

# Composing Aktionsart of German prefix- and particle verbs

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# Aktionsart composition

## 1 Introduction

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2 Overview

An open-ended list of typical data

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- 3 DM/DRT-architecture  
syntactic assumptions  
construction details

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Reconstructing 'figure'/ 'ground'-alternation as 'universal quantification'  
semantic representation for 'ein Buch auslesen'

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Reconstructing 'figure'/ 'ground'-alternation as 'universal quantification'  
semantic representation for 'ein Buch auslesen'
- 5 Conclusion and outlook  
may be helpful

## Introduction

- German prefix- and particle verbs and the P-elements they contain as constituents are often viewed as idiosyncratic in their formation and their components as highly ambiguous.
- Careful exploration of such verbs, however, reveals rules of word-formation and corresponding interpretation principles that build word meanings systematically from the meanings of their constituents
- Moreover, the effect of these principles is often that the constituents they combine disambiguate each other.
  
- Our general perspectives on these verbs also has impact on their Aktionsart: Aktionsart can be derived compositionally as one dimension to the verb's meaning

## Introduction. State of the art view on Aktionsart in prefix- and particle verbs

- (Kratzer 2004): non-core-transitive accomplishment verbs enter syntactic structure as atelics e.g. *er schrieb und schrieb* vs. *er schrieb ein Buch*;
- (Kratzer 2004), (Filip and Rothstein 2005): prefixation often renders the verbal kernel telic, but with German verbs as a whole there is no strong correlation between telicity and prefixation.  
In particular the same particle or prefix occurs in telic as well as in atelic verbs. (*Abkürzungen ausschreiben* (to write out abbreviations) vs. *sich ausdehnen* (to expand))
- according to Kratzer particle and prefix-verbs are idiosyncratic and non-compositional; the best one can do seems to be the following: investigate the correlation between verbal stems and accusative DPs: 'Is there culmination with respect to the accusative DP'?



## Introduction

- This talk: We defend the view that prefix- and particle verbs are formed compositionally
- To this end I will present a few of the analyses of particle verbs that have thus far resulted from this exploration.
- The analyses will involve construction algorithms that assign of logical forms (as proposed in DRT) to syntactic structures taken from Distributive Morphology (DM).
- The talk focuses on the contribution of 'P'-elements to a small sample of verbal kernels that contribute 'manner'.
- verbal kernels contributing 'manner' present the main challenge for the present proposal
- Not considered in this talk: 'result-verbs' cf. (Levin 2009) (bi-eventive verbs cf. (Roßdeutscher and Kamp 2010)).
- I only consider P-elements which admit spatial readings in this talk.






# overview of the talk

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## listing typical data

Akt.		Prepositional Phrase	$p:\emptyset$ or prtc	verbal kernel
			SUPPORT ( $y_e, Z_e$ )	<b>production</b>
acc		den Text <b>auf</b> einen Zettel	<b>auf</b>	√schreib ('write')
		den Text <b>auf</b> einen Zettel	<b>auf</b>	√schreib
		* den Zettel	* auf	* √schreib
			SUPPORT ( $y_e, Z_e$ )	<b>change of position</b>
acc		die Zettel <b>an</b> die Wand	<b>an</b>	√kleb ('glue')
acc		die Zettel <b>an</b> die Wand	<b>an</b>	√kleb ('glue')
		* die Wand	*an	* √kleb
			AT <i>Topological</i> ( $y_r, Z_r$ )	<b>directed application</b>
acc		die Farbe <b>an</b> die Wand	<b>an</b>	√streich ('brush')
		* die Farbe <b>an</b> die Wand	* <b>an</b>	* √streich
ach; ✓		die Wand (mit (*der) Farbe))	<b>an</b>	√streich

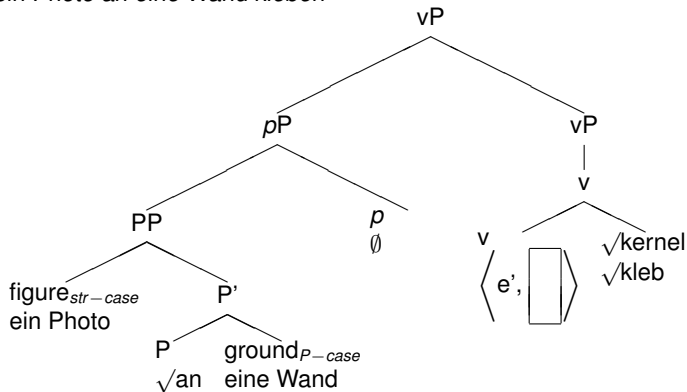
Akt		Prepositional Phrase	$p:\emptyset$ or prtc	verbal kernel
				<b>force</b>
acc		mir <sub>dat</sub> die Kleider	an	√zieh ('pull' ./ stretch / attract') (= dress)
(act)		(#) die Kleider an mich <sub>akk</sub>		√zieh ('pull') (= pull towards)
ach; ✓		mich <sub>akk</sub> (mit *(den) warmen Kleidern)	an	√zieh ('dress')
		* die Kleider an sich <sub>akk</sub>	* an	*√zieh
act		das Seil an sich <sub>akk</sub>		√zieh ('pull towards')
act		Touristen	an DIR	√zieh (attract)
act		das Seil zu sich	her an	√zieh ('pull towards')
		*einen Touristen * zu sich	(* her) an	*√zieh (attract)
acc		das Seil / die Bemse	an	√zieh ('pull tight')

Akt		Prepositional Phrase	$p:\emptyset$ or prtc	verbal kernel
		TOPOLOGICAL	PATH	<b>change of location</b>
acc		in das Stadion		√lauf (run)
acc		in das Stadion	ein 	√lauf
act		in dem <sub>dat</sub> Stadion		√lauf (not into)
acc		der Wein aus dem Fass	aus 	√lauf
acc		der Wein aus dem Fass		√lauf
ach;	√	das Fass (*von dem Wein)	aus	√lauf
		TOPOLOGICAL		<b>consumption</b>
acc		den Wein aus dem Glas		√trink (drink)
ach;	√	das Glas	aus	√trink (drink)
ach;	√	das Glas	auf	√trink (drink)
ach;	√	das Buch	aus	√les (read)
ach;	√	das Wort	aus	√schreib (write)

Akt	Prepositional Phrase	$p:\emptyset$ or prtc	verbal kernel
		DIR	<b>dir. perceive-action</b>
act	in das Album		√blick ('look')
act	in das Album	hin ein	√blick
act	eine Person	an	√blick (look)
act	auf eine Person		√blick
acc	an eine Person		√schreib ('communicate through writing')
acc	eine Person	an	√schreib ('comm')
act	auf einen Mann	zu	√lauf (running towards')
act	auf einen Mann	ein	√stech (stab)FORCE
act;pnt		zu	√stech

Akt	prefix	Prepositional Phrase	$p:\emptyset$ or prtc	verbal kernel
			PATH	<b>change of location</b>
ambig.		durch einen Wald	■	√fahr (drive)
ambig.	durch	einen Wald		√fahr
acc		durch einen Wald	durch	fahren
acc		die Haare	durch	√kämm (comb)
		* den Tunnel	*durch	*√fahr
ambig.		um einen Baum		√fahr (drive around tree, avoid)
ambig.	um	einen Baum		√fahr (drive around tree, avoid)
acc		einen Baum	um	√fahr FORCE (drive down)
act		um sich <sub>acc</sub>		√blick (different dir)
ach;	√	sich <sub>acc</sub>	um	√ blick (all dir)
acc	unter	einen Brief (mit dem Namen)		√schreib (write)

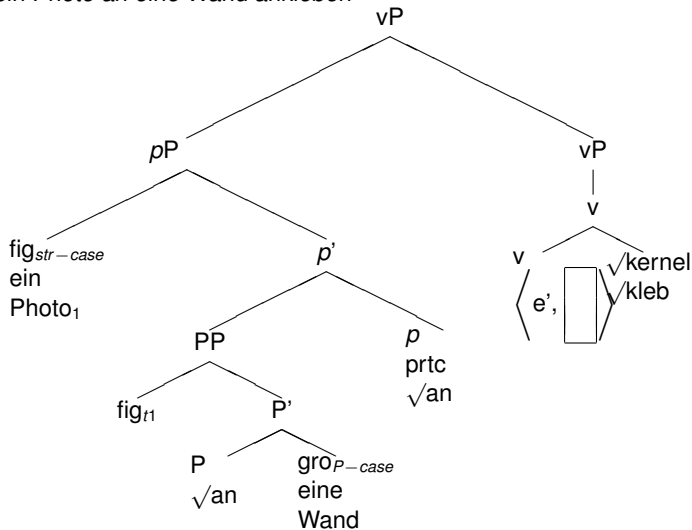
## vP selects (generalised) pP

*ein Photo an eine Wand kleben*

- **'split-P'-Hypothesis**, (Svenonius 2003), (Svenonius 2004), (Romanova 2006)



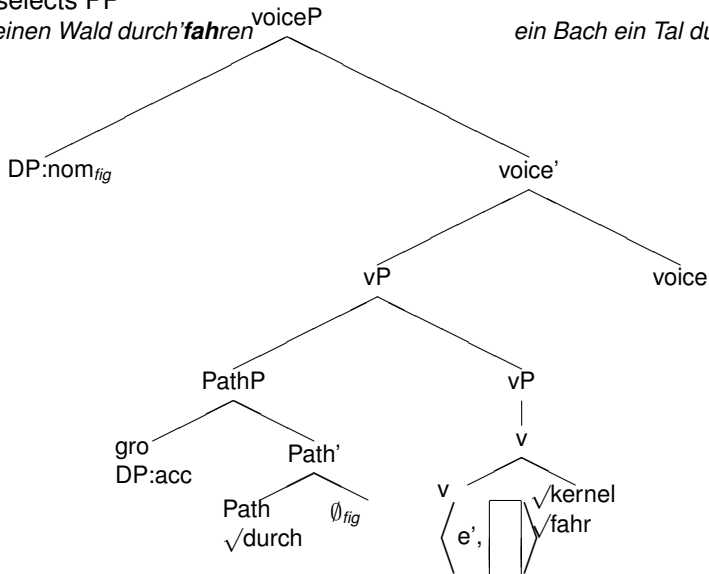
vP selects particle-  $pP$ , particle selects PP,  
*ein Photo an eine Wand ankleben*



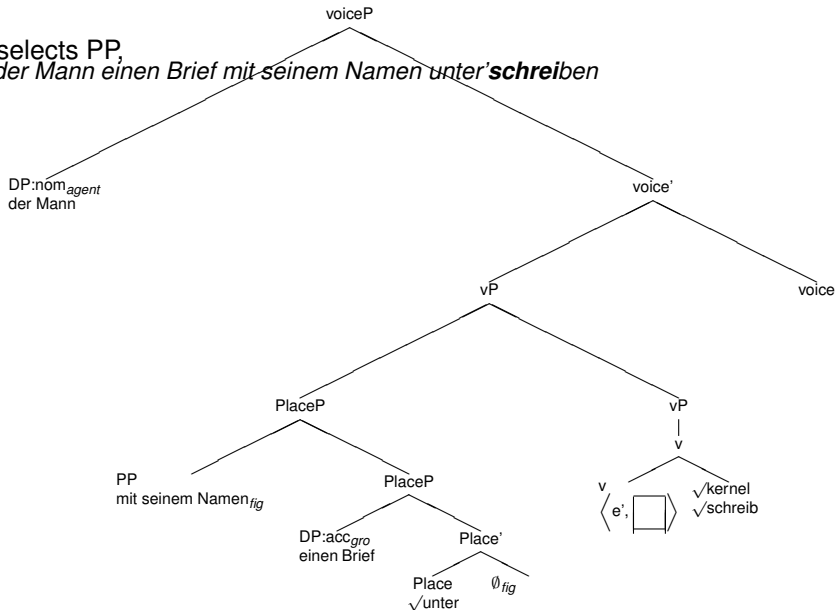
vP selects PP

*einen Wald durch'fahren*

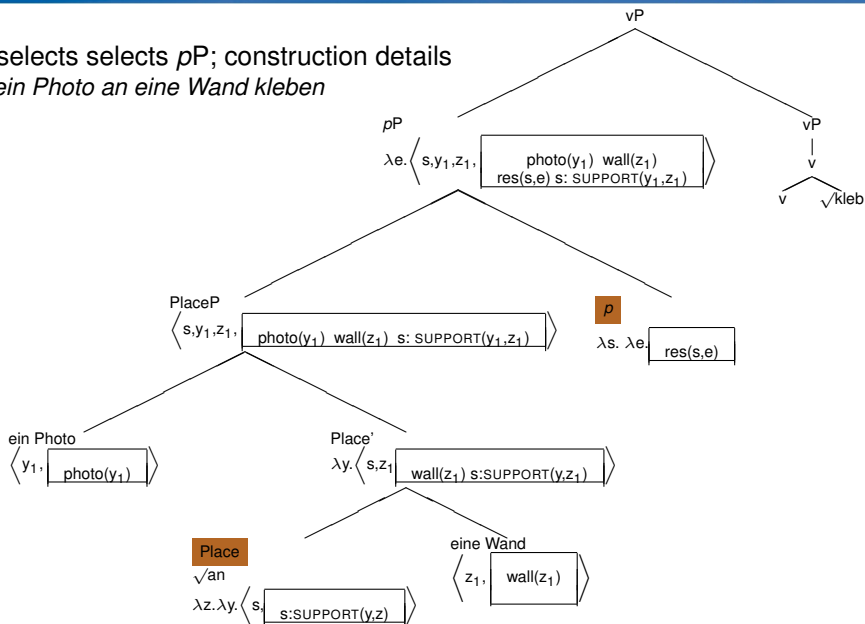
voiceP

*ein Bach ein Tal durch'laufen*

vP selects PP,

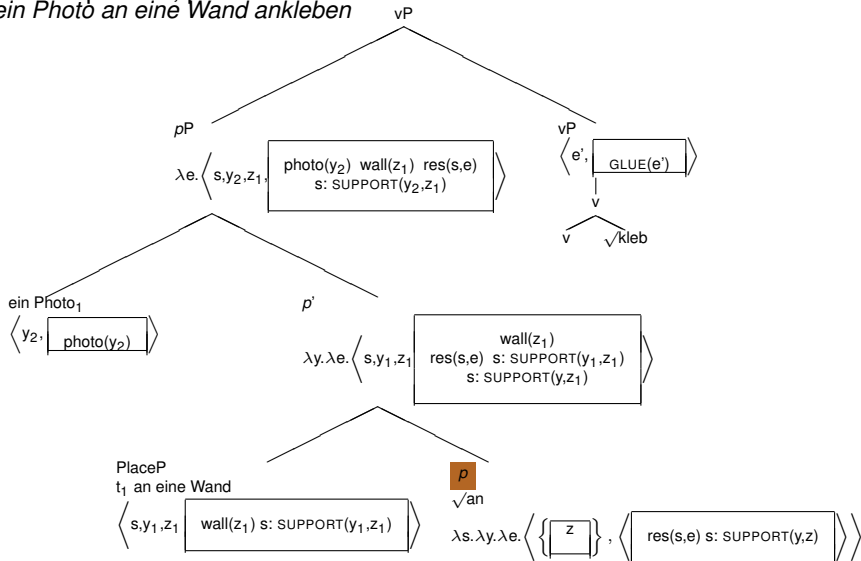
*der Mann einen Brief mit seinem Namen unter'schreiben*

vP selects selects pP; construction details  
*ein Photo an eine Wand kleben*



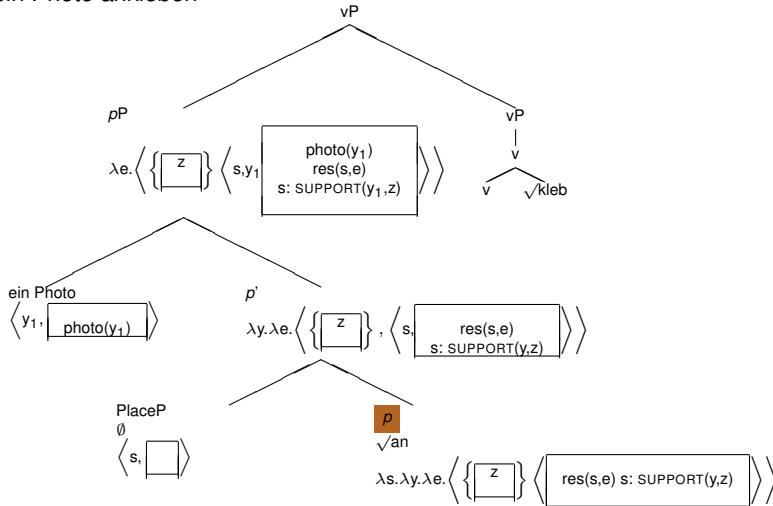
# vP selects particle, particle selects PP

*ein Photo an eine Wand ankleben*



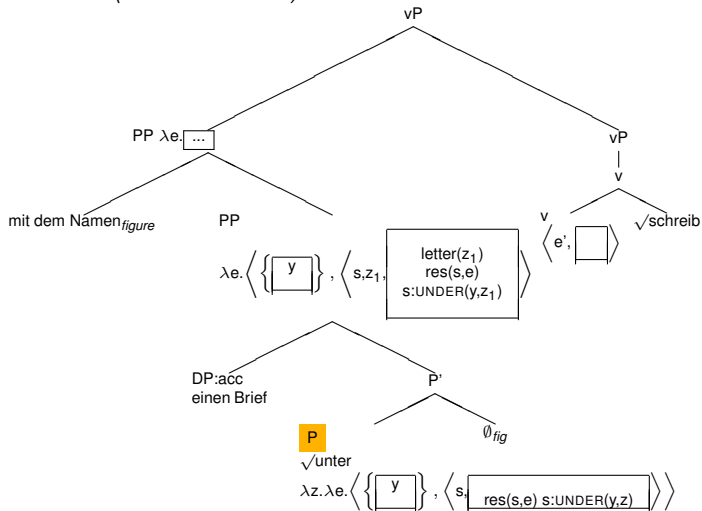
# vP selects particle, particle selects PP

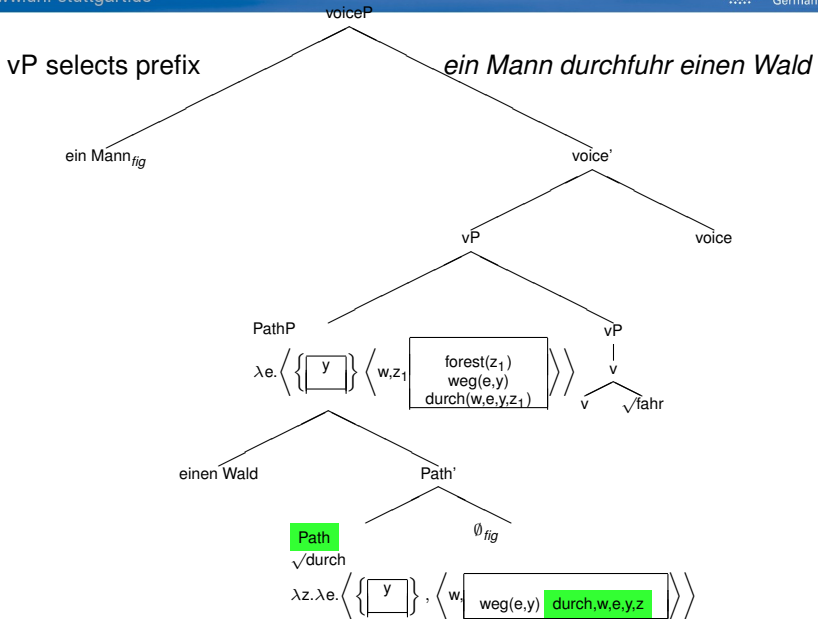
*ein Photo anleben*



## vP selects PP

*einen Brief (mit dem Namen) unterschreiben*

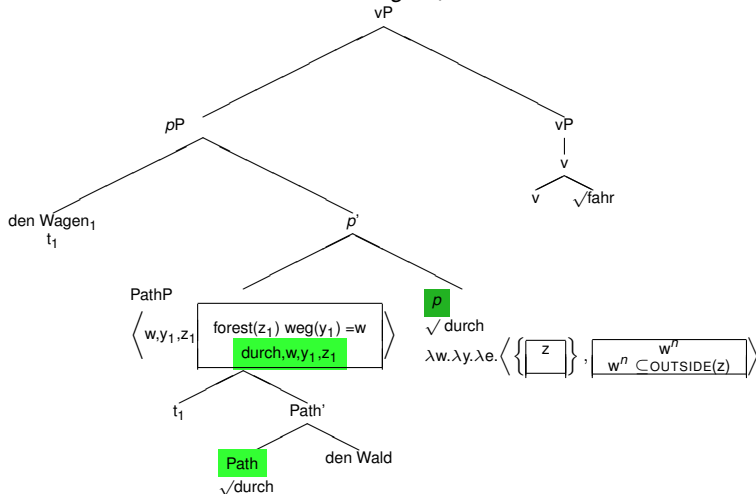






vP, selects particle; particle selects PP  
*den Wagen durch den Wald **durch**fahren* or

*agent<sub>t1</sub> durch den Wald **durch**fahren*

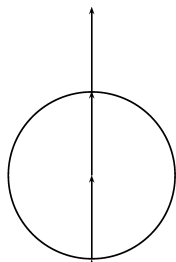


## vP select particle, particle selects PP

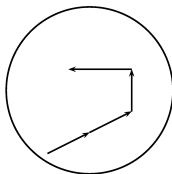
- (1) ein Mann fuhr durch einen Wald  
a man drove through a forest

durchfuhr einen Wald

underspecified wrt. 'in-and-out' or 'interior'-reading

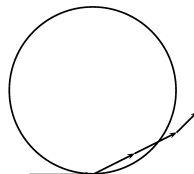
minimal model for 'in-and-out'-  
reading

Composing Aktionsart

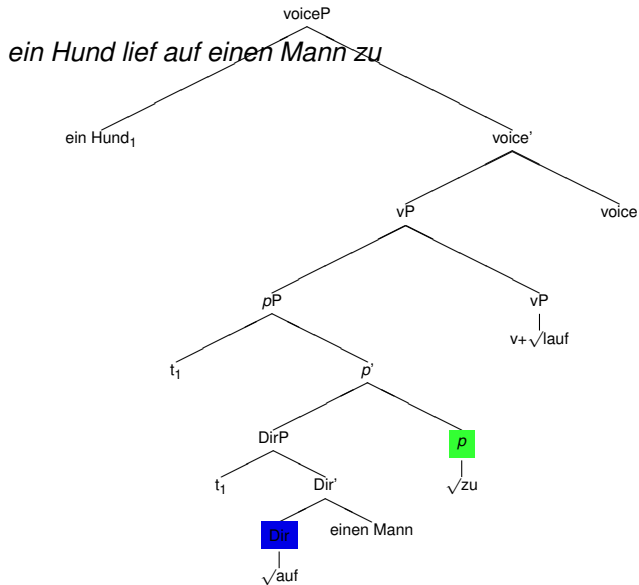


minimal model for 'in'-reading

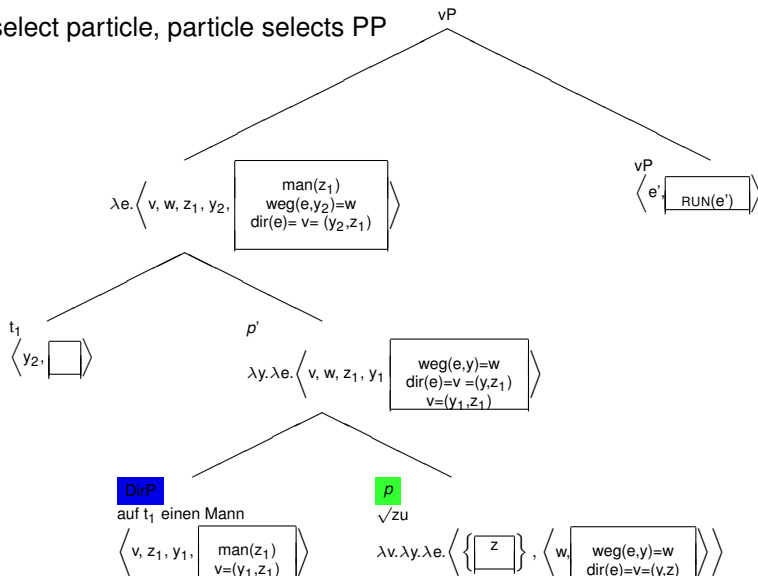
Roßdeutscher



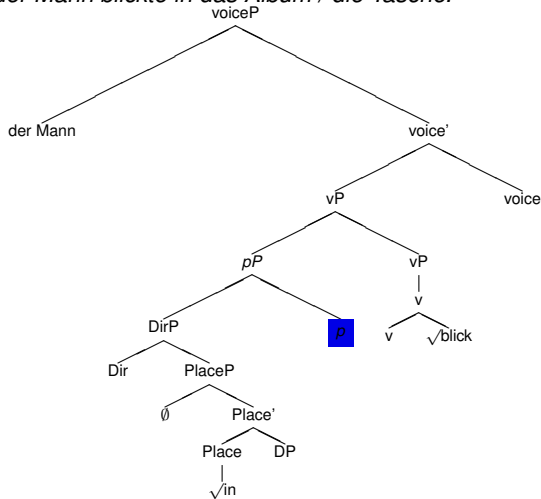
no model

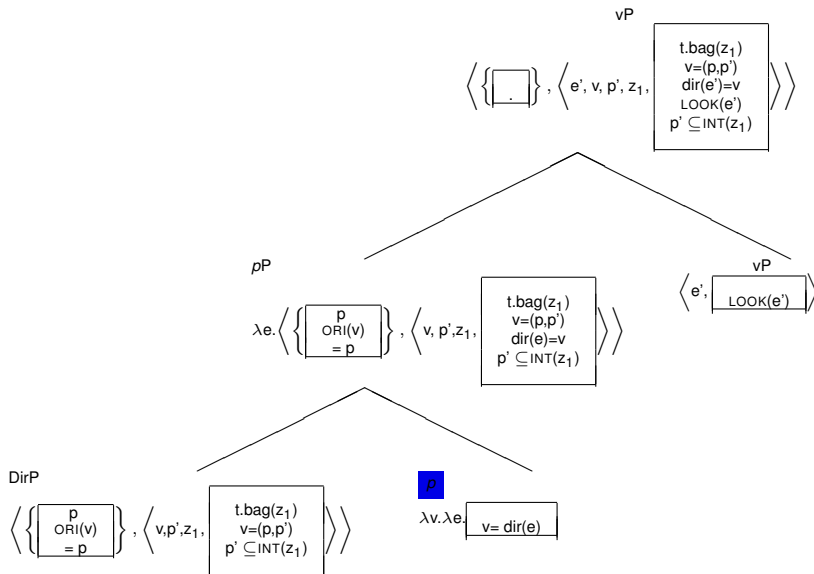


## vP select particle, particle selects PP



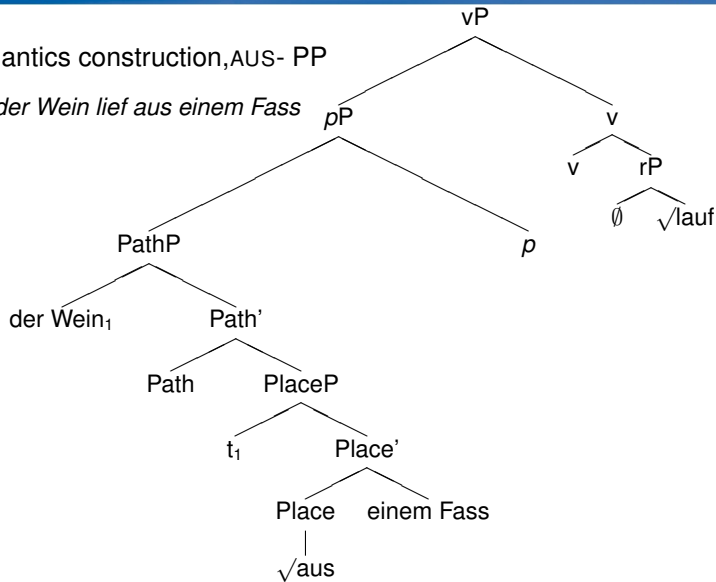
## vP select particle, particle selects PP

*der Mann blickte in das Album / die Tasche.*

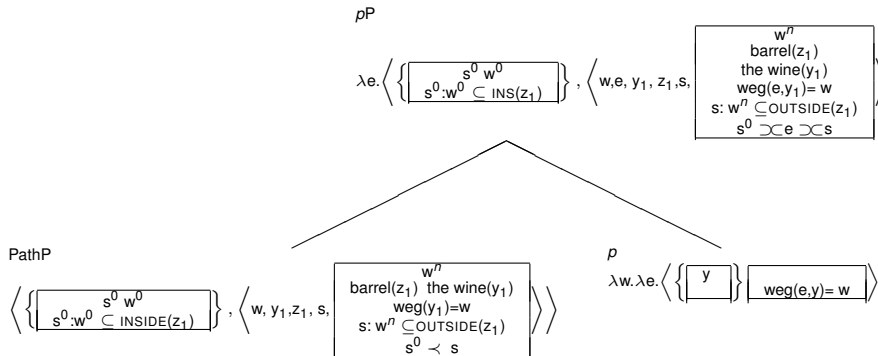


# semantics construction, AUS- PP

*der Wein lief aus einem Fass*



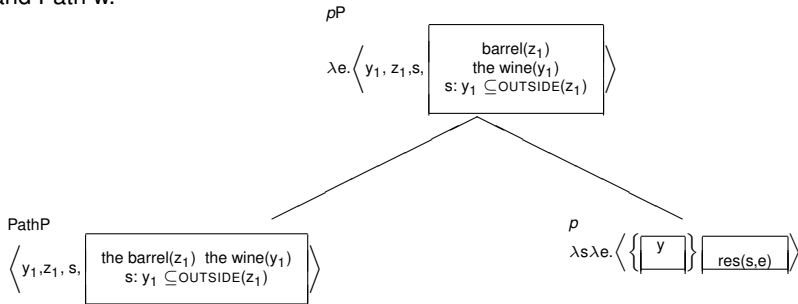
# semantics construction for *der Wein aus einem Fass laufen*



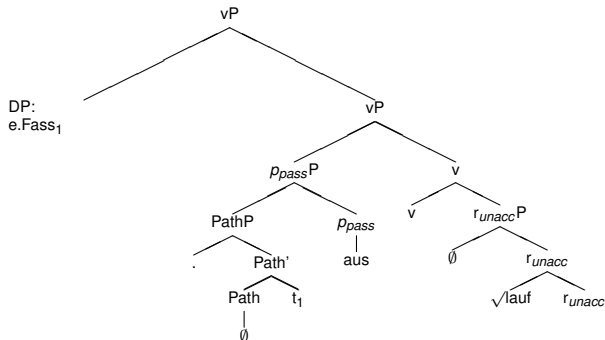


Semantics construction for *der Wein aus einem Fass laufen*

'simplification of the representation': we abstract away from the presupposition and Path w.

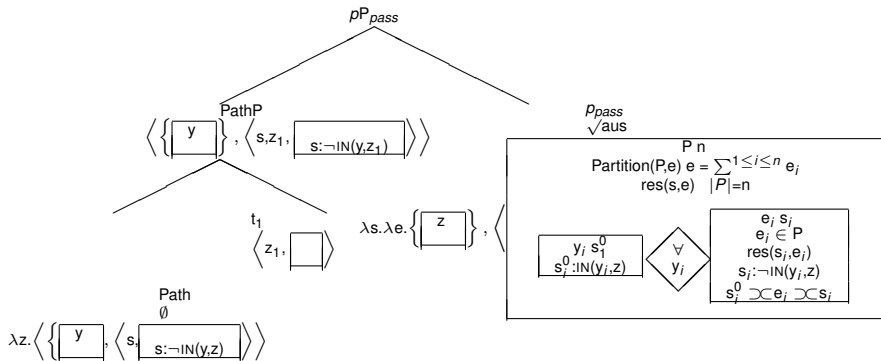


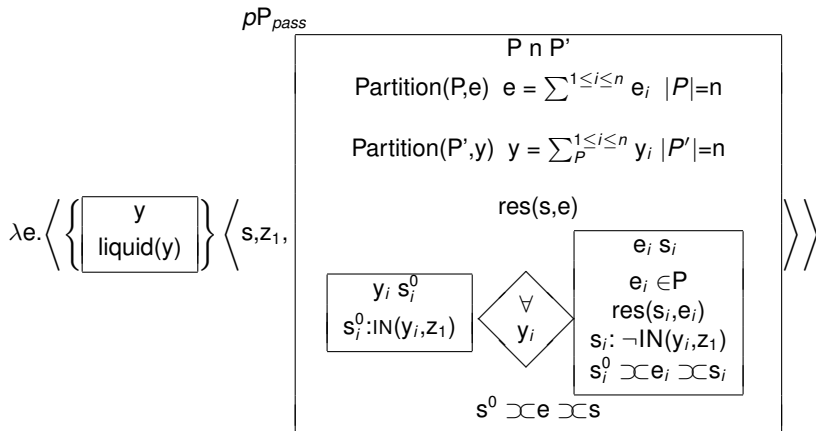
## semantics construction for *ein Fass auslaufen*



adopted from (Romanova 2006):111.

# semantics construction for *ein Fass auslaufen*



semantics construction for *ein Fass auslaufen*


*der Wein aus e. Fass laufen vs. ein Fass auslaufen*

E: event structure

P: mereological part structure

$e'$                        $e''$                        $E \rightleftharpoons P$

$y'$                        $y''$

$e = e' \oplus_E e''$

$y = y' \oplus_P y''$

der Wein

*y is strictly incremental theme*

E: event structure

$\updownarrow \tau$ : trace function

T: time structure

$e' <_E e$

$\updownarrow$

$\tau(e')$      $<_t \tau(e \setminus e')$

$\tau(e') <_t \tau(e'')$

$T \rightleftharpoons P$

$y' <_{t,P} y''$

the (implicit) liquid

*y is sequential theme*

## The difference that *aus* makes in *auslesen*

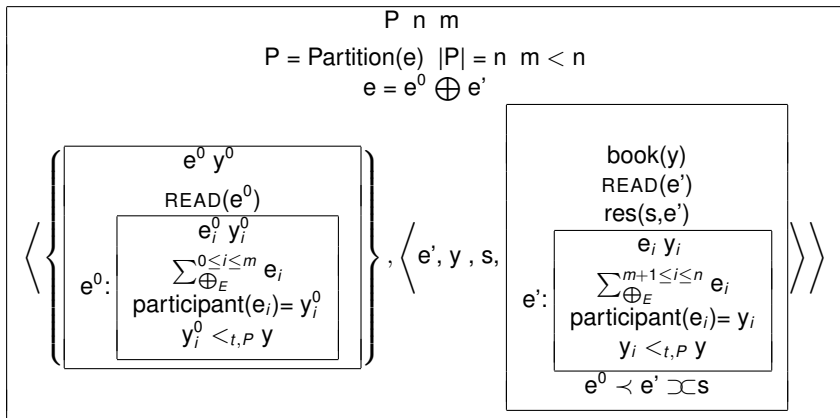
Scenario: Reading a dissertation with 5 chapters as follows:  
chapter 3  $\ll$  chapter 1  $\ll$  chapter 2  $\ll$  chapter 4  $\ll$  chapter 5

- (2) a. Ich habe die Dissertation gelesen. (true)  
 b. Ich habe die ganze Dissertation gelesen. (true) (the whole thesis)  
 c. Ich habe die Dissertation ausgelesen. (not true)
- (3) a. Sie hatten den Song rückwärts gespielt  
 They had the song backwards played  
 'they had the played the song backwards'  
 b. # Sie hatten den Song rückwärts ausgespielt  
 They had the song backwards [aus]played
- books and songs come with a predetermined temporal order of their parts, i.e. the order in which the parts participate in an action. That order must be respected in the *aus*-description. (If the theme doesn't come with such an order one will be accommodated.)

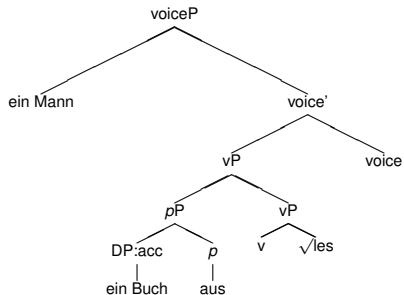
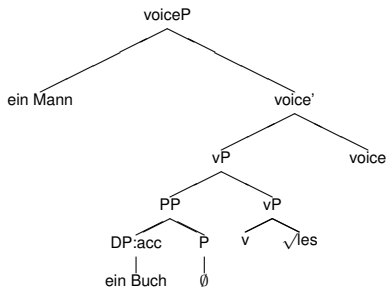
the semantic representation for *ein Buch auslesen*

$P$  is a partition of  $e$ , i.e. a set non-overlapping  $e_{i \leq n}$  that sum up to  $e$ .

(4)

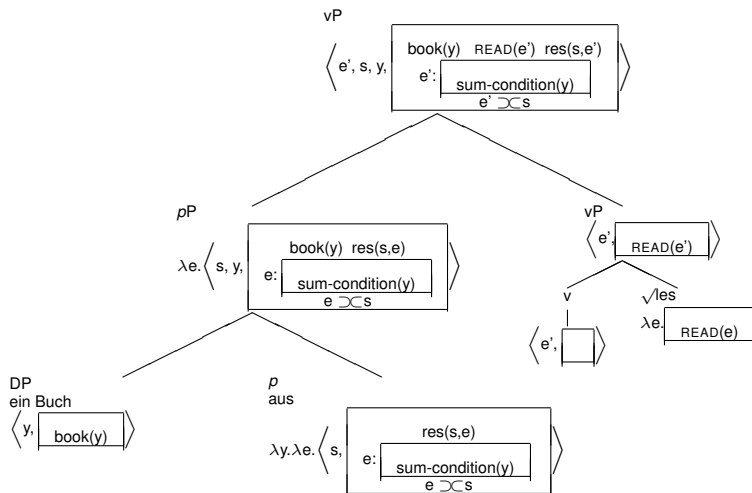


... a corresponding partition of  $y$ , i.e. a set of disjoint parts  $y_{i \leq n}$  that sum up to  $y$ .

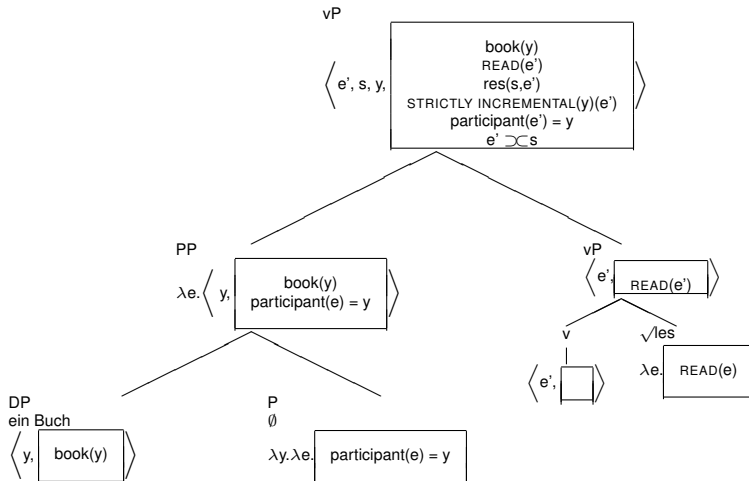
composition of *ein Buch lesen* and *ein Buch auslesen**ein Mann ein Buch auslesen**ein Mann ein Buch lesen*



# semantics construction for *ein Buch auslesen*









## semantics construction for *ein Buch lesen*



## Conclusion and outlook

- Often the verbal kernel imposes requirements on the 'ontology' of the particle and on prepositional phrases that the verbal head selects.
- Particle *ps* (and silent *ps*) answer these requirements.
- At the same time they pass these requirements down to the PPs they select;
- Exception: silent P's of (Marantz 2006) for objective case [ $_{PP}$  [ $_P$  ein Buch]] have no impact on culmination.
- Directional P-elements do not impose culmination.
- Prefixes that denote complex paths are underspecified wrt. culmination. When these same P-elements function as particles, they do contribute culmination.
- We often observe particles with a non-spatial one-place-relational semantics that are apparently coerced from P-elements. But we know little about rules and restrictions underlying coercion.
- To which extend particles imposing universal quantification have spatial impact isn't always easy to tell.

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