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1 Introduction

Discontinuous elements have received a lot of attention in the literature. As already intensively discussed by Fanselow (1988) and van Riemsdijk (1989) among many others, German is interesting in that it allows the "lower" part of a Determiner Phrase (DP) to be left-dislocated. Compare (1a) to (1b):

(1) a. Ich habe keine Bücher gelesen.
I have no books read
b. Bücher habe ich keine gelesen.
books have I none read.
c. [X] ..... [Y]
split-off source

I refer to this construction as "split-NP", to the left nominal as "split-off", and to the right one as "source". Importantly, the "higher" part of the DP cannot be moved, as in (2a), and both nominals seem to be syntactically related in that a split-off cannot co-occur with a "complete" source (2b).

(2) a. *Keine habe ich Bücher gelesen.
none have I books read
b. *Bücher habe ich keine Romane gelesen.
books have I no novels read

Despite appearances, I will argue below that the split-off does not move out of the source. Rather, I propose that split-NPs involve the separate base-generation of a predicative split-off and an argumental source in a local domain, the VP, defined by sideward movement of the verb. The split-off undergoes subsequent movement to the left and the semantic value of a proposed null noun in the source is calculated on the basis of the split-off at LF. In order to constrain the derivations, I will formulate conditions on semantic identification and syntactic licensing.

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The paper is organized as follows: First, I illustrate some well-known properties of this construction that indicate base-generation and movement. After briefly critiquing some earlier accounts, I show that these paradoxical features follow from my hybrid approach involving both base-generation and movement. The conclusion summarizes the main findings of this paper.

2 Paradoxical Properties

First I discuss two phenomena that indicate base-generation and then two that suggest movement. (For more arguments, see the individual papers.)

2.1 Base-generation of Two Independent Noun Phrases

Van Riemsdijk (1989) observes that a second, indefinite determiner may occur in the split-off:

(3)	a.	Einen	Wagen	hat	er	sich	noch	keinen	leisten	können.
		a	car	has	he	refl	yet	none	afford	could
	b.	*Den	Wagen	hat	er	sich	noch	keinen	leisten	können.
		the	car	has	he	refl	yet	none	afford	could

If we make the well-documented claim that noun phrases may contain only one determiner, then (3a) suggests that split-NPs involve two nominals. Second, Fanselow (1988) reports that apparent non-constituents may move to Spec,CP:

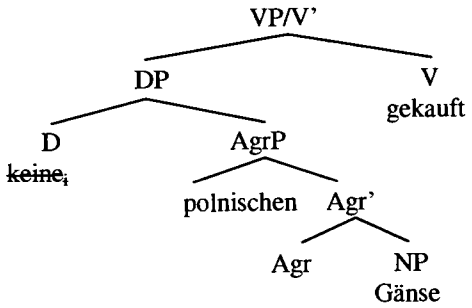
(4)	[Polnische	Gänse	gekauft]	hat	sie	keine.
	Polish	geese	bought	has	she	none

Note that, for constituency to hold, one would have to assume that *keine* 'no' has moved out of the verbal constituent before the latter underwent remnant movement to Spec,CP, as in (6).

While evidence might be brought forth to bear on this issue, consider a more complex example that involves two adjectives, one in the split-off and one in the source:

(5)	a.	Er	hat	gestern	nur	ein	frisches	deutsches Brot gekauft.
		he	has	yesterday	only	a	fresh	German bread bought
	b.	[Deutsches	Brot	gekauft]	hat	er	gestern	nur ein frisches.
		German	bread	bought	has	he	yesterday	only a fresh

(6)



As is clear from the tree in (6), the determiner and the adjective do not form a constituent to the exclusion of the lower part of the DP. Thus, they cannot have vacated the verbal constituent before it moved to Spec,CP. Again, I conclude that split-NPs involve two nominals.

2.2 Movement

The split-off can contain an anaphor, as van Riemsdijk (1989) points out, and a bound pronoun:

(7) a. Bücher von einander$_i$ sind uns$_i$ keine bekannt.
books by one.another are to.us none known
b. Ratschläge von seiner$_i$ Mutter hat jeder$_i$ viele bekommen.
advice by their mother has everyone many gotten

Assuming that anaphors and bound pronouns have to be c-commanded, we conclude that the split-off must have moved from a lower position. Second, while German allows the split-off to undergo long topicalization (8a), Fanselow (1988) observes that this is not possible out of an island (8b) (the example is from Grewendorf 2002:89):

(8) a. Bücher hat sie geglaubt, hat Peter keine.
books has she believed has Peter none
b. *Politiker weiß ich nicht, wer aufrichtige kennt.
politicians know I not who sincere knows

Considering the ungrammaticality of (8b), we have a second piece of evidence for movement.

To summarize, while two determiners and apparent non-constituents suggest base-generation of two independent noun phrases, binding phenom-

ena and island effects indicate movement.

3 Proposal

In order to account for these paradoxical properties, Fanselow and Ćavar (2002) propose that there is movement but crucially *not* out of the category to be split up, that is, the DP. As a technical implementation, they adopt the copy-and-delete approach to movement (Chomsky 1995). Moving the entire DP, they propose that deletion may affect *both* copies. Glossing over the details, they suggest that the determiner is deleted in the higher copy and the head noun in the lower one (9b). At first glance, this analysis of distributed deletion seems to receive strong confirmation from the fact that the deletion of the higher copy of the determiner may, under certain conditions, be suspended (9c):

(9) a. (Einen) Wagen hat er sich noch k-einen leisten können.
a car has he refl yet n-one afford could
b. {~~einen~~ Wagen} hat er sich noch k- {einen ~~Wagen~~} leisten können
c. {einen Wagen} hat er sich noch k- {einen ~~Wagen~~} leisten können

However, upon closer inspection, both determiners do not have to be the same (10a). In fact, when the determiner in the source is definite, the one in the split-off cannot be definite (10b):

(10) a. Einen Wagen hat er sich nur diesen leisten können.
a car has he refl only this afford could
b. *{Diesen / Den } Wagen hat er sich nur diesen leisten können.
this / the car has he refl only this afford could

Now, if Fanselow and Ćavar's copy-and-delete analysis were correct, we would expect the grammaticality judgments in (10) to be the reverse. While I believe that the basic insight of Fanselow and Ćavar (2002) is correct, I will opt for a different technical execution.

In earlier work, Fanselow (1988:103–4) proposed that split-NPs involve two noun phrases, one containing *pro* and the other a co-indexed nominal:

(11) $[_{VP}\ [_{NP}$ keine pro_i $]\ [_V\ [_{NP}$ polnische Gänse $]_i$ gekauft $]]$
none Polish geese bought

Fleshing out this proposal, Grewendorf (1989:27) suggests that the "restructured" noun phrase in (11) is a result of reanalysis under adjacency. More-

over, Grewendorf (1991:304) argues that *pro* in the source must be identified by a strong ending (cf. Fanselow's 1988:101 discussion on inflection).

In what follows, I will show that adjacency does not have to hold and that a strong inflection is not a necessary condition to license split-NPs. Rather than reanalysis and *pro*, I will propose that both nominals are base-generated in a local domain and that the source contains a null noun that needs to be semantically identified and syntactically licensed.

3.1 No Adjacency

If the two nominals are a result of reanalysis, then we expect adjacency to hold. However, the demonstrative intensifier *da* (cf. Brugè 1996, 2002) in the source may intervene between the head noun, on the one hand, and the object *von*-phrase and the verb to be moved, on the other:

(12) a. Ich habe nur die Bilder da von Maria angesehen.
I have only the pictures there from Mary looked.at
b. [Bilder$_i$ (*da) von Maria$_j$ angesehen$_k$] habe ich nur die t_i da t_j t_k.
pictures there from Mary looked.at have I only the there

Note that, if adjacency were a relevant feature, we would expect the intensifier to be part of the split-off. I conclude that reanalysis is not involved here (something similar can also be shown for intervening genitive noun phrases and, with more complex examples, for preposition phrases).

3.2 A Strong Ending is Not a Necessary Condition

At first glance, one may claim that a strong inflection is necessary to license *pro*. This can be seen from the fact that *lila*-type adjectives have an optional (strong) ending when the noun is overt but an obligatory ending when not:

(13) a. Ich habe lila(ne) Bücher.
I have purple books
b. Bücher habe ich lila*(ne) *pro*.
books have I purple

However, a weak inflection immediately preceding *pro* and indeclinable elements, in general, do not lead to ungrammaticality:

(14) a. Kleid habe ich immer nur dieses rote *pro* getragen.
dress have I always only these(STRONG) red(WEAK) worn

b. Kleid habe ich immer nur dies hier *pro* getragen.
dress have I always only this(INDECL) here worn
c. Hemden habe ich immer nur Peters *pro* getragen.
shirts have I always only Peter's worn
d. Hemden habe ich in meinem Leben genug *pro* getragen.
shirts have I in my life enough worn

The true generalization that seems to emerge with regard to inflection is the following:

(15) *Generalization*
If an element in the source is declinable, then the inflection is obligatory.

To conclude, rather than *pro*, I assume with Grimshaw (1991) that all noun phrases have a noun as the head of their extended projection. For the cases under discussion, I propose that this is the null noun e_N (for extensive discussion, see Panagiotidis 2002, 2003).

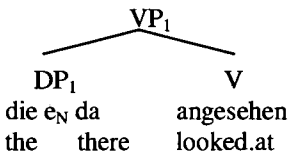
3.3 Derivation: Sideward Movement of the Verb

Consider the derivation of one of the key examples:

(16) [Bilder von Maria angesehen] habe ich nur die da.
pictures from Mary looked.at have I only the there

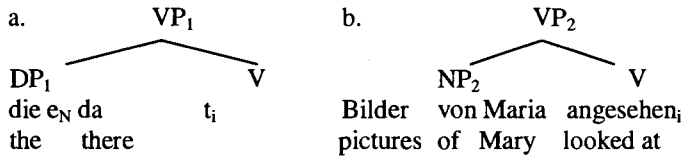
The source, containing the null noun e_N, is independently assembled. Following that, the verb merges with the source, c(ategory)-selecting D:

(17)



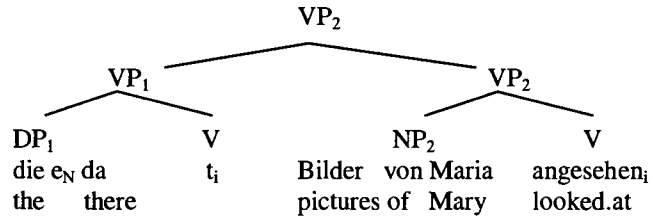
With the split-off independently assembled, the verb undergoes syntactic, sideward movement as in Matushanksy (2006) and in the spirit of Nunes (2001), respectively, l(exical)-selecting the overt noun *Bilder* 'picture':

(18)



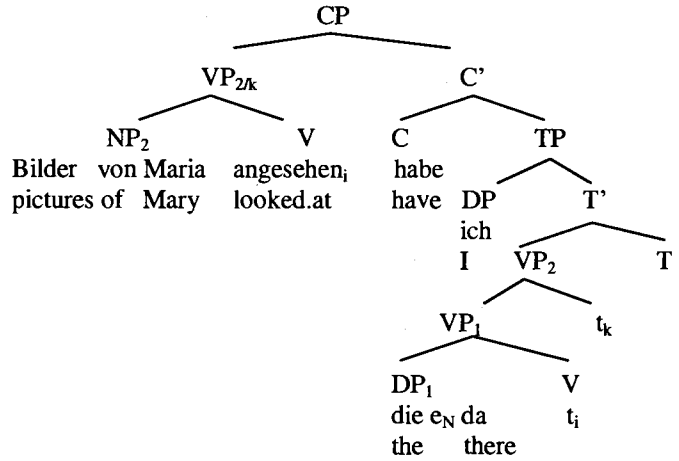
Then, VP_1 is adjoined to VP_2:

(19)



Finally, if the lower VP_2 moves to Spec,CP, we derive (16):

(20)



If the lower VP_2 stays in situ and NP_2 moves to Spec,CP, we derive (21):

(21) [Bilder von Maria] habe ich nur die da angesehen.
pictures from Mary have I only the there looked.at

Importantly, if DP_1, VP_1, or upper VP_2 moves, ungrammaticality results. I turn to conditions that rule these options out.

3.4 Semantic Identification

Starting with the source, note that the null noun e_N is not c-commanded by the split-off in its derived position in (20). Rather than a purely syntactic account, I suggest a partially semantic one. It is important to point out that, with the exception of the determiner in the source, everything can in principle be part of the split-off (for some restrictions, see Roehrs in progress, Chapter 4).[1] Following Heim and Kratzer (1998) in that the determiner is of type <<e,t>,e> and that the determiner combines with an element of type <e,t> by Functional Application, I propose that the null noun e_N is an empty predicate (of type <e,t>) (cf. Fanselow 1988:106, Panagiotidis 2003:425). In view of the fact that split-NPs seem to be, at least in part, a semantic phenomenon, I propose that e_N is a semantic anaphor:

(22) *Semantic Identification of* e_N *in* DP_1
e_N is a semantic anaphor of type <e,t>

According to this condition, e_N must be preceded by its antecedent, the split-off (see below). If this is on the right track, then only NP_2 and lower VP_2 may move to Spec,CP. If, for instance, DP_1 *were* to move, as in (23) repeating (2a), the anaphor would not be preceded by its antecedent and thus not be identified:

(23) *Keine e_N habe ich Bücher gelesen.
none have I books read

Turning to the split-off, Haider (1990:108), Tappe (1989:167), and Fanselow (1988:105–6) argue that NP_2 is a (complex) nominal predicate (rather than a second argumental DP). This has several advantages: first, there is no Theta-Criterion violation as the verb assigns its theta role only once in the course of the derivation, namely to the argumental source DP.

Second, it is well-known that singular countable nouns must be preceded by a determiner in German (24a–b). If this is so, then the grammatical bare noun in (24c) must involve a predicate (cf. Haider 1990:108 fn. 8):

(24) a. Ich habe *(ein) Hemd.
I have a shirt

[1] In work in progress, I explore the possibility that c-command holds in the underived position, that is, that the null noun is c-commanded by the split-off after all. I thank Susi Wurmbrand for encouraging me to look in this direction.

b. *(Ein) Hemd habe ich nicht.
   a shirt have I not
c. Hemd habe ich keins.
   shirt have I none

Third, only indefinite determiners may occur in predicate contexts (25a). If the split-off is a predicate, then this immediately explains why only indefinite determiners can occur in the split-off, repeating (10a–b) here as (25b–c):

(25) a. Ich halte ihn für {einen / *den } guten Lehrer.
   I consider him (for) a / the good teacher
b. Einen Wagen hat er sich nur diesen leisten können.
   a car has he refl only this afford could
c. *{Diesen / Den} Wagen hat er sich nur diesen leisten könen.
   this / the car has he refl only this afford could

If these considerations are on the right track, then we can observe that the predicative NP_2 and the null predicative e_N in the source are of the same semantic type (<e,t>). I propose that the calculation of e_N proceeds on the basis of the nominal predicate in Spec,CP:

(26) [Bilder von Maria ...] ... [die e_N da] ...
<e,t> <e,t>
Semantic calculation

With c-command not a necessary condition as discussed above, an abstract reviewer wonders why no other (embedded) nominal of type <e,t> can function as the antecedent. In other words, why can the lexical noun of a subject, for instance, not be the antecedent of e_N:

(27) [$_{VP}$ [$_{NP}$ Bilder von Maria] V] ... [$_{DP}$ D [$_{NP}$ N]] ... [$_{DP}$ die [$_{NP}$ e_N da]]
<e,t> <e,t> <e,t>
* √

The derivation involving sideward movement of the verb provides a straightforward answer: at some point in the derivation, both the source DP and the split-off NP are complements of the verb. As such, they have the same positional "address" in the sense of McGinnis (2004:67). If we assume

that only elements with the same address can be associated in the relevant sense, then only the split-off predicate can function as an antecedent. The idea of positional addresses has some interesting consequences.

To start off, if the requirement to have the same address is needed to rule out certain interpretations as just discussed, then the mechanism assigning these addresses provides an argument that the split-off must have been in VP and undergone subsequent movement to Spec,CP. Conversely, if the split-off is base-generated in Spec,CP, then this should lead to problems. Consider the following examples, repeating (2b) here as (28b):

(28) a. (*)Bücher habe ich keine e_N gelesen.
books have I no read
b. *Bücher habe ich keine Romane gelesen.
Books have I no novels read

In both examples, the split-off has not been inside VP and hence does not have the same positional address as the source DP. This means that, although (28a) is grammatical, this particular derivation is ruled out since *Bücher* 'pictures' cannot function as the relevant antecedent. Consequently, the null noun remains unidentified leading to a bad derivation. In contrast to (28a), the source in (28b) is "complete". In other words, there is no anaphor to be identified and the ungrammaticality of the example must be explained in a different way.

I will assume that open, semantically unsaturated elements must be "closed off". With the predicative split-off an open expression, I suggest that there are three potential ways to license it in a sentence: as discussed above, the split-off could form the semantic value for the calculation of e_N and get licensed, as it were, in "proxy" (i). Furthermore, the split-off could be predicated of another noun phrase (ii) or the split-off, itself, could be the argument of another functor, for instance, a determiner (iii). Crucially, however, there seem to be no null anaphors or other "free" noun phrases or functors available in (28b). I suggest that this leads to ungrammaticality since the split-off predicate cannot be closed off.

If the source DP contains a null noun, then we expect not only semantic restrictions to hold but also syntactic ones.

3.5 Syntactic Licensing

The licenser in the source DP has the following properties:[2]

[2]If the subconditions apply at the same time, then this syntactic licensing seems

(29) *Syntactic Licensing of* e_N
The licenser must:
(i) be overt
(ii) c-command e_N
(iii) overtly agree (if possible)

The licenser must be overt (i). Considering the fact that indefinite plural determiners in German are null, the example in (30a) has two potential analyses, one where the entire DP has moved and one involving a split-NP:

(30) a. Hemden habe ich getragen.
shirts have I worn
b. $[_{DP}$ Ø Hemden $]_i$ habe ich t_i getragen.
c. (*)$[_{NP}$ Hemden $]_i$ habe ich $[_{DP}$ Ø $e_N]$ t_i getragen.

Assuming that (30c), but not (30b), may lead to learnability problems of e_N, I conclude that the licenser of e_N must be overt.

The null noun e_N must be c-commanded by its licenser (ii). To set the stage, complex possessors in the genitive case have to follow the head noun:

(31) a. Hemden meines Vaters
shirts of.my father
b. ??meines Vaters Hemden
of.my father shirts

If this is so, then the degradedness in (32b) indicates either the awkward pre-nominal position of the possessor or the lack of c-command from a post-nominal position:

(32) a. Ich habe immer nur Hemden meines Vaters getragen.
I have always only shirts of.my father worn
b. ??Hemden habe ich immer nur $[_{DP}$ Ø e_N meines Vaters] getragen.
shirts have I always only of.my father worn

In contrast to complex genitive possessors, *von*-phrases may follow and precede the noun:

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to hold in overt syntax as the intersection of (i)/(iii) and (ii) is only given during the derivation from the Numeration to Spell-out. This raises interesting questions for a minimalist account where Spell-out/S-structure is not a level of representation.

(33) a. Ich habe immer nur Hemden von meinem Vater getragen.
I have always only shirts of my father worn
b. Ich habe immer nur von meinem Vater Hemden getragen.
I have always only of my father shirts worn

If what we have said so far is correct, then we expect that pre-nominal, c-commanding possessors may function as licensers. This is so, as shown for *von*-phrases in (34a) and proper names in (34b):

(34) a. ?Hemden habe ich immer nur [von meinem Vater] getragen.
shirts have I always only of my father worn
b. Hemden habe ich immer nur Peters getragen.
shirts have I always only Peter's worn

Finally, licensers must overtly agree (if possible), repeating (13) here as (35):

(35) a. Ich habe lila(ne) Bücher.
I have purple books
b. Bücher habe ich lila*(ne).
books have I purple

While I will not attempt to derive all these properties here, the latter restriction might be part of a more general phenomenon where split elements exhibit richer agreement. In this respect, consider examples from Serbo-Croatian, taken from Bošković (2005:39–40):

(36) a. On je srušio čiča Tominu kolibu.
he is torn.down uncle(NOM) Tom's cabin(ACC)
b. Čičinu je on Tominu kolibu srušio.
uncle(ACC) is he Tom's cabin(ACC) torn.down

Relevant for present purposes, if the noun phrase is split up, the (default) nominative on *čiča* 'uncle' is replaced by the accusative.

4 Conclusion

The present proposal started with Fanselow and Ćavar's (2002) insight that split-NPs involve movement but crucially *not* out of the category to be split up. Rather than distributed deletion, I argued for a hybrid analysis: the split-off and the source are base-generated separately in a local domain, the VP, defined by sideward movement of the verb, and the split-off undergoes sub-

sequent movement to Spec,CP. I argued that the source is an argumental DP and the split-off a predicate NP. The former contains a null semantic anaphor that needs to be semantically identified on the basis of the split-off and syntactically licensed by an overt, c-commanding, and, if possible, agreeing element in the source. With this in mind, the binding phenomena and island effects discussed above follow from movement of the split-off; the two determiners and the apparent non-constituent movement fall out from the base-generation of two syntactically independent nominals.

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