Theta-Head Binding in German Locative Alternations
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Empirical realm and main claims: In this talk, we compare German structures with Free Landmark Datives (Ground Locative Datives; FLD) as in (1) (Hole 2014) with the locative alternation of the spray/load-type with be-prefixion as in (2).

(1) der Kamera die Linse zuhalten (2) den Kuchen mit Eigelb be-streichen
the cameraDAT the lens hold.closed the cakeACC with egg.yolk be-smear
‘hold the camera lens closed’ ‘coat the cake with egg yolk’
base: die Linse zuhalten Eigelb auf den Kuchen streichen

We argue that both structures involve obligatory variable binding in a local domain which is triggered by the Landmark theta-head: Antecedent Landmark DPs bind the possessors of neighborhood region PPs. The idiosyncrasies of be-prefixed structures are attributed to be-, which starts out as a defective preposition and then head-moves to the verb in two steps, much in the spirit of Svenonius (2003), Biskup et al. (2012) and, more distantly, Wunderlich (1987).

Theoretical significance: The core of the proposed mechanism elaborates Kratzer’s (2009:194) proposal to implement reflexivity in an agent-severed system that centers around verbal functional heads which introduce bare binder indices into the structure. We extend this proposal beyond FLDs (Hole 2014) to the be-marked Locative Alternation. This extension forms part of a larger endeavor to demonstrate the necessity to describe quite a few well-known argument alternations as depending on the presence of binder theta-heads.

Data: FLDs obligatorily bind a possessor variable in a local domain. In (1), the bound variable forms part of the bridging definite die Linse, which is obligatorily interpreted as ‘its lens’, with the possessor variable bound by der Kamera. In each and every case, the bound variable can salva veritate be made explicit as in (3). The same holds true of the reference to the neighborhood region SURFACE/OUTSIDE with productive instances of be-prefixations, as shown in (4). (SURFACE and OUTSIDE are taken here to be instantiations of a single neighborhood region. Curly brackets indicate material that is, we assume, PF-optional, but semantically active irrespective of its pronunciation.) In cases in which neighborhood regions other than SURFACE, typically INSIDE, co-occur with be-prefixed verbs, we are dealing with non-productive uses of be--; cf. the unpredictable behavior of cases relating to INSIDE in (5) vs. (6). (7) is a case of productive be-prefixation like (4), and it renders explicit the restriction to SURFACE/OUTSIDE.

(3) der Kamerai ihre, Linse zuhalten (4) den Kucheni an seiner, Oberflächej mit Eigelbbe-streichen
the cameraDATits lens hold.closed the cakeACC at its surface with egg.yolk be-smear
‘hold the camera lens closed’ ‘coat the cake with egg yolk at its surface’

(5)*das Lochj innenj mit Wachs be-stopfen (6) den Tankj innenj mit Benzin be-füllen
the holeACC inside with wax be-stuff the tankACC inside with gasoline be-fill
int.: ‘stuff the hole with wax’ ‘fill the tank with gas’
base: Wachs in das Loch stopfen Benzin in den Tank füllen

(7) das Buchj von außen/*von innenj be-malen
the bookACC from outside/from inside be-paint
‘paint the book {from the outside/*on the inside}’

We propose syntactic representations for (2) (productive be-prefixion/ Locative Alternation) and (1) (FLDs) as in (8), where the subtrees around the Landmark theta-heads are identical in all relevant respects. (For simplicity, (8b) does not represent the syntactic derivation of the particle verb zu-halten ‘hold closed’.)
(8) a. Productive Locative Alternation with be-

\[ \text{VP} \]

\[ \text{den Kuchen} \]

\[ \theta_{LDM} \]

\[ V' \]

\[ \text{be-streichen} \]

\[ \theta_{LDM}' \]

\[ V \]

\[ \text{den Kuchen} \]

\[ \theta_{LDM} \]

\[ \text{be} \]

\[ \theta_{LDM}' \]

\[ \text{be-AT‘} \]

\[ \{\text{its} | \text{SURFACE}\} \]

b. Free Landmark Dative (cf. Hole 2014)

\[ \text{VP}^+ \]

\[ \text{der Kamera} \]

\[ \theta_{LDM} \]

\[ \text{be} \]

\[ \theta_{LDM}' \]

\[ i \]

\[ \text{PP} \]

\[ \text{ihre, Linse zuhalten} \]

\[ \text{VP} \]

In this position, it can select for the SURFACE PP, thereby satisfying the restriction on productive be-uses (see below for compositional details). Be- then moves up further to satisfy its affixal needs. The Landmark head (little p in Biskup et al 2012) enters the derivation with a binder feature [+b] which leads to structure expansion along the lines of Hole’s (2014) Generalized Binder Rule in the tradition of Büring’s (2005) Binder Rule; cf. (9). Spelling out Kratzer’s (2009) program, it is tied to a verbal functional head/a theta-head.

(9)

\[ \theta_{LDM} \]

\[ \text{XP} \]

\[ \Rightarrow \text{LF} \]

\[ \theta_{LDM} \]

\[ \text{XP}^+ \]

\[ \beta \]

The ensuing structure can be interpreted with standard machinery (FA, predicate abstraction, (Davidsonian) predicate modification; derivation not shown here). The simplified denotations of \( O\theta_{LDM}\Pi \) and \( O\theta\Pi \) are given in (10a/b). The result of function composition of \( \theta_{LDM} \) and be- – the result of incorporation of be- into \( \theta_{LDM} \) – is provided in (10c).

(10) a. \( O\theta_{LDM}\Pi = \lambda x, \lambda s. \exists s’[s \text{ holds in the neighborhood of } x(s’) \text{ & } s \text{ is part of } s’] \)

b. \( O\theta\Pi = \lambda x, \lambda y, \lambda s, y \text{ is at } x(s) \)

c. \( O\theta_{LDM}\Pi \circ O\theta\Pi = \lambda x, \lambda y, \lambda s, s’ \text{ holds in the neighborhood of } y(s’) \text{ & } y \text{ is at } x(s) \text{ & } s \text{ is part of } s’] \)

The meaning of \( \theta_{LDM} \) in (8a) will then be ‘\( \lambda s, s’[s \text{ holds in the neighborhood of the cake}(s’) \text{ & } s \text{ holds at the cake’s surface & } s \text{ is part of } s’]’.

\( \text{(notabene: none of the conjuncts of (10c) is redundant; in fact, their conjunction guarantees that the complete cake, and not just some part of it, is involved in the eventuality.) The DP \text{den Kuchen inserted in Spec}\theta_{LDM} \text{ moves up to VP to check its case features in the V-Voice system. In (8b) \text{der Kamera enters the derivation in the specifier of the } \theta_{LDM} \text{ with the binder feature } [+b] \text{ that requires binding of some variable in its local domain. Evidence supporting the general presence of a semantic binding configuration in (8a) as in (8b) comes mainly from three sources: (i) the PP containing the bound variable may invariably be made explicit; (ii) quantified Landmark DPs co-occur with singular PP complements that obligatorily receive a distributed reading; cf. (11); (iii) if possessive pronouns are used as in (3)/(4), they invariably receive a bound reading, despite the possibility to use possessive pronouns anaphorically in other contexts of German (not shown here).} \)} \)

(11) [\text{den Kuchen}, \text{an seiner Oberfläche mit Eigelb be-streichen} ‘coat each cake with egg yolk at its surface’]

In sum, our approach to the alternation with be-prefixed verbs combines two strands of research and shows the pervasive activity of the Landmark theta-head in its binder guise.