning and the lexicon: A first phase syntax*. Vol. 116. Cambridge University Press.
- Rappaport Hovav, Malka and Beth Levin (1998). *Building verb meanings*. In: *M. Butt & W. Geuder (Eds.), The projection of arguments (pp. 97–134)*.
- (2010). “Reflections on manner/result complementarity”. In: *Syntax, lexical semantics, and event structure*, pp. 21–38.
- Schäfer, Florian (2007). “On the nature of anticausative morphology: External arguments in change-of-state contexts”. PhD thesis. Institut für Linguistik/Anglistik der Universität Stuttgart.
- (2012). “Two types of external argument licensing—the case of causers”. In: *Studia Linguistica* 66.2, pp. 128–180.
- Simpson, Jane (1983). “Resultatives”. In: *Papers in Lexical Functional Grammar*, eds. L. Levin, M. Rappaport and A. Zaenen.
- Svenonius, Peter (2004). “Slavic prefixes inside and outside VP”. In: *Nordlyd* 32.2. Available at www.ub.uit.no/munin/nordlyd/, 205–253.
- Tenny, Carol Lee (1987). “Grammaticalizing aspect and affectedness”. PhD thesis. Massachusetts Institute of Technology.
- Van Kemenade, Ans and Bettelou Los (2003). “Particles and prefixes in Dutch and English”. In: *Yearbook of Morphology 2003*. Springer, pp. 79–117.
- Wood, Jim (2015). *Icelandic Morphosyntax and Argument Structure*. Vol. 90. Springer.
- Wunderlich, D. (1997). “Argument Extension by Lexical Adjunction”. In: *Journal of Semantics* 14.2, pp. 95–142.