Why Doubling Discourse Particles?

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1. Introduction

In this chapter, I want to extend my earlier work on discourse particles as functional heads by providing new evidence from particle doubling. I will argue that the German data on doubling that I will present are explained in a natural way within the unificational theory of focus particles as well as discourse particles developed in Bayer (1996; 1999; 2012; 2016) and in Bayer and Obenauer (2011), Bayer and Trotzke (2015) as well as in Bayer, Häussler and Bader (2016). Particle doubling lends new support to this theory which defends the view that particles of the relevant sort are functional heads.

2. The particle problem in syntax

Particles, focus particles as well as discourse particles, have remained a controversial issue in linguistic theory for many years. On one side, they have much in common with adverbs, on the other side, they differ from adverbs by showing both more constrained and more relaxed word orders. Focus particles (FP) like *only* and *even* and their correspondents in other languages are usually taken to be adverbs. Especially in the semantic literature not too much attention is given to their syntactic status. Since they are (supposed to be) optional, they are adjoined. Since they are semantically propositional operators, they must be adjoined to sentential domains (*v*P, TP or CP). In cases like *He adores only ROSSINI*, this is obviously not the case. So it needs some acrobatics to arrive at the LF "For every composer x that he adores, x equals Rossini". Various proposals have been made, which I will not discuss here. Investigations of FPs in German have resulted in roughly two proposals, the "adverb theory" and the "mixed theory". The former, see Jacobs (1983) and Büring & Hartmann (2001), assumes a syntax in which FPs are adjoined sentential operators. Phrases like [DP *only ROSSINI*] are a big problem, and their existence has repeatedly been denied. The latter, see Reis (2005) and Barbiers (2014), assumes an extension by which FPs can also be adjoined non-sentential major constituents such as DP, PP etc. Here it remains to be seen how the syntax to semantics mapping works. With respect to discourse particles (DiP), the dominant theory is also the "adverb theory" by which a DiP is adjoined to a propositional domain. In studies of German, where most of the work comes from, DiPs are arguably adjoined to *v*P i.e. a propositional domain. For Italian, researchers are split. Some argue for adverb status, see Manzini (2015), or a special category of "weak adverbs", see Cardinaletti (2011) and Coniglio (2008), others have argued that DiPs are heads which occupy the C-domain, see Munaro & Poletto (2003), Poletto (2000), Poletto & Vanelli (1995), and for criticism Manzini (2015). For German, a straight adverb account is hard to defend. If DiPs are adverb-like, they have undergone grammaticalization and, as a result, have become weak and immobile.[1] Unlike adverbs, they can, for example, not be displaced, see Thurmair (1989). The

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[1] According to Manzini (2014), Italian DiPs and adverbs occupy the same positions in the sentence and are not grammaticalized. If so, this would be in strong contrast with German, see Hentschel (1986).

projective status of DiPs has been discussed within X-bar theory. Meibauer (1996) finds that various facts speak in favor of head status but ultimately leaves the issue undecided.

In my work on FPs, see Bayer (1996; 1999; 2016) as well as in my work on DiPs (see Bayer 2010; 2012; 2016; Bayer and Obenauer (2011); Bayer & Trotzke (2015), I have continuously argued for an account in which particles have the status of functional heads. Before I will provide new evidence for this hypothesis in section 4, I will give in section 3 a summary of why I believe that this is the most adequate theory, at least for the German data under consideration.[2]

3. Particles as functional heads

According to my earlier work, FPs as well as DiPs are not adverbs but syncategorematically introduced heads which projects to a so-called PARTICLE PHRASE (PrtP). If their sister is *v*P, the PrtP is a *v*P. Importantly, *v*P is a propositional domain, i.e. Prt takes scope over a proposition. The general observation is that in pre-*v*P position, Prt takes scope once and forever. In other words, the scope cannot be altered by further operations. Consider the English example in (1a) with the structure in (1b).

(1) a. *We are required to only study SYNTAX*
     b. *We are required to* [PrtP *only* [*v*P *study SYNTAX*]]

Since *only* is syncategorematic, PrtP equals *v*P in terms of lexical syntactic category. The fact that it is in a scope position is reflected by the non-ambiguity of the example. There is an alternative analysis by which the particle undergoes merger with the DP. The result is what I call a SMALL PARTICLE PHRASE (SPrtP).

(2) a. *We are required to study only SYNTAX*
     b. *We are required to* [*v*P *study* [SPrtP *only* [DP *SYNTAX*]]]

An old finding about examples of type (2) is that they can be ambiguous (see Klima 1963 on negation, and Taglicht (1984) and Rooth (1985; 1992) on FPs). The point is that unlike in (1), the particle is not in a proper scope position. A traditional answer would be that it undergoes LF-movement to a scope position which can be the lower *v*P or – as a more marked case – the next higher *v*P while nothing of this sort happens in (1) due to the fact that the particle is already in a scope (freezing) position.

Notorious German examples with a SPrtP in first position as seen in (3)

(3) *Nur FLORENZ haben die Touristen besucht*
     only Florence   have   the   tourists   visited
     "The tourists visited only Florence"

Are no problem is this theory. The particle is not at all interpreted where we see it but lower down in the clause. The first constituent is the SPrtP [*nur FLORENZ*]. This phrase is initially merged in *v*P as the direct object of *visit*. From there it moves to the specifier of a silent Prt-head which heads the regular PrtP associated with *v*P. This is the position where the particle finds its scope position. Spec-head agreement with the particle head freezes its scope. The rest of the derivation affects the particle on the PF-side of the grammar but not on the LF-side. The topicalization we see in (3) has no effect to the semantic scope of the particle. The steps are summarized in (4); the scope of the particle is indicated with ✓

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(4) a. [*vP* *die Touristen* [*VP* [*SPrtP* *nur FLORENZ*] *besucht*]]   = MERGE Prt =>

   b. [*Prt'* Prt [*vP* *die Touristen* [*VP* [*SPrtP* *nur FLORENZ*] *besucht*]]]

                        = MOVE SPrtP & SPECHEAD AGREEMENT =>

   c. [*PrtP* [*SPrtP* *nur FLORENZ*] [*Prt'* Prt✓ [*vP* *die Touristen* [*VP* [*SPrtP* ~~*nur FLORENZ*~~] *besucht*]]]]]
          └── SHA ──┘

                                = further steps =>

   d. [*Fin'* haben [*TP* ... [*PrtP* [*SPrtP* *nur FLORENZ*] [*Prt'* Prt✓ [*vP* *die Touristen* [*VP* ~~[*SPrtP* *nur FLO-RENZ*]~~ *besucht*]]]]]]]   = MOVE SPrtP =>

   e. [*FinP* [*SPrtP* *nur FLORENZ*] [*Fin'* haben [*TP* die Touristen [*PrtP* ~~[*SPrtP* *nur FLORENZ*]~~ [*Prt'* Prt✓ [*vP* ~~*die Touristen*~~ [*VP* ~~[*SPrtP* *nur FLORENZ*]~~ *besucht*]]]]]]]]]

As one can see, raising of the SPrtP to the pre-*vP* position derives a semantically interpretable structure in which the Prt-feature on the SPrtP is interpretable and ceases to be syntactically active. We express this in terms of Spec Head agreement (SHA) à la Rizzi (1991/1996). The second raising of this phrase that we see in the transition from (4d) to (4e) has no relevance for the particle. The particle is simply pied-piped along.[3]

Assume next that the grammar of DiPs works more or less in the same way. We assume that a DiP is merged with *vP* (or an "extension" of it, for example a NegP). In this case, the DiP is an irreversible scope position. The question is then how the DiP can be made dependent on the clause type and ultimately on the speech act type of the sentence. As argued extensively in Bayer and Obenauer (2011) and in Bayer, Häussler and Bader (2016), the DiP does not undergo LF-movement to the left periphery; it enters a probe-goal agreement relation with whatever represents the clause type and ultimately the speech act in the upper left periphery. Since the DiP is merged in a proper scope position, there is no need for it to move away. This explains why we do not find displacement of DiPs.

Unlike FPs, DiPs do not seem to enter alternative constituentships.[4] There is at least one exception though: In *wh*-interrogatives, DiPs can team up with a *wh*-phrase. In German, a somewhat marked but fully legitimate and in fact rather frequent alternative to (5a) could be (5b).[5]

(5) a. *An wen könnte er sich denn gewandt haben?*
     at who could he REF DENN turned have
     'Who could he have turned to after all?'

   b. *An wen denn könnte er sich gewandt haben?*
     at who DENN could he REF turned have

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[3] Approaches to focus particles in which the FP can freely team up with non-propositional XPs and nevertheless find their way to propositional scope have recently been suggested by Barbiers (2014) and by Smeets and Wagner (2016).

[4] A plausible reason for this could be that DiPs do not associate with a focus-bearing constituent in the way FPs do. DiPs separate the topic domain from the (information) focus domain but they do not induce focus alternatives like FPs.

[5] The DiP *denn* (lit. then) is restricted to interrogatives and imports a quasi anaphoric relation to the discourse in which the question is uttered. *Denn* means something like "after all", "under the actual circumstances".

The interpretation of (5b) is almost the same as in (5a), the difference being that (5b) is a more emotionally loaded, more emphatic question with a more exclamative flavor. The construction has first been studied in Bayer and Obenauer (2011) and then in Bayer and Trotzke (2015) and in Bayer (2016). Trotzke and Turco (2015) provide experimental evidence that the wh-phrase in (5b) has a specific phonetic signature that has been identified as a property of emphatic speech. The syntactic assumption is that the DiP may undergo merger with a wh-phrase forming again a SPrtP, [SPrtP Prt *wh*P]; the *wh*P moves to the specifier of the SPrtP where it values a feature for emphasis that the DiP has been endowed with in the numeration. The result of this operation is [SPrtP *wh*P [Prt ~~*wh*P~~]].[6] The unavoidable conclusion is that *wh* and DiP can form a constituent, and that this constituent undergoes wh-movement pied-piping the DiP along just like in the case of the FPs we considered above. As shown by the works quoted above, there is strong evidence that in this case the DiP is not interpreted where we see it but rather in the copy that the SPrtP has left behind in the specifier of the particle phrase that is already familiar from our discussion of the syntax of FPs. An immediate idea is that the DiP is merged with *v*P and is then picked up by the *wh*-phrase once it moves out of *v*P.

(6) a. ... [PrtP Prt [*v*P ... *wh*P ...]]] =>

   b. ... [PrtP Prt *wh*P [*v*P ... ~~*wh*P~~ ...]]] =>

   c. ... [PrtP [SPrtP *wh*P [Prt ~~*wh*P~~]] [*v*P ... ~~*wh*P~~ ...]]] =>

   d. [SPrtP *wh*P [Prt ~~*wh*P~~]] ... [PrtP ~~[SPrtP *wh*P [Prt *wh*P]]~~ [*v*P ... ~~*wh*P~~ ...]]]...

However, this is not a viable solution. As pointed out in Bayer and Trotzke (2015), the step from (6a) to (6b) violates the Extension Condition, see Chomsky (1995: 248), which requires that "Merge always applies at the simplest possible form: at the root". Notice also that the on-line formation of a SPrtP would prevent the *wh*P from c-commanding its trace/copy in *v*P. The alternative is to generate the SPrtP in a separate work space and merge it in *v*P. In this case, the derivation works like in (4): on its way out of *v*P, the SPrtP cycles through the specifier of a particle phrase that has been created by merger of a silent particle, and in which it undergoes Spec Head Agreement. Let us see how the derivation of example (5b) works; once again, the scope of the particle is indicated with ✓.

(7) a. [*v*P *er* [VP *sich* [SPrtP *an wen denn ~~an wen~~*] *gewandt haben könnte*]]   = MERGE Prt =>

   b. [Prt' Prt [*v*P *er* [VP *sich* [SPrtP *an wen denn ~~an wen~~*] *gewandt haben könnte*]]]
                         = MOVE SPrtP & SPECHEAD AGREEMENT =>

   c. [PrtP [SPrtP *an wen denn*] [Prt' Prt✓ [*v*P *er* [VP *sich* ~~[SPrtP *an wen denn*]~~ *gewandt haben könnte*]]]]
     └─ SHA ─┘
                                    = further steps =>

   d. [Fin' *könnte* [TP er sich ... [PrtP [SPrtP *an wen denn*] [Prt' Prt✓ [*v*P ~~*er*~~ [VP ~~*sich*~~ ~~[SPrtP *an wen denn*]~~ *gewandt haben*]]]]]]]
                                    = MOVE SPrtP =>
   e. [FinP [SPrtP *an wen denn*] [Fin' *könnte* [TP er sich ... [PrtP ~~[SPrtP *an wen denn*]~~ [Prt' Prt✓ [*v*P ~~*er*~~ [VP ~~*sich*~~ ~~[SPrtP *an wen denn*]~~ *gewandt haben*]]]]]]]]]

The step from (7b) to (7c) freezes the scope of *denn* by SHA, and denn is deactivated. The raising of the SPrtP we see in the transition from (7d) to (7e) is nothing else but *wh*-movement in which *denn* is pied-piped along. This movement has – presumably – no relevance for the interpretation of *denn*.

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[6] For further details see Bayer and Trotzke (2015).

This derivation is technically feasible and serves as the input to further processes of agreement between the DiP and the higher left periphery's features of clause type and speech act. These are not relevant in the present context; interested readers are referred to Bayer, Häussler and Bader (2016) and to my previous work on this issue. The advantage of the account is obvious: (i) it rests on processes which are known from the paradigm case of *wh*-movement or the syntax of negation. (ii) it unifies the syntax of FPs and DiPs to a great extent, a result that is conceptually desirable. The account depends crucially on the assumption that DiPs as well as FPs are functional heads. Standard adjunction does not create the positions into which a SPrtP moves, and the formation of a SPrtP itself is hard to imagine if the particle is an adjunct. Unless we think about a completely different solution, we have a strong argument in favor of the "head theory" and against the "adverb theory". There is one point though which might be seen as a technical trick to get the derivations running. This is the merger of a silent particle. In the rest of this chapter, I want to comment on this point with novel data.

4. Doubling discourse particles[7]

It is known from the work of Thurmair (1989) and following work that DiPs can be stacked. It is less known that they can also be doubled. Consider the following example in (8).

(8) *Vor was denn ist er denn geflüchtet?*
     from what DENN is he DENN fled
     "What on earth did he flee from?"
     http://www.trennungsschmerzen.de/verlassen-mit-baby-wer-noch-t604.html (24.01.2016)

The repetition of the particle *denn* could in principle be a speech error which by some accident made it onto a web page. This would trivialize the example. But it is unlikely that this would count as an explanation. Examples like those in (9), in which another constituent is doubled, appear to be rare if not inexistent.

(9) a. *#Vielleicht ist er vielleicht ins Kino   gegangen.*
         perhaps   is he perhaps   in.the movie gone
         "Perhaps he went to the movies"

    b. *#Gerade sind sie   gerade nach hause gekommen?*
         just   are they just   to   home come
         "They just came home."

    c. *#Er ist er vielleicht ins   Kino   gegangen.*
         he   is he perhaps in.the movie gone
         "Perhaps he went to the movies"

    d. *#Was für Leuten passiert für Leuten so etwas?*
         what for people happens for people so something
         "What kind of people does something like that happen to?"

(9a,b) show that regular adverbs are unlikely to be echoed. (9c) shows that pronouns, i.e. comparably short and unstressed element, are unlikely to be echoed. (9d) shows that phrases which are attached to *wh*-words are equally unlikely to be echoed. In addition, if a some part of speech is repeated as a result of lack of processing capacities, the distance between the two occurrences would hardly be as close as the distance between the occurrences of *denn* in (8). (10a) shows a

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[7] This section has benefitted in particular from comments I got from Michael Wagner.

frequently observed blending in running speech, but (10b) sounds unrealistic because the distance is too small.

(10) a. *Der ist doch   schon   vor   zwei Jahren für einen Monat in Florenz gewesen ist der*
          he   is DOCH already before two years   for one   month in Florence been   is he
          "He was two years ago in Florence for one month."

     b. #Der ist hier ist der
         he   is here is he
         "He is here."

According to these considerations, an explanation of (8) in terms of speech errors or processing overload appears to be besides the point.

Importantly, the example seen in (8) is not an isolated case. Table 1 provides a collection of internet finds on the doubling of different DiPs which can co-occur with *wh*P in SPrtPs.[8]

TABLE 1

PARTI-CLE	EXAMPLE	SOURCE AND TIME
denn	„wer denn hat denn merkel gewählt???" „Hab das jetzt schon öfters gelesen, dass eben nicht Brecko den Wagen ge-fahren haben soll, aber wer denn hat denn nun hinter dem Steuer gesessen?" „Wer denn hat denn noch Interesse?"	https://propagand: press.com/2015/0 dem-kanzleramt-f http://forum.ex-press.de/showthre (23.01.2016) http://de.comp.os. kive.com/Jd9YV1 gner-kdevelop (23
	„Wer denn will denn nach Berlin ?"	http://www.spiege berlin-brandenbur keine-experten-thr
	„Wie denn ist denn der Kontakt zu den Reutlinger Banater Schwaben zu-stande gekommen?"	http://www.gea.de nater+schwaben+f gen.4339490.htm (23.01.2016)
	„Wie denn wäre er denn «vorgegangen» gegen den Lehrer, der den Islam nicht nach Weisung der Moslems darstellt?"	http://paolohor.blo ster-aus-deutschla
	„Wie denn könnten wir denn besser unsere Einheit im Grund, der gelegt ist in Christus, bekunden?" „Wie denn könnten denn unsere Politiker solche Firmen ertragen, weiter Waffen verkaufen, wenn sie nicht die Gabe des "weisen Marabu" hätten."	http://www.kirche (23.01.2016) http://www.tagesw che.ch/de/2014_09
	„Wie denn sollten sie denn auch gehandhabt werden?"	http://www.sta-for konfessionen/siebe heit-statt-gesetz/in
	„Vor was denn ist er denn geflüchtet?"	http://www.trennu baby-wer-noch-t6(

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[8] I am indebted to Verena Simmler, who has compiled this list of examples. For reasons of space, the examples are not glossed or translated. The relevant thing is the structure. I provide the entire collection as it will become relevant when we discuss their underlying structure.

		„Bitte erleuchten Sie mich, was denn sind denn die Pyramiden und auf welchen Forschungen beziehen Sie ihr Wissen?"	http://www.spiege schaft-den-medier 129376-14.html (2
		„Was denn sind denn deine Favoriten?"	http://www.arrcad (24.01.2016)
		„Nun mal Butter bei de Fische, was denn sind denn diese Spiele?"	http://www.joyclu 165.sex_wie_lang (24.01.2016)
		„Vor allem, was denn hätte denn Schlimmeres passieren können?"	https://books.goog &pg=PT11&lpg=l A4tte+denn%22& NEi&sig=MjFim- bAEgitD_DPSMv 0ahUKEwiOy5Gc HTAA#v=one- page&q=%22was' nn%22&f=false (2
		„Oh, wo denn ist denn nochmal der Frosch hin?"	http://www.urbia. sere-nachbarn-ruf wenn-wir-haare-w
		„wo denn ist denn hier nur dieser komische empfehlen-knopf..."	http://rebellmarkt. (24.01.2016)
		„Und wo denn sind denn all Eure Rechtsantworten auf eingereichte Strafanzeigen von mir, Herrn Moritz Günthert, meinen Mandanten oder meinen behandelten Ärzten geblieben?"	http://forum-swiss chive.html (24.01.
		„Seid wann denn ist denn das thema Sex für u18 nicht erlaubt ??	http://www.bsmpa (24.01.2016)

		„Seit wann, Schrammel, seit wann denn hast du denn 'nen Krankenschein?"	https://books.goog gAAQBAJ&pg=P enn+hast+du+den k&sig=QPewIact0 gLLeg9L6kPU&h rni8PKAhVC1iwl page&q=%22wan n%22&f=false (24
		„Warum denn hat denn die Fee den Drachen nicht gestreichelt…"	http://www.poetry (24.01.2016)
		„warum denn sollte ich denn was von dir behalten"	http://www.bunnx 1.html (24.01.201
		„warum denn sollte ich denn in einen Wert engagiert sein, wenn ich ihn erwähne?"	http://www.wallst 19631-19640/bloc
		„Vom wem denn bin ich denn der beste Freund, der Budapester?"	http://diskussioner ball/21821-der-vo (24.01.2016)

	„wen denn hast du denn alles so lieb?"	https://ask.fm/Sch (24.01.2016)
nur	„Wer nur könnte nur hinter den ausgeklügelten Überfällen stecken?"	http://www.film-r break-gewinnspiel
	„Was nur ist nur mit denen los"	http://forum.golem datenschuetzer-be geldstrafen/was-n nen/85300,383797
	„Warum nur bin ich nur so langsam?"	https://books.goog J&pg=PA365&lpg rum+nur+bin+ich- 4t&sig=Cm2- sfeSz9iaZ6zi6ywc hUKEwiJg9_D88 kywKHcz7AE0Q page&q=%22wa- rum%20nur%20bi (25.01.2016)
	„Warum nur bin ich nur so spät hier?"	
		http://resisweissew selt-der-schnee.ht
	„Warum nur bist Du nur gegangen ?"	
		http://www.almac 13250.html (25.01
	„Warum nur bist du nur so scharf drauf das Saugrohr zu wechseln ?"	
		http://www.sciroc dex.php/t-326704.
	„Warum nur ist er nur so schweigsam?"	
		https://books.goog &pg=PT4&lpg=P' rum+nur+ist+er+r 7w&sig=Rn3Cv3l e&sa=X&ved=0al hUG1iwKHT2-A page&q=%22wa- rum%20nur%20is (25.01.2016)
	„Warum nur seid ihr nur so wie ihr seid?"	
	"Warum nur seid ihr nur soo gehässig?"	
		https://de.answers dex?qid=2009022
	„Aber warum nur sind nur so viele Familienbande, Freundschaften der Deutschen nach Jahren der zwangsweisen Trennung und des Zusammenhaltes, auch einer Solidarität über das berühmte Westpaket, einfach so zerbrochen???"	http://www.purker line.at/komm/_da. 00001-00002-000 00000 (25.01.201
		http://www.forum schichte-n-der-We

	„Warum nur war ich nur immer so schrecklich unkreativ?"	https://books.goog… &pg=PT89&lpg=l… rum+nur+war+ich… 2W1u&sig=gpaJe… =de&sa=X&ved=C… KHWa5DG8Q6A… rum%20nur%20w… (25.01.2016)
	„Warum nur war er nur nicht schneller da gewesen?"	https://books.goog… &pg=PT87&lpg=l… rum+nur+war+er+… IDD&sig=- 1qSN3kzXHKsQ7… ed=0ahUKEwj-m- Dk4Q6AEIHDAA… rum%20nur%20w… (25.01.2016)
	„Warum nur war er nur so unerreichbar für mich?"	https://www.wattp… german-au-kapitel…
	„Liebe Uschi, warum nur habe ich nur das Gefühl, dass wir aneinander vorbei schreiben?" „Warum nur habe ich nur das Gefühl, Sie hätten absolut keine Ahnung wie der Wissenschaftsbetrieb funktioniert…"	dorisnather.blog.d… mal-sommer-4627… http://blog.gwup.n… leugner-sind-keine…
	„Warum nur haben wir nur trotzdem immer das Gefühl, als Schnorchler von Tauchern immer so von oben herab behandelt zu werden?	http://www.tauche… ter_Utopia_Beach… (25.01.2016)
	„Warum nur habt ihr nur Merkel gewählt?"	https://m.face- book.com/CDU/p… ment_id=1015319… tal_comments=51… %3A%22R0%22}…
	„…warum nur habt ihr nur zugelassen, dass sich Ville bis zum Leberversagen betrinkt?"	http://www.myfan… tion.net/de/t/13238… ben_wir_nicht_sc… (25.01.2016)
	„Warum nur haben Sie nur solange gewartet auf die Antwort der Menschlichkeit!"	https://meta.tagess… heidenau-mit-flue…

	„Aber warum nur hattest du nur diesen komischen Gesichtsausdruck?"	http://www.fanfik tion.de/s/4f53ed0a dein-Herz-gestohl
	„Warum nur hatte sie nur diese Empfindungen?"	http://www.fanfik tion.de/s/42f66a97 Me- (25.01.2016)
	„Warum nur können nur manche Leute den Tod nicht akzeptieren?"	http://www.welt.d ticle139978959/El Zweijaehrige-einf

	„warum nur musste ich nur laut lachen als ich las wer die Leitung übernimmt."	https://twitter.com tus/671766956152
	„Warum nur musste ich nur schmunzeln dass bei den per DB Buchungssystem buchbaren Zügen immer eine Lok der EWS davor hing."	http://www.drehsc ren/read.php?30,4
	„Warum nur musstest Du nur zu Ihr gehen?!"	http://www.trendm dichte/Herz_Schm
	„Warum nur musstest du nur mein Leid ertragen?"	http://forum.rotetr schauspieler/?page
	„Warum nur musste er nur so rennen?"	https://www.goog source=web&cd= VIfywKHQiEB1A %2Fwww.fanfic- tion.net%2Fs%2F Girl&usg=AFQjC BoDeg (25.01.201
	„Warum nur musste nur jedes rothaargie Mädchen Kimberly Ane heißen?"	https://www.wattp dates-14-kill-the-l
schon	„Auch von Tissie Andere erfuhr er nichts, denn wer schon hätte schon Lust gehabt, seine Freunde zu verpfeifen."	https://books.goog &pg=PT1870&lp %C3%A4tte+sch 19&sig=qQwFZx sa=X&ved=0ahUI WEGCwKHcqxD page&q=%22wer hon%22&f=false
wohl	„Wer wohl ist wohl der Typ mit dem Doppelkinn, und der spärlichen Frisur."	http://www.wrestl fos.de/board/show
	„Und wer wohl hat wohl am meisten von diesem Produktionszuwachs profitiert?"	http://politik-forum (23.01.2016)
	„Warum wohl ist er wohl Mitglied bei „BT-go"?"	http://www.nordba ten/merk-erbe-ver specht_99446 (23.
	„Warum wohl sind sie wohl gelöscht worden?"	http://m.lifeline.de seljahre/-Alle-?thr (23.01.2016)

„Warum wohl ist wohl in dem anderen Auto niemand gestorben?"		http://www.welt.d ticle119623046/So geglaubte-lebt.htm
„Und warum wohl ist wohl die Kundeninfo von YEG (http://www.yge.de/kundenin-fopop.php) nicht mehr direkt auf der Homepage von Heino verlinkt?"		http://www.rc-net 308057.html (23.0
„Warum wohl sind wohl die Kandidaten bei GNTM , am Ende dann KEINE Topmodels, und im im realen Business dann garnicht gefragt, bzw. erhalten gar Ablehnung. - weil es hier auch nur um Quotenkampf und SHOW geht"		https://de-de.face- book.com/DSDS/ (23.01.2016)
„Warum wohl waren wohl GULAGs notwendig?"		http://www.chefdu pic=12793.10;wap
„Warum wohl habe ich wohl nach den Aufbau der bestehenden Steuerung gefragt, damit solche "Kleinigkeiten" schon jetzt erkannt werden und es nicht "Chlöpft"."		http://homematic- pic.php?t=28480&
„warum wohl habe ich wohl 3 Shure M 91 mit DN 330 genommen ?"		http://www.dual-b auswirkung-der-za
„Warum wohl haben wir wohl in der Quali erst gegen Tschechien gewonnen und dann verloren?"		http://www.rp-onl ball/em/dfb/deutsc (24.01.2016)
„Warum wohl hat wohl das deutsche Verkehrsministerium von all dem nichts gewusst?"		http://www.heise.e mentare/Abgas-Sk blueфft-Experten/F sting-23962919/sh
„Warum wohl hat wohl Horst Seehofer im Interview gesagt, dass „die, die tatsächlich ent-scheiden, nicht gewählt sind und die, die gewählt sind, nichts zu entscheiden haben"?"		http://www.essens bensmittel-und-ho
„warum wohl haben wohl auch die regierungskritiker den kopf geschüttelt"		http://derstandard. fen-Armeestuetzpi
„Warum wohl haben wohl gute Ladegeräte und auch der viel zitierte Stirling- Regler eine Anschlußmöglickeit für einen Temp.-Fühler?"		https://www.boote forum.de/showthro
„Warum wohl könnte ich wohl Firefox 1.0 x erwähnen wollen?"		http://www.compu base.de/forum/sho (24.01.2016)

„Und warum wohl sollte ich wohl das deutsche youtube bemuehen?"		http://www.spiege welle-bornierteste trop-thread-34151
„Warum wohl sollten sie wohl Waffen in den. Händen halten, wenn sie sie nicht benut-zen?"		http://www.1000s schaft/forum/?entr rylink=1&id=1863 SESSID=f6e17f27 (24.01.2016)

Within the theory that has been sketched so far, there is a straightforward explanation for the doubling of DiPs. Reconsider the derivation of the question *An wen denn könnte er sich gewandt haben?* in (7). The doubling construction is already there. After the SPrtP *an wen denn* had been merged in VP/*v*P, a silent Prt-head was merged with *v*P, and the SPrtP was attracted to its specifier. The only change we must assume now is that instead of a silent particle an OVERT particle is merged. Since there is Spec-Head agreement, the overt particle and the Prt-head of the SPrtP have to match, i.e. the Prt-head and the head of the SPrtP must be identical. This is the case. For the rest, the derivation remains the same as the one we have seen in (7). The result of (7), namely (7e), is then as in (11).

(11) [FinP [SPrtP *an wen denn*] [Fin' könnte [TP er sich ... [PrtP [SPrtP *an wen denn*] [Prt' [Prt *denn*]✓
     [*v*P *er* [VP *sich* [SPrtP *an wen denn*] *gewandt haben*]]]]]]]]

Given that the lower *denn* is the DiP which determines the scope and is thus the semantically relevant one, there is no redundancy. The two lexical occurrences of the DiP are the reflex of spelling out the lower head position. It is a matter of PF.

This looks like an attractive solution, and I will, in fact, stay with it. Nevertheless, there is a slight complication. The question is: can we exclude the possibility that the preposed reconstructs into another potential particle projection, one that is independent of the speller-out DiP? Since we can be sure that the preposed SPrtP cannot be interpreted in the high position where we see it in the output, the question is whether there can be particle doubling also in the middle field. The answer depends on data, of course. We know that different DiPs can line up in German, see especially Thurmair 1989 and Coniglio 2011). But are there also data in which the same particle recurs? We know that the same particle can recur if one is a FP and the other one is a DiP.

(12) *Wer hat schon   schon   überlegt   ob   er/sie in Ketose ist?*
     who has SCHON SCHON considered whether he/she in ketosis is
     "Who after all has already thought about whether he/she is in the fat burning mode? –
     Nobody!"
     https://wuerzedeinleben.wordpress.com/category/ketonix/   [16 June 2016]

Here, the first *schon* is the DiP that gives rise to the interpretation as a rhetorical question; the second one is a scalar FP which corresponds to the temporal operator "already". The question is whether identical DiP can recur which allow no ambiguity with respect to their FP/DiP status. To be sure, we need to look for recursion of *denn* and *wohl*, both of which cannot be FPs. Here are some examples.

(13) a. *Wer sind denn   denn   die „gegen Toleranz wetternden Kreise"?*
      who are   DENN DENN the   against tolerance raving   circles
      "Who are those circles raving against tolerance?"
      https://blog.campact.de/2014/01/danke-baden-wuerttemberg/   [16 June 2016]

    b. *Wer hat Euch   denn   das denn   bitte   empfohlen?*
      who has you.PL DENN this DENN please suggested
      "Who has, pardon me, suggested this?"
      https://forum.hirntumorhilfe.de/neuroonkologie/erfahrung-mit-ttf-8386.html
      [16 June 2016]

(14)   *Und warum hat der Bundestag wohl   den Stgb   §129 wohl   so formuliert ...*
      und   why   has the parliament WOHL the penal.code §129 WOHL so formulated
      "And why has the German parliament formulated §129 if the penal code in such a way?"
      http://www.pi-news.net/2014/12/bargeldverbot-bedeutet-verlust-der-freiheit/
      [16 June 2016]

These examples show that it is in principle possible that the very same DiP recurs. If we can exclude speech errors, there should be a difference. Nevertheless, it is difficult to tell the difference between the two positions. Intuitively it looks as if the first occurrence is the more general one which re-shapes or modifies the illocutionary force whereas the second is in addition in the service of information structure and interacts with the focus inside the predicate. At this moment, this is pure speculation; thus, I leave the issue as pending. For the question of doubling the conclusion must be that reconstruction of the SPrtP into the specifier of a PrtP whose DiP is spelled out is not the only analysis. The SPrtP we see in (11) could in principle have cycled through a SEPARATE projection where its DiP-head agrees with the empty particle of a particle phrase that is independent of the spelled out DiP.

There is a reason why a reduction of the examples we see in table 1 to this explanation seems problematic. Notice that the in-situ doubling cases are usually like in (15)

(15) *Wer hat nur   diesen linksrotgrünfaschistischen Idioten nur   so viel   Macht*
     who has NUR these left.red.green.fascist   idiots   NUR so much power
     verliehen, dass die   ihre geisteskranken Visionen, in die Tat   umsetzen können?
     given   that they their mind.sick   visions   in the deed transform can
     "Who on earth gave these leftist red and green idiots so much power that they can turn
     their sick visions into reality?"
     http://www.pi-news.net/2014/04/inklusion-2-henri-geistig-behindert-will-ans-gymna
     sium/   [16 June 2016]

There is a high DiP which follows the finite verb and a low DiP near *v*P which is preceded by topic information. Considering now movement of the SPrtP out of *v*P, the SPrtP would agree and take scope in this low criterial position before it moves on to the *wh*-destination. Skipping this low position followed by agreeing and scoping in the high position cannot arise as it would violate Relativized Minimality, see Rizzi 1990. Turning now to the collection of data in Table 1, we see, however, that the spelled-out DiP in situ is always in a high position. In roughly 50%, it follows the finite verb directly; in the other 50%, it is separated from the finite verb only by a pronoun.[9] In the face of this, movement of the SPrtP through a low specifier position with a silent Prt-head is – at least quantitatively – not supported by the data. In such a derivation, the role of the upper DiP would at best remain unclear. The alternative, namely skipping the lower position, would violate Relativized Minimality.

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[9] As long as the pronoun does not bear contrastive focus, this ordering is exceptionless.

The derivation that converges immediately is the one that we have proposed in (11). In (11), doubling arises by means of an SPrtP that passes though a single criterial position whose head is spelled out with the same DiP that heads the SPrtP. In the face of this, my conclusion is for the time being that DiP doubling as seen in table 1 should not be reduced to agreement in Prt-projections with a silent head. It is rather agreement in a Prt-projections with an OVERT head. If my conclusion is on the right track, the doubling data lend new support to my theory. Researchers with reservations against the assumption of phrases with silent heads may be more inclined to accept an analysis in which the silent position can also be spelled out with a head that "makes sense".

Let me close with the information that the doubling of DiPs we see here is not an isolated case at all. Barbiers (2014) observes doubling of precisely this sort in Dutch FPs. Colloquial Dutch offers examples in which especially the FP *maar* ('only') can be doubled.

(16) *Maar   een student ken   ik maar*
     MAAR one student know I   MAAR
     "I know only one student".

In close agreement with my own conclusions, Barbiers says *I have argued that a focus particle can attach to any constituent in its base position. If the particle stays there, the sentence is ungrammatical. The particle has to move up to the specifier of another focus particle, optionally pied piping the constituent to which it was attached.*

Details aside, the German version of (16), (17), does not sound very awkward either.

(17) *Nur   einen Studenten kenne ich nur*
    NUR one   student   know I NUR
    "I know only one student".

It needs more work though to find out the micro variation by which Dutch and German agree and differ in these kinds of doubling constructions. The fact that they occur in Dutch should suffice to show that particle doubling is not an accident, and that there are now theories which can take care of these facts.

5.   Conclusions

The syntax of focus as well as discourse particles in German allows a unified account if certain well motivated assumptions are adopted. They include that particles may be co-constituents of non-propositional phrases such as PP and DP. Phrases of this kind must cycle through designated positions in which they can discharge their scope potential via agreement. The derivation calls for spec-head agreement configurations in combination with the copy-theory of movement. While in the standard cases, they agree with a silent matching head, we have presented new data which show that this head can also be spelled out. Both the data and the theoretical account give strong support to theories in which particles, focus as well as discourse particles, are functional heads along with standard functional heads that are assumed in the grammar of German and other languages.

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