

Depictives in English: An LTAG Approach

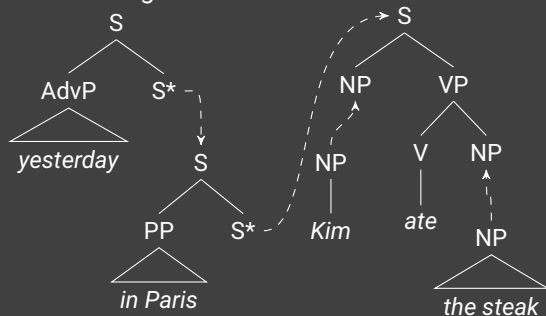
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Motivation

How can long distance modification be modeled with LTAG?



Depictives are similar but different:

(1) John_i left the room tired_i.

Previous approaches in other frameworks:

Generative Grammar (e.g. Geuder 2004) & HPSG (e.g. Müller 2008)

Secondary Predicates

Secondary Predicate: a typically sentence final, adjectival element that predicates one of the (main) verbal predicate's arguments; we call the predicated element the **TARGET**.

Resultatives characterize states that are brought about by the event that is expressed by the main verb.

(2) Sean stomped the can_i flat_i.

Depictives express properties that hold for at least some part of the event time, but do not immediately result from the verb event.

(3) Tom ate the pizza_i cold_i.

Outline

The Data

LTAG Approaches

Remaining Issues & Conclusion

Possible Targets I

Target Ambiguity

Based on their semantic compatibility, depictives either target the subject or the object.

- (4) a. Kim ate the steak_i raw_i.
- b. Kim_i ate the steak hungry_i.

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If both verbal arguments are semantically compatible with the depictive **TARGET AMBIGUITY** arises.

- (5) Kim_i ate the apple_j unwashed_{i/j}.

Possible Targets II

Stacking

DEPICTIVE STACKING is possible, but generally seems to decrease acceptability.

- (6)
- a. ? Kim_i ate the steak_j raw_j hungry_i.
 - b. ?? Kim_i ate the steak_j hungry_i raw_j.
 - c. ?? Kim ate the steak_j raw_j salted_j.

Wellnested stacks with alternating targets seem more acceptable than illnested or non alternating stacks.

Possible Targets III

Unrealized Arguments

Depictives may target unrealized agents, see (7-a), or theme arguments, see (7-b).

- (7) a. The book_j is to be read naked_{i/*j}.
- b. We_i usually bake gluten-free_{*i/j}.

Possible Targets III

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In some instances, like in (8) from Roberts [4], one could argue for an adverbial interpretation, where *barefoot* lacks the prototypical morphology of English adverbials.

- (8) The game_j was played barefoot_{i/*j}. (Roberts 1987)

Impossible Targets I

Oblique Arguments

Oblique verbal arguments, i.e. non-direct objects and PP-objects, do not constitute viable targets.

- (9) a. The cash machine_i gave John_j the money_k
hungry_{*i/*j/*k}.
- b. Peter crashed into him_i tired_{*i}.

Impossible Targets II

Non-Arguments

Depictives cannot target modifying constituents like PP-adjuncts.

(10) John drilled a hole with a power tool_i new_{*i}.

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Neither the genitive noun in (11-a) nor the single conjuncts in (11-b) constitute viable targets.

(11) a. John met Maria's_i father naked_{*i}.
 b. [John_i and Paul_j]_k met [Maria_m and her boyfriend_n]_o
 naked_{*i/*j/k/*m/*n/o}.

Three Viable LTAG Approaches

Syntactic ambiguity approach:

Distinct syntactic derivations for subject & object depictives

Interface ambiguity approach:

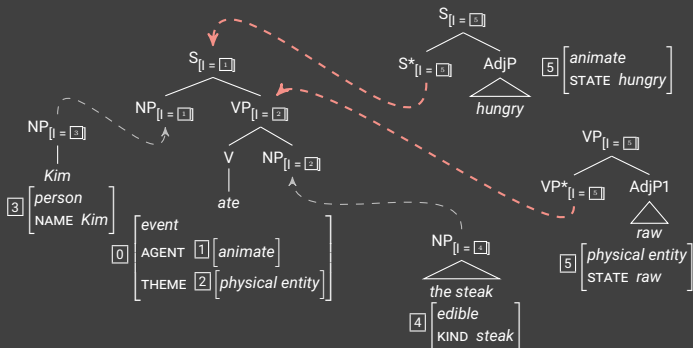
Uniform syntactic derivation using **disjunction** in interface features

Semantic ambiguity approach:

Uniform syntactic derivation using **disjunction** in the semantics

Syntactic Ambiguity Approach

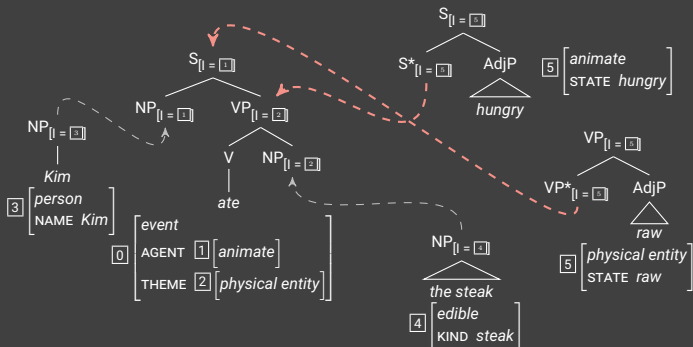
(6a) ?Kim_i ate the steak_j raw_j hungry_i.



Problem 1: separate auxiliary trees for subject and object depictives.

Syntactic Ambiguity Approach

(6b) ??Kim_i ate the steak_j hungry_i raw_j.



Problem II: ill-nested stacking cannot be derived.

Syntactic Ambiguity Approach

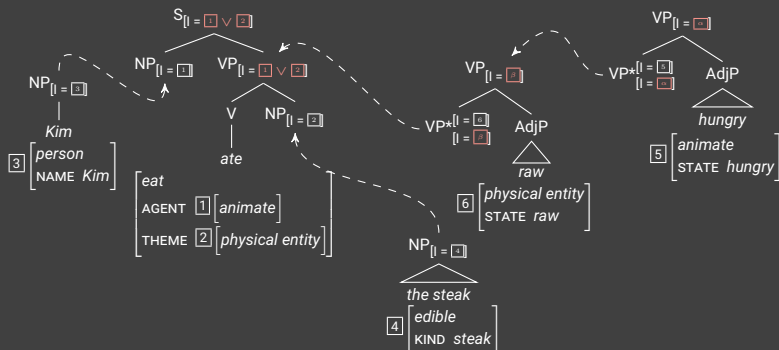
The auxiliary trees of the depictives are adjoined at different levels of the elementary tree.

At the S node, the subject's frame information are accessible in the elementary tree.

The object's information are accessible at the VP node. This enables the unification of the NP and the depictive frames.

Interface Ambiguity Approach

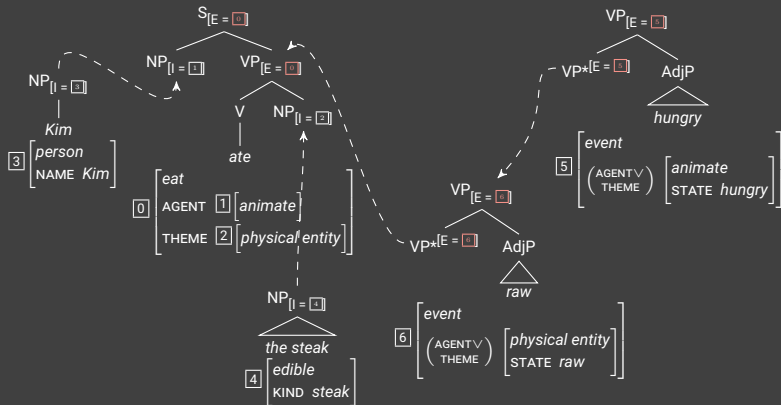
(6a) ?Kim_i ate the steak_j raw_j hungry_i.



Problem: introduction of description variables in TAG feature structures.

Semantic Ambiguity Approach

(6a) ?Kim_i ate the steak_j raw_j hungry_i.



Problem: the disjunction in the depictive's frame description needs to list all thematic role attributes it could potentially modify.

Semantic Ambiguity Approach

The depictive adjunct tree is adjoined at the VP node.

At the VP node all of the event frame information are accessible.

The disjunction between AGENT and THEME in the depictive frame enables it to unify with either the AGENT or THEME subframe of the event.

This analysis requires **only one kind of depictive tree** and also **enables stacking**.

ACTOR-UNDERGOER-Linking I

The **solution**: abstraction over thematic roles using **semantic macroroles**, i.e. actor and undergoer (see Van Valin, Jr. 2005).

The bearers of these macroroles are determined based on the thematic roles given in an event frame: very roughly put,

The most agent-like participant receives the **actor** role.

The most patient like participant receives the **undergoer** role

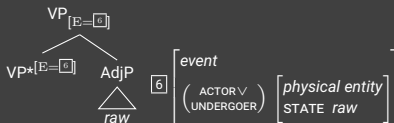
Oblique arguments do not receive macroroles; they are **macrorole empty**.

ACTOR-UNDERGOER-Linking II

Linking between thematic roles and macroroles is implemented in Kallmeyer et al. (2016) the verb frames are enriched with these features:

	<i>eating</i>	
	AGENT	[1] [<i>animate</i>]
[0]	ACTOR	[1]
	THEME	[2] [<i>physical entity</i>]
	UNDERGOER	[2]

There is a **uniform adjunction tree** for both subject and object depictives:



Remaining Issues I – Oblique Arguments

Non-Actor/Undergoer Targets

Contrary to our analysis oblique arguments might in fact be possible targets of depictives.

- (12) a. You can't give them_j injections unconscious_j.
Simpson [5]
- b. (When) I talked to Sue_i drunk_i (, she was really talkative). (From an online forum post)

Reanalysis of these examples as light or particle verb constructions might be a solution to this puzzle.

Remaining Issues II – Non-Arguments

Constituents of complex arguments could be targets of depictives.

- (13) If you're an investment banker, don't choose a profile of yourself_i [drunk at a house party]_i.

Conclusion

With our semantic approach with actor-undergoer-linking **target ambiguity** can be modeled.

Depictive stacking is possible via iterative adjunction.

We achieve a **uniform syntactic derivation** for subject and object depictives.

Prediction: only actor and undergoer can be targeted by a depictive; non-actor and non-undergoer arguments cannot.

The next step: more empirical work to double check our observations about the data.

Thank you for your kind attention!

- [1] Geuder, Wilhelm. 2004. Depictives and transparent adverbs. In Jennifer R. Austin, Stefan Engelberg & Gisa Rauh (eds.), *Adverbials: The interplay between meaning, context, and syntactic structure*, 131–166. Amsterdam: John Benjamins Publishing Company.
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<http://www.aclweb.org/anthology/W16-3305>.
- [3] Müller, Stefan. 2008. Depictive secondary predicates in German and English. In Christoph Schroeder, Gerd Hentschel & Winfried Boeder (eds.), *Secondary predicates in Eastern European languages and beyond (Studia Slavica Oldenburgensia 16)*, 255–273. Oldenburg: BIS-Verlag.
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- [6] Van Valin, Jr., Robert D. 2005. *Exploring the syntax-semantics interface*. Cambridge: Cambridge University Press.