

# Discourse particles, successive-cyclic movement, and the nature of derivations

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## 1. Discourse particles in clause structure

Discourse particles (in German *Modalpartikeln* or *Abtönungspartikeln*) are geared to certain clause types (declarative, polar interrogative, *wh*-interrogative, exclamative, imperative etc.) and arise mainly in root clauses. They make a semantic contribution by co-determining the illocutionary force of an utterance (Thurmair 1989; Coniglio 2011). German *wh*-questions can combine at least with *denn* (lit. “then”), *wohl* (lit. “well”), *nur* (lit. “only”), *schon* (lit. “already”). Consider the question in (1) and its versions in (2) as yielded by these particles:

(1) *Wo wohnt er?*  
where lives he  
'Where does he live?'

- (2) a. *Wo wohnt er denn?*  
b. *Wo wohnt er wohl?*  
c. *Wo wohnt er nur?*  
d. *Wo wohnt er schon?*

(2a): Given a common ground *g* between speaker and hearer, where does he live in relation to some aspect of *g*; *denn* is anaphoric to *g*; no out-of-the blue usage, see König (1977), Wegener (2002), Grosz (2005), Bayer (2012).

(2b): Speaker signals that he/she is in a state of uncertainty about the answer, see Zimmermann (2004).

(2c): Speaker signals that he/she has already unsuccessfully tried to find an answer; Obenauer's (2004) “can't-find-the value questions.”

(2d): *Schon* induces some scale by which the entities (here places) that can replace the variable are ranked according to their plausibility or likelihood of yielding a true answer. Speaker creates the implicature that few entities are high enough on the scale to make the answer true. Yields a rhetorical question; see Meibauer (1994), Bayer and Obenauer (2011).

Questions which need to be asked about the syntax/semantics interface are

- (i) What is the syntactic status of discourse particles? How are they merged?
- (ii) How is the clause-type sensitivity of discourse particles implemented?
- (iii) How do discourse particles contribute to illocutionary force?

## 1.1 Syntactic Position

It is generally claimed that discourse particles, unlike adverbs, are immobile. As shown in (3), particles like German *denn* (lit. 'then') or *bloß* (lit. 'only') are invariably stuck in a pre-VP/*v*P position that can be at an arbitrary distance from Force°.

- (3) a. [<sub>FinP/ForceP</sub> Force°/Fin° [ CL\* [<sub>TopP</sub> ... [ **Prt** [ ... [<sub>VP/vP</sub> ... ]]]]]]]  
 b. *Hat* {*mich*/MICH} *denn* {\**mich*/MICH} *jemand* *sprechen* *wollen*?  
 has me DENN me someone speak wanted  
 'Did someone want to talk to me? (I am wondering)'  
 c. *Hat* {*es*/'s} *denn* {\**es*/'s} *jemanden* *interessiert*?  
 has it DENN it someone interested  
 'Did someone take an interest in it (...)?'

## 1.2 Connecting to illocutionary force

Force c-commands *Prt* but *Prt* is not part of the ForceP. This suggests invisible (phrasal) LF-movement or feature movement (Chomsky's 1995 "Move-F"), see Zimmermann (2004).

- (4) a. [<sub>FinP/ForceP</sub> **Prt** [<sub>FinP/ForceP</sub> Force°/Fin° [ CL\* [<sub>TopP</sub> ... [ ~~**Prt**~~ [ ... [<sub>VP/vP</sub> ... ]]]]]]]]]  
 b. [<sub>FinP/ForceP</sub> Force°/Fin°+FF(**Prt**) [ CL\* [<sub>TopP</sub> ... [ **Prt** [ ... [<sub>VP/vP</sub> ... ]]]]]]]

However, considerations of scope in complex sentences suggest that the particle takes scope where we see it.

- (5) a. *Wo glaubst du, dass man hier nachts um 3 Uhr schon Benzin bekommt?*  
 where believe you that one here at-night at three SCHON gasoline gets  
 'Where do you believe that one can get gasoline here at 3 o'clock in the night? –  
 Nowhere/hardly anywhere!'  
 b. #*Wo glaubst du schon, dass man hier nachts um 3 Uhr Benzin bekommt?*  
 where believe you SCHON that one here at-night at three gasoline gets  
 (intended: same as (5a))

(5a) shows two properties that rule out classical LF-movement:

### (i) Scope

The particle takes scope where we see it, since the interpretation in (5a) is (A) and not (B).

(A) 'Speaker asks about the places *x* such that the addressee believes that there is a plausibility ranking of *x* according to which one can get gasoline in *x* at 3 o'clock in the night.'

(B) 'Speaker asks about the places *x* such that there is a plausibility ranking of the addressee's believing that one can get gasoline in *x* at 3 o'clock in the night.'

### (ii) Force

The Q-sensitive particle *schon* can contribute its meaning to the formation of a rhetorical question, but LF-movement across the CP-boundary is generally not attested.



Via agreement, *Prt* becomes part of Force. Since agreement is constrained by locality, it is predicted that Force and *Prt* must be clause mates. This conforms to the traditional observation that discourse particles are (generally) root phenomena.

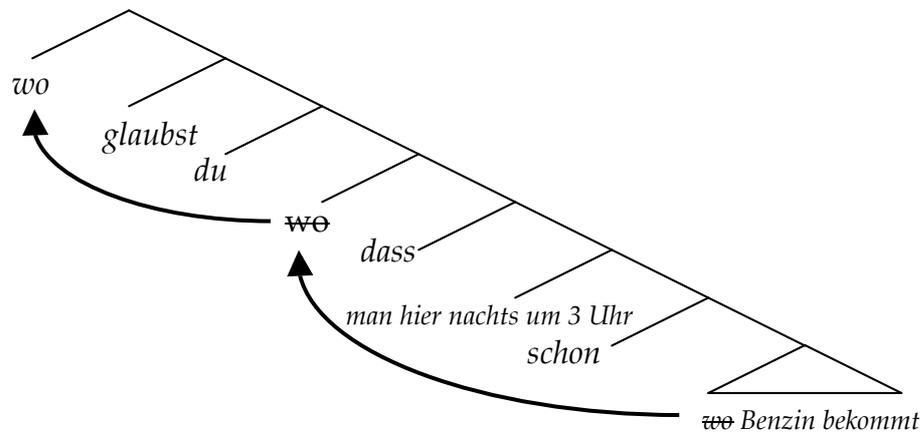
## 2. Successive-cyclic movement, small particle phrases, and emphasis

We can now explain how discourse particles in simplex utterances such as (2) connect to illocutionary force. However, when we turn to more complex cases, it seems that we are facing serious problems concerning syntactic locality. In particular, given the 'Phase Impenetrability Condition' (PIC) and assuming, with Chomsky (2001), that CP and *v*P are phases, how can *schon* in (5a), repeated here for convenience, connect to illocutionary force?

- (5) a. *Wo glaubst du, dass man hier nachts um 3 Uhr schon Benzin bekommt?*  
 where believe you that one here at-night at three SCHON gasoline gets  
 'Where do you believe that one can get gasoline here at 3 o'clock in the night? –  
 Nowhere/hardly anywhere!'

We claim that *Prt* can occur in a dependent clause as a consequence of successive-cyclic *wh*-movement from that clause, where the force feature of *Prt* can be picked up by a *wh*-phrase in passing.

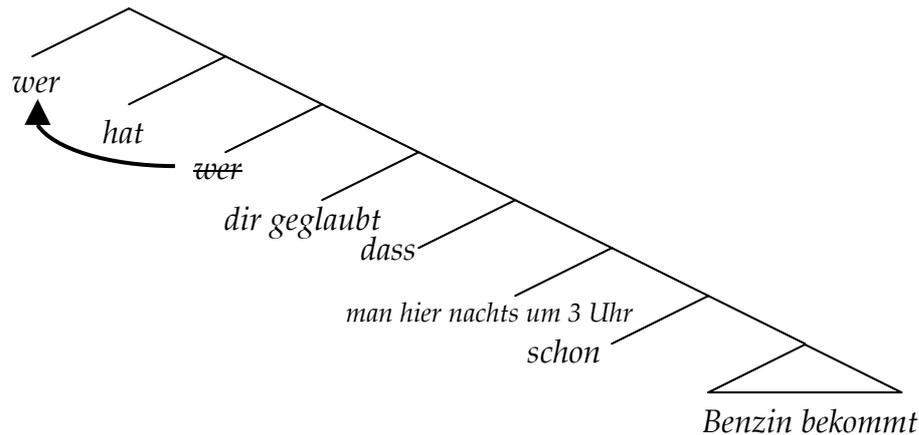
- (5') a.



Note that the particle interpretation is not available when *wh*-movement does not originate in the dependent clause.

- (10) # *Wer hat dir geglaubt, dass man hier nachts um 3 Uhr schon Benzin bekommt?*  
 who has you believed that one here at-night at three SCHON gasoline gets  
 (intended: same as (5a))

(10')



Prt in the non-interrogative complement is grammatical if it is in a local relation with  $uQForce[ ]$ , i.e. the position which the  $wh$ -operator passes through in successive-cyclic movement. Prt is ungrammatical in dependent non-interrogative clauses otherwise (experimental evidence from Magnitude Estimation studies in Bayer, Häussler, and Bader in prep.).

In sum, the link between illocutionary force and the discourse particle is local in terms of phase theory and the PIC. Since cyclic agreement comes about as a consequence of  $wh$ -movement, particles like *schon* seem to qualify as an independent diagnostic for cyclic  $wh$ -movement. Moreover, since  $vP$  does not qualify as the locus of Force, our analysis provides evidence that successive-cyclic movement involves SpecCP as an intermediate landing site, contra Den Dikken (2009) and Rackowski and Richards (2005).

## 2.1 Small particle phrases

In section 1, we claimed that (i) discourse particles are invariably stuck in a pre-VP/ $vP$  position and that (ii) successive-cyclic  $wh$ -movement enables Prt to occur in dependent clauses. There is a well-known exception to (i): Discourse particles in questions can move “piggy-back” with a  $wh$ -phrase to the left periphery of the clause. An analogous process to (ii) provides an explanation for the constructions in (11):

- (11) a. [Wer *denn*] soll lesen, was ich in diese Hefte schreibe?  
 who DENN should read what I in these copy-books write  
 ‘Who is then supposed to read what I write into these copy-books?’  
<http://correcteurs.blog.lemonde.fr/2007/07/02/rabit/>
- b. [Warum *bloß*] ist ein Rauschenberg so teuer?  
 why BLOSS is a Rauschenberg so expensive  
 ‘Why on earth is a Rauschenberg so expensive?’  
 Title of an article by Friedrich Schneider et al. from 1983 in *Kunst und Wirtschaft*. Bachem, Köln. 50-81.
- c. Fran ist lustig und erfolgreich... und schwanger, aber [von wem *bloß*]?  
 Fran is humorous and successful and pregnant but from who BLOSS  
 ‘Fran is nice and successful ... and pregnant. But by who? (I’ve no idea.)’  
<http://www.amazon.de/Romane-Babybauch-rund-Schwangerschaft-Teil/lm/F3654FYFY12F>

- d. [Von wem **schon**] kann man das sagen?  
of who SCHON can one that say  
'Who can one say that about? About nobody! / Hardly about anybody!'  
<http://www.zeno.org/Shop/F/0325-22497001-isbn-3608936653-schomel-wolfgang-reinheit-des-augenblicks.htmgh>

The examples in (11) provide important evidence for head status of particles and against a characterization as 'deficient' adverbs (cf. Cardinaletti 2007; 2011), since [wh+Adv]-constructions violate the V2 constraint.

- (12) a. \*[Wen oft] hat er getroffen?  
who often has he met  
b. \*[Wen leider] hat er verpasst?  
who unfortunately has he missed

Given the V2 constraint in German, we claim that the *wh*-phrase and Prt must form one constituent (Small PrtP, 'SPrtP').

Additional evidence from constituency and sluicing:

- (13) A: *Irgendeiner hat leider das Geld gestohlen.*  
Someone has unfortunately the money stolen  
B: *Aber [wer bloß]?*  
But who BLOSS  
\*B': *Aber [wer] leider?*  
But who unfortunately

Notice that focus particles convey the same story (cf. Bayer 1996).

- (14) a. [Nur einer] hat gelacht.  
only one has laughed  
'Only one person laughed.'  
b. [Einer nur] hat gelacht.

(Independent arguments in favor of particles as syncategorematic heads in Cable 2010.)

In accordance with current minimalist approaches that assume interaction of sub-derivations, essentially in the form of generalized transformations (cf. Trotzke and Zwart in press), we claim that SPrtP, in contrast to the 'big' PrtP in [<sub>PrtP</sub> Prt° [... [<sub>VP/vP</sub> ...]]], is derived in a separate workspace where Prt is merged with the *wh*-element, and the *wh*-phrase is obligatory moved to the specifier of Prt.

- (15) a. \*[Bloß warum] ist ein Rauschenberg so teuer?  
b. [<sub>SPrtP</sub> wh [Prt ~~wh~~ ]]

## 2.2 Emphasis

We claim that leftward movement of the *wh*-phrase around the particle is triggered by a feature of emphasis. There is independent evidence that emphasis is a concept in syntax (Bayer 2001; Cruschina 2011; Frey 2010; Poletto and Zanuttini 2013). We propose that it is related to ‘mirativity,’ a kind of evidentiality marking by which an utterance is marked as conveying information that is new or unexpected to the speaker (Aikhenvald 2004; DeLancey 1997). This explains why SPrtP is incompatible with ‘Surprise-Disapproval Questions’ as the *wh*-item in these cases lacks semantic alternatives and ergo focus.<sup>1</sup>

- (16) a. *Wie siehst du denn aus?!*  
 how look you DENN out  
 ‘You look strange/weird/...’  
 b. \* [Wie denn] siehst du aus?!

- (17) a. *Was lachst du denn so dumm?!*  
 what laugh you DENN so stupidly  
 ‘Why do you laugh so stupidly?!’  
 b. \* [Was denn] lachst du so dumm?!

*Derivation Small PrtP*

- (18) a.  $\text{Prt}^{\circ}_{u\text{Emp} [ ]} \text{ wh}_{i\text{Emp} [ ]}$   $\Rightarrow$  Move *wh*  
 b.  $[\text{wh}_{i\text{Emp} [7]} [\text{Prt}^{\circ}_{u\text{Emp} [7]} \text{ wh}_{i\text{Emp} [7]}]]$

## 2.3 Successive-cyclic ‘SPrtP-movement’

That derivations can be layered, with one subderivation feeding another, need not be stipulated. It seems to be a feature of each grammatical component. In other words, “[t]he process of insertion is [...] not sensitive to the nature of the representation it connects, nor to whether the host node is a terminal or not” (Ackema and Neeleman 2004: 130). Hence there is no reason to believe that this cyclic organization of the derivation should stop at the arbitrary boundary of ‘words.’

Accordingly, we claim that SPrtP is merged into the unfolding V-projection, and then successive-cyclic movement of SPrtP, analogous to *wh*-movement, applies.

<sup>1</sup> It is an open question whether SPrtPs, due to the root-sensitivity of emphasis, must always move to the left periphery of the clause.

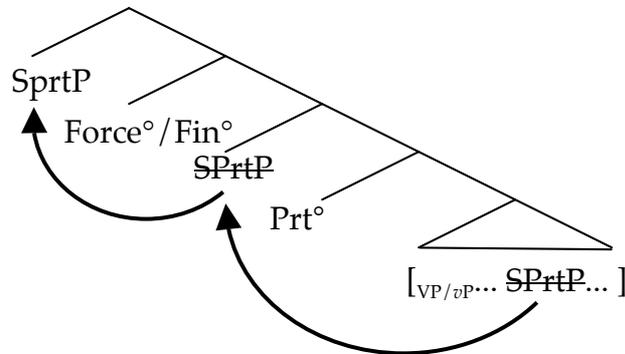
- (i) a. *Wer hat (denn) damals (denn) [wem] geholfen?*  
 who has DENN then DENN whom helped  
 ‘Who helped whom in those days (I am wondering)’  
 b. ? *Wer hat damals [wem denn] geholfen?*

If yes, these constructions share an important property with other cases that are, to our mind, syntactically marked for emphasis.

- (ii) a. *Ich habe den Zug nach Duisburg genommen.*  
 I have the train to Duisburg taken  
 ‘I took the train to Duisburg.’  
 b. ? *Ich habe nach DUISBURG den Zug genommen.*  
 c. *Nach DUISBURG den Zug habe ich genommen.*

Both the particle and the *wh*-element are operators that must be licensed in a scope position. Accordingly, in addition to serving as an argument, SPrtP must raise to a position where Prt can take scope and ‘freeze,’ and, as a final step, SPrtP must raise to a position where the *wh*-element can be licensed.

(19)



Various reconstruction effects show that SPrtP must move through pre-VP/vP PrtP before it moves on to the checking destination of the *wh*-element. Therefore, particles have taken scope long before they make a physical appearance in Spec-CP. It occurs in Spec-CP only as a consequence of *wh* pied-piping. The left edge of VP/vP is targeted in exactly the same way as the left edge of CP. In analogy with a silent C-head, the feature of a silent Prt-head is valued when SPrtP moves into its specifier.

### 3. Small PrtPs, stacked particles, and the nature of derivations

Particles can be stacked, and if they are, they usually occur in fixed order (Thurmair 1989; Coniglio 2011). Given the fact that they can be non-adjacent as in (20c), we can exclude the idea of a lexically reanalyzed ‘super particle.’

- (20) a. *Wo bist du denn bloß gewesen?* (denn < bloß)  
 where are you DENN BLOSS been  
 ‘Where on earth have you been (I am wondering)’  
 b. \**Wo bist du bloß denn gewesen?* \*(bloß < denn)  
 c. *Wo bist du denn gestern bloß gewesen?* (denn < bloß)  
 where are you DENN yesterday BLOSS been

#### 3.1 Small PrtPs and stacked particles

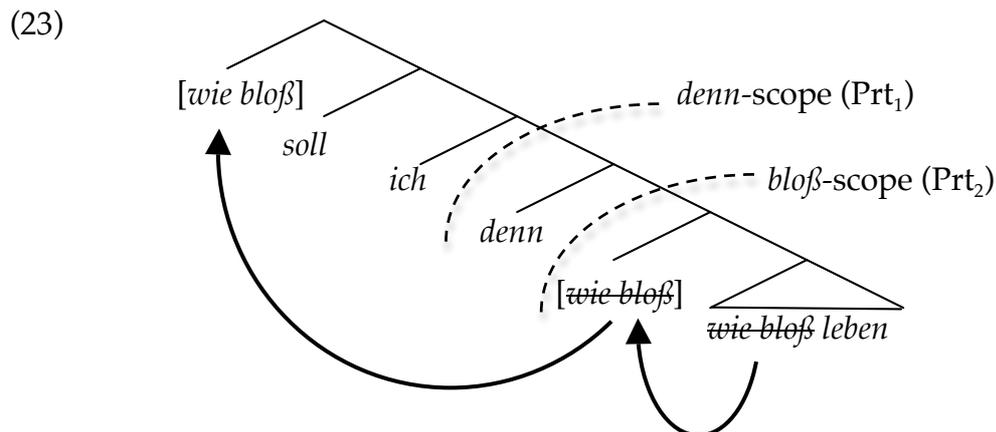
Particles can be stacked in the SPrtP-construction as well (21), and if they are, they occur in the very same order as in the regular construction in which particles are merged with VP/vP or its extension.

- (21) a. [*WIE denn bloß*] *soll ich leben* (denn < bloß)  
 how DENN BLOSS should I live  
 ‘How on earth should I live?’  
 b. \* [*WIE bloß denn*] *soll ich leben?* \*(bloß < denn)

Surprisingly, there are well-formed examples which seem to violate the ordering restriction. Consider (22), which seems to violate the order *denn* < *bloß*.

(22) [*WIE bloß*] *soll ich denn leben?* (bloß < *denn*)

However, one should not be deceived by linear order. Since linear order is irrelevant, (22) is no counterexample to the particle hierarchy we see in (20) and (21). The particle *bloß* (Prt<sub>2</sub>) has taken scope in a Spec-Prt<sub>2</sub>P position below Prt<sub>1</sub>P of which *denn* is the head.



What matters for LF is the ‘reconstructed’ site in which Prt has undergone scope freezing.

### 3.2 Small PrtPs and the nature of derivations

The problem with (21) is that the order of the particles should actually be the reverse of what we see in the particle hierarchy in (20).<sup>2</sup>

As we saw in (23), Prt<sub>2</sub> (*bloß*) needs to acquire scope before Prt<sub>1</sub> (*denn*). But in order to do so, Prt<sub>2</sub> has to be the head of the phrase and not Prt<sub>1</sub>, as is the case in our approach to deriving the SPrtP [*wie denn bloß*]:

(24) [<sub>SPrtP1</sub> wh [Prt1° [<sub>SPrtP2</sub> wh [Prt2° wh ]]]]

In order to account for cases such as (21), we assume that outputs of derivation layers are composed and generated along the lines of distinct licensing relations in the course of the derivation.

A prominent case showing that this assumption is reasonable is the ability of adjuncts (but not arguments) to escape Principle C violations in constructions with displacement, as shown by (25b).

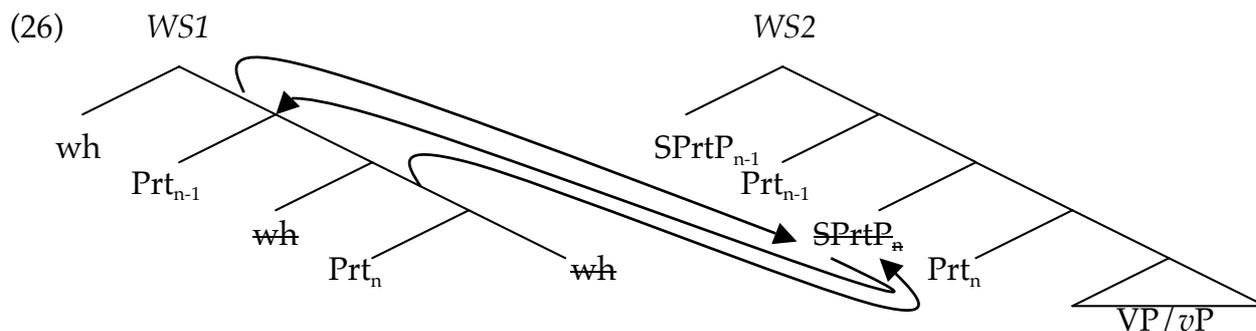
(25) a. ?\* *Which pictures of John<sub>i</sub> does he<sub>i</sub> like?* Lebeaux (1991: 211)  
 b. *Which pictures that John<sub>i</sub> took does he<sub>i</sub> like?*

Lebeaux (1991) claims that adjuncts like relative clauses are able to escape Principle C violations because they can be introduced ‘late’ into the derivation (his ‘adjoin-α’). In accordance with Lebeaux (1991), Chomsky (1995), Fox (2003), and others therefore

<sup>2</sup> Thanks to Roland Hinterhölzl for pointing this out to us.

claim that arguments must be merged into the derivation cyclically, while adjuncts can be merged either cyclically or non-cyclically.

Adopting this derivational flexibility, we claim that  $\text{SPrtP}_n$  can return to a separate workspace (WS1) and undergo merger with another particle,  $\text{Prt}_{n-1}$ . This results in a phrase whose head is  $\text{Prt}_{n-1}$  ( $\text{SPrtP}_{n-1}$ ). This enriched phrase is re-inserted in the specifier of the VP/ $v$ P-related particle phrase (workspace 2, WS2).



Notice that nothing has been secretly added to the structure of  $[\text{PrtP} \dots [\text{VP}/v\text{P} \dots]]$ ; only a detachable sub-part of it is affected, namely  $\text{SPrtP}_n$ . It is now replaced by the dominating  $\text{SPrtP}_{n-1}$ . Moreover, the output of WS1 has been re-inserted at the root of the syntactic derivation in WS2, in accordance with Chomsky's (1995: 248) 'Extension Condition' and in contrast to non-cyclic operations as proposed by Lebeaux (1991).

Provided that  $\text{P}_{n-1} \neq \text{Prt}_n$ , notice now that  $\text{Prt}_{n-1}$  does not agree with the head of the  $\text{PrtP}$  whose specifier hosts  $\text{SPrtP}_{n-1}$  at this stage. Thus,  $\text{SPrtP}_{n-1}$  contains an active operator feature. This feature will be deactivated upon merger of a new silent  $\text{Prt}$ -head with the (now) extended VP/ $v$ P-projection and raising  $\text{SPrtP}_{n-1}$  to its specifier.  $\text{Prt}_{n-1}$  undergoes scope freezing at this point and takes scope higher than  $\text{Prt}_n$  as required by the attested hierarchy (*denn* < *bloß*).

## 4. Conclusions

Our multilayered derivational model with copy-movement has the following merits:

- (i) It explains why particles in complex *wh*-phrases of German ( $\text{SPrtPs}$ ) are stacked in exactly the same linear order as particles along the extended verbal projection rather than in inverse order.
- (ii) It explains how discourse particles can be displaced to the left periphery although this is otherwise never attested.
- (iii) It is in agreement with much evidence that has been adduced in favor of head status for discourse (as well as focus) particles.
- (iv) Beyond these more language-specific aspects, it generalizes a well-known syntactic process: successive-cyclic *wh*-movement. A complex *wh*-phrase enriched by merger of particles strives for positions in which the particles' operator features can be deactivated and the particles undergo scope freezing in the very same way as the *wh*-feature can be deactivated and the *wh*-operator undergoes scope freezing.

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