Criterial Freezing in the Syntax of Particles

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1. Goal and outline of the talk

It will be shown that in the grammar of German discourse as well as focus particles are part of the functional structure of the clause, and that particles generally take scope where they are merged. A challenge comes from those cases in which particles appear to form constituents with sub-sentential phrases. The focus will be on discourse particles. Part 1 develops an account of discourse particles in wh-questions and their dependence on interrogative force. Part 2 shows how discourse particles can directly combine with wh-phrases, and how their movement and scopal behavior can be accounted for on the basis of the account developed in part 1. Importantly, their scope freezes in positions lower than seen in surface structure. Part 3 integrates focus particles and shows that the analysis gets close to a unified account of focus particles and discourse particles.

2. Discourse particles in situ

Discourse particles (DiPs, 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). wh-questions may with denn (lit. “then”), wohl (lit. “well”), nur/bloß (lit. “only”), schon (lit. “already”). Consider semantic variations over (1).

(1) Wo wohnt er?
    Where lives he
    ‘Where does he live?’

(2) a. Wo wohnt er denn?
    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).

b. Wo wohnt er wohl?
    Speaker signals that he/she is in a state of uncertainty about the answer, see Zimmermann (2004).
c. *Wo wohnt er nur/bloß?*

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

d. *Wo wird er er schon wohnen?*

By using *schon*, speaker creates 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).

Although DiPs contribute to Force, they arise lower in the clause in a fixed position to the left of *vP*. Weak pronouns must and other topical constituents may move to the left of DiP.

(3) a. Wann könnte denn Otto den Brief gestern ins Büro mitgenommen haben?  
*b. Wann könnte Otto denn Otto den Brief gestern ins Büro mitgenommen haben?*

c. Wann könnte Otto den Brief denn Otto den Brief gestern ins Büro mitgenommen haben?  

d. Wann könnte Otto den Brief gestern denn Otto den Brief gestern ins Büro mitgenommen haben?  
e. Wann könnte Otto den Brief gestern ins Büro denn Otto den Brief gestern ins Büro mitgenommen haben?

(4)  

Unlike adverbs, DiPs are weak closed-class elements. Unlike adverbs, they can never be preposed nor postposed; they are ℘ immobile. These properties follow if DiPs are functional heads (that fail to undergo systematic movement such as T-to-C movement).

(5)  

DiPs may co-occur as long as they are clause-type compatible, but their order is fixed (s. Thurmair (1989), Coniglio (2011). Only *denn>wohl>schon* allowed.

(6)  

a. Wann könnte Otto denn den Brief wohl gestern schon ins Büro mitgenommen haben?  
b. *Wann könnte Otto wohl den Brief denn gestern schon ins Büro mitgenommen haben?*

c. *Wann könnte Otto schon den Brief wohl gestern denn ins Büro mitgenommen haben*

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Problem: Force c-commands the DiP, but the DiP is arguably not part of ForceP. How can it contribute to Force? Potential solutions in terms of LF movement or formal feature movement must be discarded. Why?

To see this, consider DiPs in clausal complement.

(7) a. *Wo glaubst du, daß man hier nachts um 3 Uhr schon Benzin bekommt?*

> where believe you that one here at night at 3 o`clock 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?*

(7a) ≠ (7b); in (7a) the speaker asks about the places x such that the addressee believes there is a plausibility ranking of x according to which one can get gasoline in x at 3 o’clock in the night; (7b) is syntactically ok but semantically odd because the 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. Thus, the DiP must take scope exactly where we see it. The DiP schon in (7a) does not raise up to the root clause. Apart from this, LF-movement across the CP-boundary would be rather unexpected.

Suggestion: (i) DiP accesses Force via probe-goal agreement; (ii) under successive cyclic wh-movement as in (7a), the Q-sensitive DiPs under consideration can be probed by an uninterpretable interrogative C (s. Bayer and Obenauer (2011) and subsequent work).

(8) *Wo glaubst du \[ CP \rightarrow daß man hier ... [PrP schon [... V P Benzin bekommt]] \]?*

> In the absence of long extraction, the DiP interpretation of schon in CP is unavailable; schon can only be understood as the temporal adverb `already’.

(9) *Wer glaubt, dass man hier nachts um 3 Uhr schon Benzin bekommt?*

> who believes that one here at night at 3 o’clock SCHON gasoline gets

`‘Who believes that one can get gasoline here already as early as 3 o’clock in the night?’`

The status of DiPs in complex wh-questions is empirically as well as theoretically explored in Bayer, Häussler & Bader (2015).

How do DiPs enter the composition of Force? Assume they have an uninterpretable and unvalued clause-type (CT) feature, here uQ[ ], which is probed by a CT-head, here Q[ ], which may be interpretable or not. This is possible in the feature sharing theory of Pesetsky and Torrego (2007). Force must be split up in CT and speech act (SA).\(^1\) Speas and Tenny

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\(^1\) Notice that in German, the ASS(ertion)-sensitive DiP *ja* can co-occur with the Q-sensitive DiP *denn* in a question if *ja* belongs to a separate clausal or quasi-clausal domain as in

(i) *Wo hast du [DP diesen [AP ja unwahrscheinlich begabten] Pianisten] denn gehört?*

> where have you this JA incredibly gifted pianist DENN heard
(2003), Haegeman (2002), Haegeman and Hill (2011), Miyagawa (2012), Coniglio and Zegrean (2012) and others argue for a speech act phrase (SAP). The derivation for licensing a Q-sensitive DiP under cyclic wh movement runs as follows (valuation as signaled by the index 1).

(10) a. \[ V_P \[ w_P \ldots \underbrace{w_P \ldots} \] ]
    \[ \Rightarrow \text{MERGE Prt} \Rightarrow \]

    b. \[ \text{Prt}\_Q] \[ V_P \ldots \underbrace{w_P \ldots} \]
    \[ \Rightarrow \text{MOVE wh} \Rightarrow \]

    c. \[ \text{CTP}\_Q] \[ CP \ w \[ \text{TP} \ldots [\text{Prt}\_Q] \[ V_P \ldots \underbrace{w_P \ldots} ] \]
    \[ \Rightarrow \text{AGREE} \Rightarrow \]

    d. \[ \text{CTP}\_Q1] \[ CP \ w \[ \text{TP} \ldots [\text{Prt}\_Q] \[ V_P \ldots \underbrace{w_P \ldots} ] \]
    \[ \Rightarrow \text{MOVE wh} \Rightarrow \]

    e. \[ \text{SAP}\_Q] \[ \text{CTP}\_Q] \[ \text{FinP} \ w \[ \text{Fin'} \ V_{\text{fin}} \[ \text{TP} \ldots [\text{CTP}\_Q] \[ CP \ w \[ \text{TP} \ldots [\text{Prt}\_Q] \[ V_P \ldots \underbrace{w_P \ldots} ] \]
    \[ \Rightarrow \text{AGREE} \Rightarrow \]

    f. \[ \text{SAP}\_Q1] \[ \text{CTP}\_Q1] \[ \text{FinP} \ w \[ \text{Fin'} \ V_{\text{fin}} \[ \text{TP} \ldots [\text{CTP}\_Q] \[ CP \ w \[ \text{TP} \ldots [\text{Prt}\_Q] \[ V_P \ldots \underbrace{w_P \ldots} ] \]
    \[ \Rightarrow \text{AGREE} \Rightarrow \]

Agreement between CT and Prt guarantees that the CT is of the type that results from the application of Prt to CT. By transitivity, agreement between SA and CT guarantees that the root clause is an interrogative speech act enriched with the specific respective “flavors” of Prt that had been exemplified in (2) above.

Importantly, the DiP (Prt) itself does not move. It stays precisely in the pre-vP position in which it was merged in (10b). This is its \( \varnothing \) irreversible scope position. We shall see in the next section that it is this position in which moved elements undergo criterial freezing.

3. Discourse particles ex situ

Let us repeat one of the classical diagnostics for DiPs: They are immobile (s. arbitrary work on DiPs). We interpreted this as following from their status as functional heads. According to this analysis, DiPs are on a par with \( \nu \), T, Neg, C, Fin, Force etc.

Nevertheless, the generalization seems to have a hole: DiPs can be displaced to the left periphery if they co-occur with a \( \text{wh} \)-phrase, and they can do this even “long distance”.

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\(^1\)Where did you hear this indeed incredibly gifted pianist? (I’m wondering)’

The speaker who takes responsibility for the adequacy of \( \text{ja} \) is identical with the speaker who takes responsibility for the adequacy of \( \text{denn} \). The AP is by default an assertive CT but does not constitute an SA. It must be linked to the speaker of the SA of the root clause. (s. Hinterhölzl and Krifka (2013), Struckmeier (2014), Viesel (2014)).
(11) a. [An wen denn] könnte er sich gewandt haben?
    at who DENN could he turned have
    ‘Who on earth could he have turned to?’

    b. [An wen denn] glaubst du, dass er sich gewandt haben könnte?
    ‘Who on earth do you believe than he could he have turned to?’

As the square bracket suggests, whP + DiP seems to form a constituent. If not, the V2-constraint would be violated. But if this is true, DiP is really ex situ, outside the scope position we have been arguing for, and in obvious violation of the scope facts that had been demonstrated so far.

A second scandal emerges in connection with rigid order. The strict hierarchy that had been diagnosed above, e.g. denn > woh > schon in the examples in (6), seems to be disrupted in the well-formed example (12).

(12) [An wen schon] wird er sich damals denn gewandt haben?
    ‘Who on earth will he have tuned to after all in those days?’ (the answer is obvious)

In (12), the surface order is schon > denn. This order is normally strictly excluded, even across a CP-boundary:

(13) *[An wen] glaubst du schon, dass er sich damals denn gewandt haben wird?

The pertinent questions are, (i) how can phrases like wh+DiP emerge, and (ii) how can one account for the strange exception to word order and scope? My account is the following:

(I) DiPs do have a fixed position in the functional cartography of the clause as has been shown in section 1.

(II) However, DiPs can alternatively be merged with a wh-phrase. This operation yields a ‘SMALL PARTICLE PHRASE’ (SPrtP). What’s the motivation for this? Assume that Prt° can optionally adopt a feature for EMPHASIS. Bayer and Obenauer (2011) suggest that Prt° undergoes merger with wh and forces wh – due to an EPP-feature – to raise to its left. For further discussion and extension of the analysis see Bayer and Trotzke (2015).

(14) a. Prt°_Emp[ ] wh_iEmp[ ] ⇒ MOVE ⇒
    b. [wh_iEmp[ ] ] [Prt°_Emp[ ] wh_iEmp[ ] ]⇒ AGREE ⇒

Intuitively, the whP in a SPrtP bears extra stress. Trotzke and Turco (2014) support this impression with experimental data that show a distinct acoustic signature for this construction as compared with a) the non-adjacent position (wh . . . Prt°) and b) to the adjacent position of a PP (wh+PP . . ., e.g. [Wo bei euch] kann ich heute überhaupt . . .? „where at your place can I today . . .?”). Onset of the wh-word, /v/, and the following vowel were significantly longer in
the SPrtP. As in the study by Niebuhr (2010), the intensifying emphatically pronounced words were not realized with steeper pitch slopes than corresponding non-emphatic words. This suggests the existence of a specific phonetic correlate that distinguishes emphatic, which is otherwise highly, the particle is de

(III) Given the phrase structure in (5), SPrtP cannot be derived from this structure. Movement of wh to the head of the particle phrase (PrtP) would violate the Extension Condition. Furthermore, movement of this head would violate scope freezing, which is otherwise highly reliable.2 We know that the scope of a DiP that has been merged into a scope position cannot be manipulated. Thus, an alternative derivation is needed.

(IV) The proposed alternative is that the SPrtP is built in a \( \ominus \) SEPARATE WORKSPACE WS2, and is then put into the numeration which serves workspace WS1 to build VP, vP and its structural extensions. SPrtP is first merged in vP. Being a wh-phrase, it move to the edge of vP. In analogy to the merger of C in wh-movement, the functional head Prt is merged with vP projecting PrtP. Prt has the uninterpretable unvalued feature \( uPrt[ ] \). The SPrtP moves into the specifier of PrtP and values \( uPrt[ ] \). At this point, the particle is de-activated and its scope is frozen.

(V) The SPrtP is, of course, also a wh-phrase whose wh-feature is still active. It cannot be de-activated before the upper clausal periphery (SpecFinP etc.) has been reached. Thus, SPrtP moves out of SpecPrtP pied-piping Prt along. It is important to see that in this step Prt has no core grammatical function any longer. This is in agreement with the classical observation that DiPs are immobile. Their “displacement” to the left periphery is simply an epiphenomenon of pied piping. (15) gives the derivation (features sometimes suppressed):

(15) a. \([ (\ldots) V] \Rightarrow Mrge\ SPrtP\ \Rightarrow \]
b. \([vP \ldots SPrtP(\ldots)V] \Rightarrow Move\ SPrtP\ \Rightarrow \]
c. \([vP SPrtP[vP \ldots SPrtP(\ldots)V]] \Rightarrow Merge\ Prt\ \Rightarrow \]
d. \([Prt_{\ominus}\ SPrtP[\ominus] [vP SPrtP[vP \ldots SPrtP(\ldots)V]]] \Rightarrow Move\ SPrtP\ \Rightarrow \]
e. \([Prt_{\ominus}\ SPrtP[\ominus] [Prt_{\ominus}\ SPrtP[\ominus] [vP SPrtP[vP \ldots SPrtP(\ldots)V]]]] \Rightarrow Agree\ \Rightarrow \]
f. \([Prt_{\ominus}\ SPrtP[\ominus] [Prt_{\ominus}\ SPrtP[\ominus] [vP SPrtP[vP \ldots SPrtP(\ldots)V]]]] \]

This is the stage at which the particle of the SPrtP is deactivated and frozen. Due to the concomitant decomposition of SPrtP into Prt and the wh-phrase proper, the semantic problem of scope failure is solved.

Further movement raises SPrtP, which is, of course, also a wh-phrase, into SpecFinP etc.

g. \([FinP SPrtP_{\ominus}[wh][12] [FinP Fin_{\ominus}[wh][12] \ldots [Prt_{\ominus}\ SPrtP_{\ominus}[wh][12]; Prt[9] [Prt_{\ominus}\ SPrtP[9]] [vP SPrtP[vP \ldots SPrtP(\ldots)V]]]])\]

2 Reis (1992) suggests in passing that the DiP may cliticize to the wh-phrase from its base position. This would, however, amount to extraction of the DiP from its otherwise irreversible scope position, and it is unclear why the process of cliticization may target exactly a wh-phrase and nothing else.
It is easy to see now how the problem of wrong order is solved. Recall that example (12) is well-formed but shows the linear order $\textit{schon}>\textit{denn}$. Our theory predicts that this order is irrelevant because $\textit{schon}$ has taken scope under $\textit{denn}$ as indicated with $\checkmark$ in (16).

$$\begin{align*}
\text{(16)} \\
\text{[FinP [An wen \textit{schon}] wird er sich damals [PrtP1 \textit{denn} [PrtP2 [\ldots \textit{gewandt haben}]abyrin]}]}?
\end{align*}$$

$$\begin{align*}
\text{(17)} \\
\text{an wen schon} \\
\text{V}_\text{fin} \text{ wird} \\
\ldots \\
\text{Prt}^\circ_1 \\
\text{denn} \\
\ldots \\
\text{an-wen-schon} \quad \text{Prt}^\circ_2 \\
\text{vP} \\
\ldots \text{an wen schon} \ldots
\end{align*}$$

SPrtPs move in close analogy to $wh$-phrases to the closest checking position. Since Prt is merged optionally, and since SPrtP moves cyclically through SpecCP, SPrtP may value a silent Prt-head at a distance.

$$\begin{align*}
\text{(18)} \\
\text{[Vor wem \textit{denn}] glaubst du, dass sich James Bond \textit{schon} fürchten würde?} \\
\text{from who DENN believe you that REF James Bond SCHON fear would} \\
\text{‘Who do you believe that James Bond would be afraid of?’ – Of no one, of course!}
\end{align*}$$

Sentences with DiPs ex situ like (18) can give rise to ambiguity between a low and a high construal of $\textit{denn}$. The corresponding examples with $\textit{denn}$ in situ give the two obtainable readings:

$$\begin{align*}
\text{(19)} \\
\text{a. Vor wem glaubst du, dass sich James Bond \textit{denn schon} fürchten würde?} \\
\text{b. Vor wem glaubst du \textit{denn}, dass sich James Bond \textit{schon} fürchten würde?}
\end{align*}$$
In (18), scoping over the embedded clause is ok because the uninterpretable Q-feature of *denn* can be valued thanks to the cyclic movement of the *wh*-phrase via the embedded CP. Scoping over the matrix clause is equally ok because no second Prt may have been merged in the embedded clause, and therefore valuation via SPrtP must be postponed until Prt is merged into the root clause.

4. **Integrating focus particles**

The syntax of focus particles (FP) is up to now highly controversial. There are essentially two camps, the “adverb camp” and the “mixed camp”.

- **adverb camp**: Jacobs (1983); Büring & Hartmann (2001) and many others; assumes that an FP (an adverb) always adjoins to a proposition (vP or CP) over which it takes scope. The proposition must not be an argument, i.e. FP+DP, FP+PP etc. should never occur, at least as long as DP, PP etc. is an argument.

- **mixed camp**: Bayer (1996; 1999); Reis (2005); Barbiers (2014) and a few others; FP adjoins to vP or to some other major category. According to Bayer (1996; 1999), FP is a syncategorematic head which projects either a vP (over which it takes scope) or some other major constituent, i.e. DP, PP, an argumental CP etc. In the latter case, FP+XP has to move through the specifier of an FP in scope position and discharge its scope there.


(20)  

a. *We are required to* [vP *study* [DP only SYNTAX]]  

   AMBIGUOUS

   scope unfixed

b. *We are required to* [vP only study SYNTAX]  

   UNAMBIGUOUS

   scope fixed

c. *We are* [vP only required to study SYNTAX]  

   UNAMBIGUOUS

   scope fixed

In (20a), only can associate with the lower vP; this amounts to (20b). It can alternatively associate with the higher vP; this amounts to (20c). If so, the formation [XP FP XP] must be available somehow. For the adverb theory this should be an “exception”.

The strict assumption of surface scope forces the adverb theory to the adoption of an unconventional phrase structure.
(21) \[ \text{[FinP Nur [FinP EINER [FinP hat [TP die Polizisten angegriffen]]]] V3} \]
only ONE (person) has the policemen attacked
‘Only ONE person attacked the policemen’

Intuitively, it is awkward to parse (21) not as a V2 but as a as a V3 construction. Association with focus must target the adjacent XP. *Nur einer hat die POLIZISTEN angegriffen* is out. But here this is not automatically excluded. It must be stipulated. Cf. Reis (2005: 470ff)

Notice next there is an alternative to (21) in which according to the adverb theory the focus would not even be “bound” by the FP due to a lack of c-command; see (22b).

(22) a. \[ EINER nur hat die Polizisten angegriffen \]

b. \[ \text{[FinP EINER [FinP nur [FinP hat [TP die Polizisten angegriffen]]]] V3} \]

Standard grammars of German mention this construction (Zifonun, Hoffmann & Strecker 1997: 1010), and authentic examples abound. (Notice also English examples like *JOHN even understands “Syntactic Structures”*). Such cases set up a huge problem for the adverb theory.

What remains is a scope argument. The adverb theory claims that (23a) is unambiguous and can never have the meaning of (23b), cf. Büring and Hartmann (2001: 260ff) and Sternefeld (2007: 336).

(23) a. \[ Nur seine Mutter liebt jeder only his mother-ACC loves everyone-NOM \]

b. \[ Jeder everyone-NOM loves nur seine1 Mutter only his mother-ACC \]

It is claimed that the FP must be adjoined to CP because it can never reconstruct, even if the DP would reconstruct. Thus even if the possessive pronoun can be forced to be bound by the quantifier, the FP cannot be in its scope.

Let’s assume the judgment is correct. To see that this is no argument in favor of a structure as in (21) consider scrambling in a derivation along the lines we have been argued for so far.

➢ Assume first scrambling of the object-DP over the subject.

(24) \[ [\text{P} [\text{DP nur seine Mutter}] [\text{P} jeder [\text{DP nur seine Mutter} liebt]]] \]

If scrambling is A-scrambling, it bleeds binding.3

➢ Assume next merger of an empty Prt endowed with an unvalued FP feature.

(25) \[ \text{[PrtPFP [P [DP nur seine Mutter] [P jeder [DP nur seine Mutter] liebt]]]]} \]

➢ Next DP raises to SpecPrtP and values the FP-feature on Prt:

3 If it is A-bar scrambling (associated with extra focus) reconstruction would obtain and binding remain an option: see below.
At this stage, the scope of FP is frozen, and the predicted scope is ONLY > EVERY.

> DP will then proceed to SpecFinP for reasons that have nothing to do with FP’s scope.

Ergo: Contrary to the assumptions of the adverb theory, the surface appearance of the FP in the highest position of the clause has no scopal relevance at all.

Focus scrambling (A-bar scrambling), unlike A-scrambling, does allow “reconstruction”, (cf. daß [seine MUTTER] jeder; [seine MUTTER] liebt). If so, it is easy to see that we can get the bound reading without being committed to the low scope of the FP.\(^4\) The derivation is as in (27), the only difference now being that the quantifier can bind the possessive pronoun. In the present theory, there is a fixed pre-vP functional particle position through whose specifier the small particle phrase nur seine MUTTER has to pass. The FP of this phrase cannot take scope where it has first been merged inside vP. Thus, while the copy contains the FP, and while the copy may remain present due to A-bar scrambling, the FP is uninterpretable inside vP. Its scope freezes only once the small particle phrase FP+XP raises to SpecPrtP.

To conclude this excursion into the domain of focus particles, we see that the syntax of DiPs is obviously more closely related to the syntax of FPs than previously assumed. The architecture is essentially the same. Just like DiPs, FPs can form smaller constituents in which the particle lacks scope. In both cases, such constituents have to pass through a fixed functional position for criterial feature valuation.

\(^4\) Notice that under the scope inversion intonation seen in (i), the scope of the FP is in the scope of negation (cf. Reis 2005, 478)

(i) /Nur FLEISCH aß NIEDER ng NEG > ONLY

only meat ate no one

If so, one should not prima facie exclude the possibility of a low scope reading. Imagine a context in which a macho type challenges some guys by claiming that they are real mommy boys and none of them has ever had a woman. If this person says Nur seine MUTTER liebt jeder von euch, a reading with EVERY > ONLY appears to be possible.
5. **General conclusions**

i. Attributing functional head status to particles, DiPs as well as FPs opens an avenue of research that puts these elements right into core syntax.

ii. Particles occupy fixed functional positions in clause structure. These Prt positions have been identified as criterial positions in analogy to criterial positions familiar from the work of Rizzi (1991/1996) and following work and Haegeman (1995).

iii. Particles can alternatively be merged with smaller phrases such as DP, PP etc. The scope of these Small Particle Phrases (SPrtP) is unfixed. The feature of the particle is active. It is deactivated once SPrtP passes through the specifier of a matching criterial head.

iv. The syntax of particles – DiPs as well as FPs – echoes structures and processes which are familiar from more widely studied domains of grammar, especially *wh*-movement.

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