

SFB 991

# Towards an analysis of agent-oriented manner adverbials in German

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## Proposal

We focus on analyzing agent-oriented manner adverbials, like *sorgfältig* ('carefully').

- An **intentional and controlling agent** is involved.
- The agent has the desire to achieve a **result with a high quality**.
- The **method** used for the realization is suitable for achieving the desired result.

## The agent

*Sorgfältig* demands the participation of an intentional agent:

- Unaccusative verbs as well as with verbs denying control: indicate that an intentional controlling agent is necessary.

- #*John rutschte sorgfältig aus.*  
John slipped carefully PART
  - #*John hat sich sorgfältig verlaufen.*  
John has himself carefully get-lost
- Verbs which do not lexicalize intentionality are fixed to an intentional interpretation.
  - Das Kind hat das Bild absichtlich/unabsichtlich zerschnitten.*  
The child has the picture intentionally/unintentionally cut
  - Das Kind hat das Bild sorgfältig zerschnitten.*  
The child has the picture carefully cut

## The result

- The modifier evokes an expectation for a result with a high quality: a **"good" result**.

- Wir haben sorgfältig gearbeitet, weil wir gute Ergebnisse erzielen wollten.*  
We have carefully worked, because we good results achieve wanted
- Wir haben sorgfältig gearbeitet, daher haben wir gute Ergebnisse.*  
We have carefully worked, therefore have we good results
  - #*Wir haben sorgfältig gearbeitet, daher haben wir schlechte Ergebnisse.*  
We have carefully worked, therefore have we bad results
- If the result does not have the expected quality, the agent tends to be excused.
- John hat sein Zimmer sorgfältig geputzt, trotzdem hingen Spinnweben an der Decke.*  
John has his room carefully cleaned nevertheless hung spider webs on the ceiling

## The method

- The method of realization has to be suitable for the achievement of the "good" result.

- Die Rüben werden sorgfältig gereinigt, indem man sie einige Minuten lang im Wasser läßt, dann wäscht und abbürstet.* (Google)  
in.DAT water leaves, then washes and brushes down
  - #*Die Rüben werden sorgfältig gereinigt, indem man sie kurz unter Wasser hält.*  
The turnips shall carefully cleaned, by one them shortly under water hold

- The suitability of the methods for realization is decided with respect to the goal-setting of the agent together with the context of the action.

## A frame analysis

The formalization of the analysis is realized in the framework of Düsseldorf Frame Semantics, where **Frames** are:

- the universal format of representation in human cognition (cf. Barsalou [1], Löbner [5]);
- first-order attribute-value structures with exclusively functional attributes (Petersen [6]);
- read as description of a token or of a type.

## Action-plans and Goldman (1970)

Goldman's [3] theory:

- addresses the conceptual level;
- captures that one doing of an agent can be conceptualized in many different ways;
- states that the different conceptualizations are related by the relation of **level-generation**
- treats an action as intentional only if the action is performed as conceived in the agent's **action-plan**, which:
  - consist of an **action-want** (the want to do a certain act) and a **set of beliefs** (hypothetical acts) about the realization of the action-want;

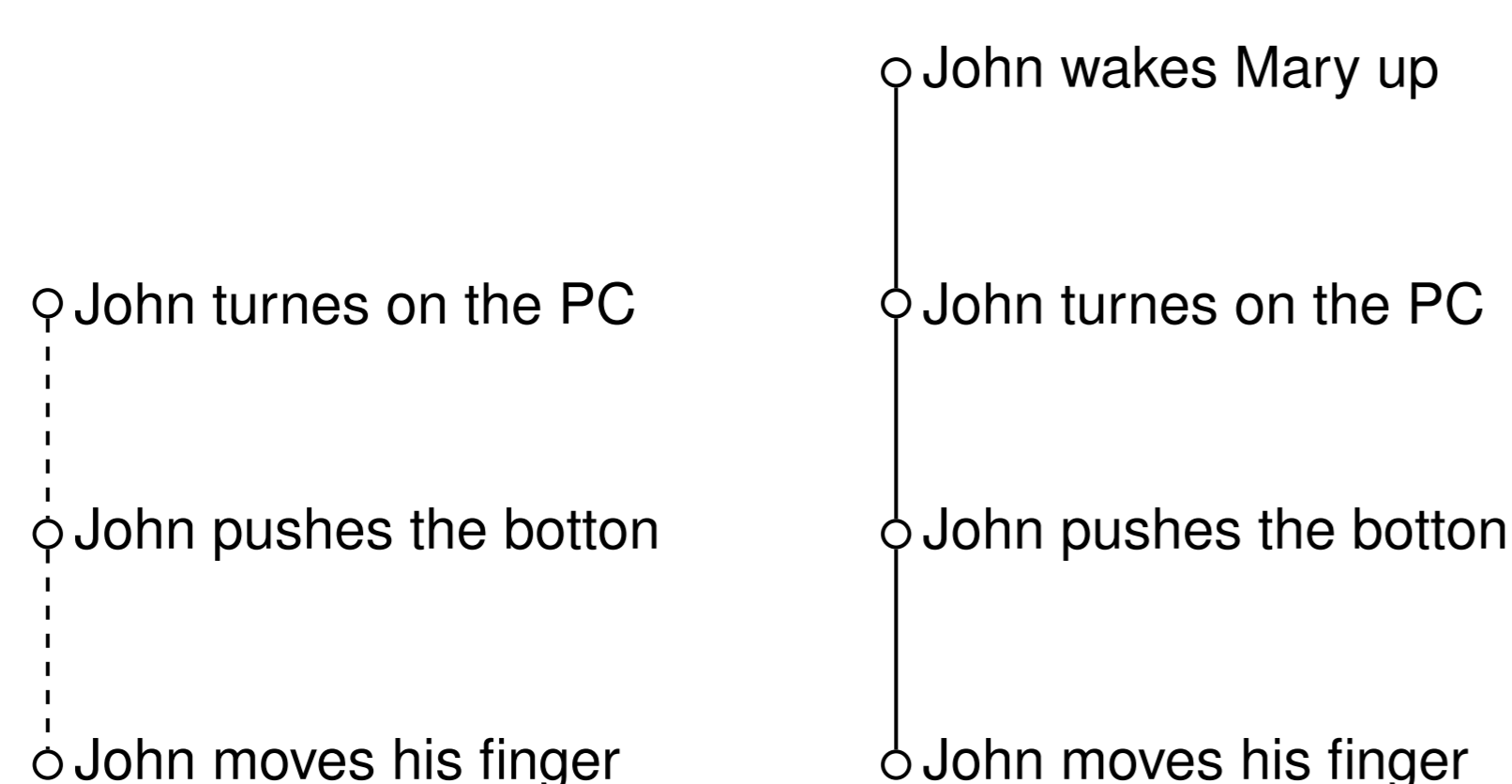


Figure 1: Action-plan (left) and an Act-structure (right)

## Cascades according to Löbner (ms.)

Cascades:

- is a general term capturing Goldman's act-structures;
- are seen as a **simultaneous categorization** in a hierarchical structure;
- make use of the **c-constitution** relation (a conceptual relation between types);
- are second-order structures based on first-order frames.

- John wakes up Mary **by** turning on the TV.

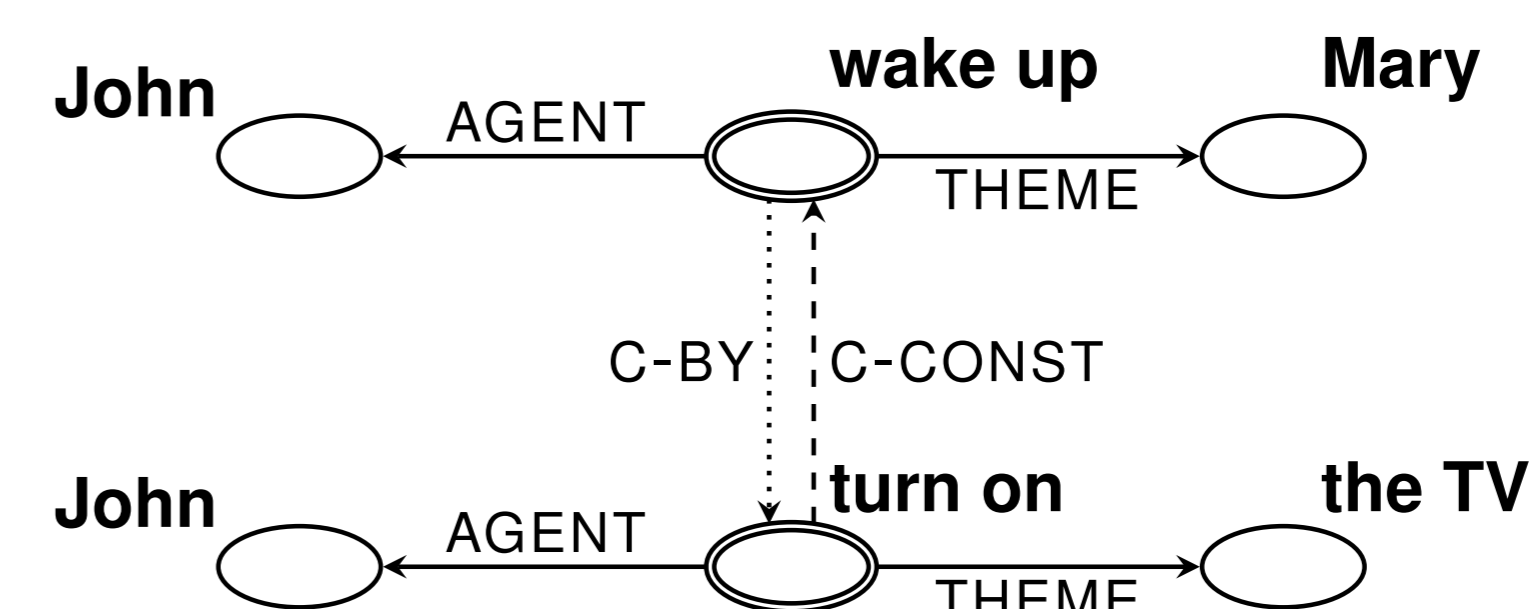


Figure 2: A token-view act cascade based on Fig.2 from Löbner [5]

## The model

- Our frame model adopts the idea of Dowty's [2] DO, represented by the double circled node labeled **action**.
- The frame representation of an intentional action has to involve the attributes PLAN (action-plan) and EXECUTION. The values of these attributes can be cascades.
- That the action-plan and the execution match is modeled via comparators (2-place attributes returning comparison values according to Löbner [4]).

- Ich habe mein Zimmer sorgfältig geputzt, indem ich gesaugt habe und alle Spinnweben entfernte.*  
I have my room carefully cleaned by I vacuumed have and all spider webs removed

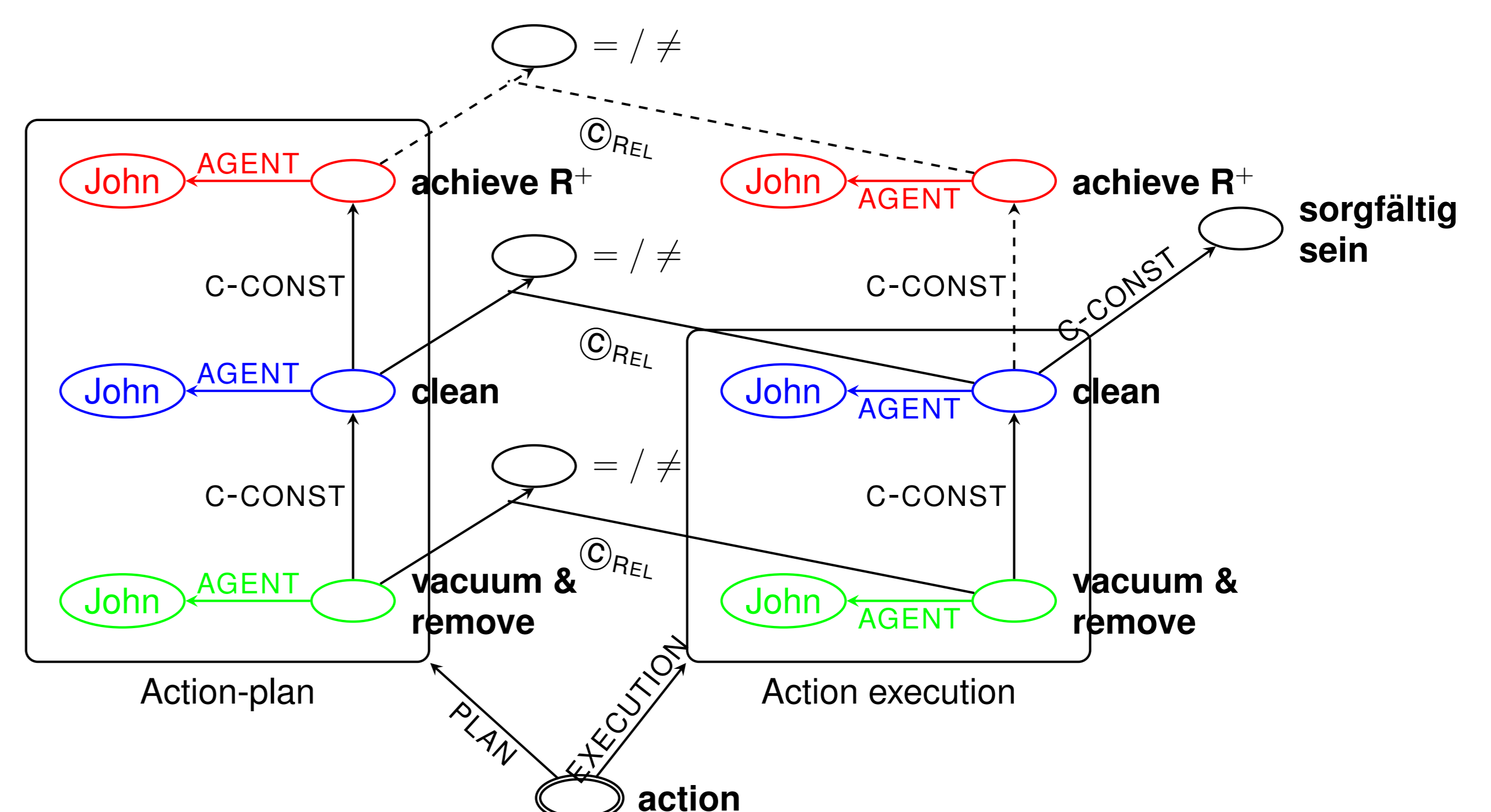


Figure 3: Connecting action and action-plan

*Sorgfältig*, as an agent-oriented manner modifier:

- demands the participation of an agent with an action-plan;
- imposes restrictions on that action-plan:
  - the target of the agent's action-want is perceived as having a high quality,
  - the high quality result has to be realized by a suitable method;
- the action-plan of the agent has to match her execution of the action.

## Acknowledgments

Many thanks to Sebastian Löbner, Willi Geuder, Curt Anderson, Lea Kawaletz, the anonymous reviewers as well as all my informants for the long discussions, the comments, the data, and all other kinds of help. The work is supported by DFG CRC 991 "The Structure of Representations in Language, Cognition, and Science," project B09.

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