Bavarian Discourse Particles in Wh-Questions with a note on North-East Italian dialects*

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1. Some general characteristics of German Discourse Particles

It is widely known that discourse particles (DiPs) depend on sentence mood. This relation must be implemented syntactically. The general idea here is that the clausal left periphery has a syntactic representation of force, and that force – roughly declarative, imperative, interrogative – is engaged in a formal syntactic relation with DiPs that may occur in its local c-command domain. German DiPs emerge in the upper middle field, arguably above VP or *v*P, i.e. in a position in which they have propositional scope. DiPs are traditionally seen as a dividing line between a thematic space and a rhematic space. Discourse-topical DPs may scramble to the left of a DiP, whereas weak pronouns or clitics must scramble to its left. Indefinite DPs may also scramble out but only if they are specific. Non-specific indefinites remain to the right of the DiP. If negation is involved, the DiP precedes negation. (1c) is ungrammatical. Take an example with the DiP *wohl* (lit. 'well'), which signals uncertainty of the speaker. (1b) is the basic phrase structure after scrambling.

(1) a. Der Gast hat das Zimmer **wohl** nicht abgesperrt.
the guest has the room WOHL not locked
'The guest failed to lock the room, (as the speaker conjectures)'

b. Der Gast hat das Zimmer **wohl** [$_{\text{NegP}}$ nicht [$_{v\text{P}}$ ~~der Gast~~ ~~das Zimmer~~ abgesperrt]

c. * Der Gast hat das Zimmer nicht **wohl** abgesperrt.

* Various Bavarian native speakers and also native speaker linguists helped me getting my thoughts about *nacha* and *eppa* straight: Hans Altmann, Walter Breu, Bruno Jonas, Agnes Kolmer, Uli Roider, Rosemarie Spannbauer-Pollmann, Helmut Weiß and Ludwig Zehetner. Anthony Rowley provided important data from his register of dialect data. Christoph Schwarze improved my understanding of Italian inflection. Alex Grosu and Alessandra Tomasselli sent me comments. Thanks also to an anoymous reviewer for helpful suggestions. Susanne Trissler brought my paper in readable form. A big thanks to all of them.

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DiPs are not in the left clausal periphery, but they are related to the left periphery through a probe-goal agreement relation by which the force head, which in (1) would be [DECL], probes an uninterpretable [DECL] feature inherent in the DiP *wohl*. Agreement results in a pragmatic fine-tuning of the force of the utterance by involving contextual epistemic properties that are ascribed to the speaker. Probe-goal agreement presupposes a c-command relation. In addition, the goal can only be reached if it is in the same phase. Force cannot probe into lower domains, although there are data which at first sight suggest such a possibility.[1] Importantly, various DiPs can co-occur in the same clause; mostly they do so in a fixed order. In wh-questions, DiPs may team up with a wh-phrase and then move along to SpecCP. Apart from this special case and unlike bona fide adverbs, DiPs cannot be displaced. Their syntactic properties suggest throughout that they are functional heads which result from grammaticalization of their historical ancestors.

Details of this approach can be found in Bayer & Obenauer (2011), Bayer & Trotzke (2015), Bayer, Häussler & Bader (2016), Bayer (2018; 2023), Czypionka, Romero & Bayer (2021).

2. The Bavarian inventory of DiPs in (wh-)questions

Bavarian has a small number of DiPs which are not found in Standard German. *Eppa* ~~relates~~ is related to Standard German *etwa* and appears in polarity questions more frequently than *etwa* does in Standard German and marginally in wh-questions, a usage for which Standard German would roughly use *wohl*. *Eppa* expresses uncertainty and a speculative attitude of the speaker. In polar questions, it suggests that the speaker expects or fears that the expected answer is not true. *Eppa* is excluded from declaratives and imperatives. Another typical Bavarian DiP is *fei* (derived from the adv. *fein* 'finely') which appears in declaratives and imperatives and is excluded from questions.[2]

In the center of the present study will be *nacha* (derived from the adv. *nachher* 'afterwards'), with various dialectal incarnations such as /*nocha*/, /*nachad*/, */nochad/,* /*na*/ or /*nou*/. *Nacha* is particularly interesting as it seems to be in competition with two other particles that are found in wh-questions: a. *denn* (lit. 'then'), which is identical with the same particle in

[1] In German, but obviously also in French – see the DiP *donc* – a matrix wh-item can license a Q-sensitive DiP in an embedded clause from which the wh-item has been extracted. The most plausible conclusion is that the immediate licensing is due to the copy that movement leaves in the specifier of the embedded clause rather than by the matrix wh itself. The present article will not touch these details.

[2] See Schlieben-Lange (1979), Thoma (2009) and the particularly convincing analysis in Hinterwimmer (2018).

Standard German; b. the clitic element *-n* that has been derived from *denn*, and differs arguably from the homophonous reduced form that is observed in all spoken varieties of German.

Eppa is not directly a competitor of *nacha* but should be considered here as it may, according to my own intuitions, appear in Bavarian wh-questions. While *denn* and *-n* are widely known and have been analyzed in a number of studies,[3] *nacha* has received almost no attention so far.[4] One cannot exclude the possibility that there are even more than these four.[5]

The DiPs under consideration here can all appear in polar questions as well, but there are distributional asymmetries. While *eppa* (German "etwa") is standard in polar questions, it is rare in wh-questions, for various speakers even unavailable (see note 18). *Denn* appears in both question types but undergoes heavy grammaticalization only in wh-questions. When it reduces to the clitic *'n*, it may become obligatory in wh-questions but not in polar questions. The DiP *nacha* seems to be equally distributed across polar and wh-questions.

2.1. Examples

Here are relevant examples some of which are drawn from plays by Ludwig Thoma (1867–1921) in which the characters speak an authentic albeit somewhat old-fashioned Bavarian.[6]

(2) DENN (Thoma)

a. Wia hoaßt sie **denn**?
how is-called she DENN
'What's her name?'

b. Was lachst d' **denn** a so?
what laugh 2SG DENN such
'Why do you laugh like that?'

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[3] Bayer (2012; to appear), Plank (2014), Grosz (2005) for Viennese.

[4] Behaghel (1923: 365) acknowledges its existence in wh-questions. Grewendorf (2021: 155 ff) offers some relevant observations.

[5] DiPs are a peculiar lexical class. They frequently escape the attention of the speakers, and occasionally they are not recognized as DiPs because they have an established counterpart. The latter is especially true for *nacha* which exists in Bavarian as the temporal adverb for German *nachher* 'afterwards'. As Probal Dasgupta (p.c.) observed, it is more often than not impossible to say how many DiPs there are in a language. See also the remarks on *iats* (lit. 'now') in note 30.

[6] I will not change the spelling of examples that are drawn from published material.

c. Simmerl, was sagst d' **denn** du dazua?
Simmerl what say 2SG DENN you to.this
'Simmerl, what do you say about this?'

(3) NA (Thoma)[7]

a. Ja, wia redst'n **na** du daher?
hey how talk-N NA you along
'Hey in what manner do you talk? (You shouldn't.)'

b. Für was is **na** dei Lapp da, da Simmerl?
for what is NA your yokel here, the Simmerl
'What is your yokel Simmerl for?'

c. A: I hätt oani. B: Du? Geh zua, du hättst mi grad für'n Narrn!
I had one.FEM you get away you have me just for-a fool
A: Bal a da's sag! …Und koa schlechte. B: Wer waar **na** de sell?
as I you-it say and no bad.one who would.be NA the one
'A: I would have one. B: You? Leave me alone. You are kidding me!
A: As I tell you! … And not a bad one. B: Who would this be?'

(4) NACHA (Thoma)

a. Wia schmeck'n dir **nacha** de Knödl?
how taste you NACHA the dumplings
'How do you like the dumplings?'

b. Wie geht's dir **nacha**?
how goes-it you NACHA
'How are you?'

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[7] *Na* corresponds to *nacha/nachher*. It has a close competitor that differs only in vowel quality. This is *no*. *No* must not be confused with *na*. In one reading, *no* corresponds to Standard German *noch* (still), in the other one it corresponds to Standard German *nur* (lit. 'only') but only in the interpretation of *nur* as a DiP, not in its interpretation as the focus particle *nur*. The focus particle *nur* is in Bavarian *bloß* (lit. 'naked, uncovered').

(i) Seid's **no** grod staad!
be.2PL NO just quiet – 'Be quiet for god's sake!'

(ii) Hock' de **no** her!
sit.2SG REF NO to.us. – 'Please have a seat! Don't hesitate!'

(iii) Wia how-e **no** ausg'rechnet an Hans vagessn kenna?
how have-I NO exactly the Hans forget can – 'How could I exactly forget Hans?'

(iv) **Bloß** da Hans hot wos g'essn.
only the Hans has something eaten – 'Only Hans ate something.'
***No** da Hans hot wos g'essn.

Interesting data that need to wait for another investigation.

c. Was willst d' **nacha**?
what want 2SG NACHA
'What do you want?'

(5) 'N

a. Wia geht'**n** des? (https://www.farbenfest.at/blog/wia-geht-n-des/ 02.12.22)
how goes-N this
'How does this work?'

b. Wo wohnst'**n** du?
where live-N you
'Where do you live?'

c. Wo host-ma-s-**n** hĩ:g'legt?
where have.you-me-it-N put.down
'Where have you put it down for me?'

In Thoma's writings, '*n* is mostly oppressed, but see *redst'n* in (3a). In various cases, *n*-oppression may be spurious due to phonotactic reasons, e.g. in *was is na* where *n* after *is* would be coarticulated with the onset of *na*. Equally in (3b) *was is na* may in reality be *was is'n na*. Again in (3c) *wer waar na de sell* may underlyingly be *wer waar'n na de sell*. In general, *'n* is obligatory in Bavarian. Being a small and insignificant looking part of speech, it may be ignored by people who try to write the dialect.

We will come back to the DiP *eppa* at a later point of the discussion.

2.2. Semantic differences

At first sight, the DiPs of the examples in (2) through (5) seem to be semantically interchangeable. This gives rise to the question whether these DiPs are in fact allomorphs of one underlying meaning. In fact, one could change *denn, na, nacha* and '*n* without remarkable differences. At closer inspection, however, this superficial impression turns out to be misguided. If the DiPs involved would all make the same semantic contribution, they would mutually inhibit each other. However, as the following examples from Thoma's plays and from other sources show, these particles may co-occur in the same clause.

(6) DENN NACHA (Thoma)

a. Was is **denn nacha**, bal de ander … 's Anwes'n erbt?
what is DENN NACHA as the other.FEM the property inherits
'What will be when the other lady inherits the real estate?'

b. Was is **denn nacha**, wenn's d' verkaffst?
what is DENN NACHA when 2SG sell
'What will be when you go selling (your property)?'

c. Für was braucht er **denn nacha** mein Huat so umanand schmeiß'n?
for what needs he DENN NACHA my hat so around throw
'How can he dare to throw my hat around like that?'

Given that lexical elements in speech are not redundant, *denn* and *nacha* must be semantically distinct. The same holds for '*n*. In wh-questions, as we will see shortly, '*n* is compatible with all the other DiPs.

(7) a. Ja, wia redst'**n** **na** du daher? (Thoma)
hey how talk-N NA you along
'Hey, in what manner do you talk? (You shouldn't.)'

b. Wann kimmt'**n** **denn** da Xaver amoi wieder?
whe comes-N DENN the Xaver once again
'When will Xaver show up again?'

c. Warum is'**n** d'Wally **nacha** schon wieder eig'schnappt?
why is-N the Wally NACHA already again miffed
'Why is Wally in a huff again?'

The same is true for the examples in (8), where '*n* appears with *denn* and *nacha/nou*. According to my own intuitions, they could also appear all together in a single clause.

(8) a. Ja, wia redst'**n** **denn** du **nacha** mit deim Vata?
hey how talk.2SG-N DENN you NACHA with your father
'Hey, in what manner do you talk to your father? (You shouldn't.)'

b. Ja, wia redst'**n denn** du **nou** mit deim Vata?
[same]

This situation calls for a description of the semantic contributions that these DiPs make to the sentence meaning. Let us first consider *denn*. Bayer (2012) provides the felicity condition in (9).[8]

(9) [*denn* α] is appropriate in a context c if (i) α is a question, and (ii) the expected true answer p updates the common knowledge K_c of speaker and addressee in such a way that p is relevant to the knowledge K'_c of the speaker.

For instance, in (2a), the speaker assumes common knowledge with the hearer, a Stalnakian "common ground", according to which the answer has enhanced relevance for the speaker.[9]

Assuming that *nacha* and *na* do not differ semantically, we have to consider now what would distinguish *nacha* from *denn*.[10] At first sight, both seem to do roughly the same job. The key to a better understanding must come from the fact that the DiP *nacha* derives from the temporal adverb *nachher* 'afterwards'. After all, grammaticalization is conservative and does not change an existing meaning wildly. Thus, following the fact that *nacha* must have emerged from the homophonous temporal adverb meaning 'afterwards', we can expect that the relation of successivity has not been lost entirely in the course of grammaticalization that *nacha* has undergone. In fact, *nacha* must rather have shifted from the propositional level to an aspectual level from which proposition p is viewed as a consequence of certain eventualities. Roughly speaking, the temporal relation may have changed into a quasi-logical relation. Let me suggest the following felicity condition.

(10) [*nacha* α] is appropriate in a context c if (i) α is a question, and (ii) the expected true answer p results from eventuality ev, ev ∈ $\{ev_1, ev_2, \ldots ev_n\}$ that is part of the common knowledge K_c of speaker and addressee, and (iii) p updates K_c in such a way that p is relevant to the knowledge K'_c of the speaker.

[8] There are other definitions as in Theiler (2021) but they all agree on an anaphoric reference to a contextually given set of situations that foster the salience of the question.

[9] In special questions, where gaining of new information is in the background or even absent, this felicity condition is not irrelevant. Even if the reply is only a "reaction", this reaction must be relevant to K_c. In a self-directed speech act as in a rhetorical question, the obvious answer must be relevant to or at least compatible with the speaker's epistemic state.

[10] As a caveat, one can never be sure about meaning preservation once the form has changed. Thus, I would leave it open whether *nacha* and *na*/*nou* observe slightly distinct felicity conditions.

What has changed here is that there is a specification on p that is missing in (9), and this specification concerns some sort of consecutivity; p must either result from of follow some presupposed antecedent eventualities.[11] Consider (4a), *Wia schmeck'n dir nacha de Knödl?* A strictly temporal interpretation is irrelevant. There is only a subtle distance to *Wia schmeck'n dir denn de Knödl?* But this distance is important. (10) suggests that the speaker wants to convey that the addressee had some previous Knödl-tasting experiences. The addressee can react with a p that satisfies the expectation, but could equally reject the question by saying that he/she has never eaten Knödl before. In this case, what would be rejected is condition (ii) of (10).

What about '*n*? '*N* is a clitic that derives from *denn* but reveals a far greater change than simply PF-governed reduction. As shown in Bayer (2012, 2013a, to appear), it has become more or less obligatory in wh-questions of all types; and hand in hand with this, it has lost its semantic impact. Here is a comparison: Both König (1977) and Wegener (2002) have pointed out that *denn* is inappropriate if the question opens a discourse out of the blue.[12] Why? There is no common knowledge background to which the answer could relate. Assume an administration officer whose sole job it is to write down a citizen's address. Such an officer cannot felicitously ask *Wo wohnen Sie denn?* ('Where do you DENN live?'). It is by definition of his job required that he does not poke his nose into the interlocutor's affairs, even if he had the right kind of information. Assume on the other hand that the administration officer is a Bavarian who asks *Wo wohna's'n?* ('Where live-you-N', 'Where do you 'N live?'). This question does not invoke any pragmatic trespassing. The reason is that '*n* is a purely formal marker, an element without any semantic impact. In fact, Bayer (2012, 2013a, to appear) argues that '*n* has been turned from a meaningful DiP to an agreement morpheme, which as such is semantics-free. We will return to this important issue.

[11] Notice that *nacha* appears frequently in greetings. Similarly to Italian, where *ciao* is used, Bavarian uses *Servus* both for initiating and closing a conversation. *Servus* can be accompanied by *nacha*, but that case is strictly impossible for the initiation of a discourse or for simply greeting someone. *Servus nacha* can only serve as a goodbye. The reason for this must be that *nacha* concludes some preceding conversation.

[12] For instance, I can ask out of the blue a passenger in some city (i) *Wo ist denn hier der Bahnhof?* 'Where is DENN here the train station?' but being in Munich, I cannot ask someone out of the blue (ii) *Wo ist denn in Bordeaux der Bahnhof?* 'Where is DENN in Bordeaux the train station?' The reason is that a common knowledge background can be assumed by which there is a train station in a city of the size of Munich. However, common knowledge about the conditions in Bordeaux cannot automatically be assumed if the conversation takes place in Munich.

3. Syntax

3.1. Grammaticalization and head status

There are various indications that DiPs are heads rather than XPs. As I have argued in several publications, they are in fact *functional* heads. An important observation by Thurmair (1989) has been that DiPs unlike adverbs cannot be moved. Topicalization as well as postposing are out. To the extent that one can find comparable word-size functional heads, this is a property of head-type elements. A top example is negation. In Bavarian, the Neg-head *ned* is in a fixed position. Negative quantifiers like *niemand* 'nobody', *nirgends* 'nowhere' etc. are composed of a neg-feature and an indefinite QP. They move to the specifier of the NegP, where the neg-feature is checked under Spec-head agreement with the Neg-head. The DiPs under investigation, *denn, nacha, na/nou* are likewise heads that make up the functional grid of clause structure.[13] These DiPs – along with all the others – are the result of grammaticalization. Van Gelderen (2004) identified a drift by which certain phrases tend to get reduced to heads. This has become known as the *Head Preference Principle*. Roberts & Roussou (2003: 2) characterize grammaticalization as the creation of new functional elements. According to them *[…] grammaticalization is the creation of new functional material. It must, then, involve some sort of reanalysis of lexical or functional material*. The idea is that potential XPs climb up in the tree to higher functional positions. The DiPs under consideration are clearly outputs of grammaticalization. As such, they are reanalyzed closed class items. Consider *nacha*. In (11a) it is in situ, in (11b) it is postposed.

(11) a. Wos host'**n** **nacha** doa?
what have.2SG-N NACHA done
'What have you done?'

b. Wos host'**n** doa **nacha**?
what have.2SG-N done afterwards
'What did you do afterwards?'

[13] As Bayer (2018, 2020) shows in detail, smaller particle phrases headed by *denn* move into the specifier of a *denn*P, the head of which is in a fixed pre-*v*P scope position.

In (11a), *nacha* can be understood with temporal reference or with the more abstract meaning of the DiP 'What did you do as a consequence of …?' In (11b), *nacha* can only be understood with temporal reference: 'What did you do afterwards?' The consequence for phrase structure is that *nacha* can be either generated as the head of a particle phrase (PrtP) or as a regular adverb.[14] In the first case it is a functional head along with Neg, T, *v* and others and as such part of the functional grid of clause structure. In the second case, it is an XP constituent that can undergo movement to various positions in the middle field, to SpecCP and in various cases also to some postverbal position.[15] Thus, *nacha* seems to be a case in point to demonstrate the difference between particle (Prt i.e. an X°) and adverb (Adv i.e. a potential XP).

For '*n*, the status as a head cannot be challenged. A category must be an X° before it can turn into a clitic. '*N* is an enclitic that leans on the verb in C or on a clitic complex that likewise leans on C. It is both phonologically and semantically impoverished. Its semantic content has shrunk down to an uninterpretable wh-feature, a state of affairs that is proto-typical for agreement morphemes.[16]

3.2. Ordering

As the data have already shown so far, the DiPs come in a certain order. '*N* being a clitic attached to the verb in C-position, it is clear that it precedes *denn, nacha* and any other DiPs. The order of *denn* and *nacha* is also fixed. Thoma's examples in (6) would be ungrammatical under reversed order.[17]

(12) a. *Was is **nacha denn**, bal de ander … 's Anwes'n erbt?
b. *Was is **nacha denn**, wenn's d' verkaffst?
c. *Für was braucht er **nacha denn** mein Huat so umanand schmeiß'n?

[14] As an adverb it may be adjoined or it may be in the specifier of an adverbial projection as has been proposed in Cinque (1999).

[15] I hesitate to speak of "extraposition"; it is rather the shift to a prosodically weak position that is often found with light PPs, e.g. *Ich habe schon mal drüber NACHgedacht => Ich habe schon mal ~~drüber~~ NACHgedacht drüber* 'I've already thought about it'. In colloquial speech, this is absolutely normal.

[16] Person/number agreement with the subject is clearly such that it encodes relevant features of the subject but is not referential. Agreement morphemes do not bear a theta role.

[17] In fact, *denn* is always the first DiP in questions with more than one DiP.

Let us now return to the DiP *eppa*. Its appearance in wh-questions is unexpected. Standard German does not allow *etwa* in wh-questions. Helbig (1988: 142) says when it does appear in wh-questions it is a degree particle: *etwa 40 Leute* 'roughly 40 people'. Interestingly, an alternative is *wohl*: *wohl 40 Leute* 'roughly 40 people'. Since Bavarian does not use *wohl*, it could be the case that *eppa* can be recruited by analogy for *wohl* in wh-questions. [18] This would explain why in wh-questions *eppa* corresponds to *wohl* in Standard German. Notice that *eppa* in wh-questions signals uncertainty and a speculative attitude of the speaker toward the expected answer. This ties in with Zimmermann's (2004) study of *wohl* as a DiP.

According to my intuitions, *nacha* can precede or follow *eppa*.

(13) a. Wos hot-a (**denn**) **eppa nacha** doa?
what has-he DENN EPPA NACHA done
'What did he do?'

b. Wos hot-a (**denn**) **nacha eppa** doa?

Closer inspection reveals that although both orders are licit, inversion of the word order has a cost. What is the difference? The preferred reading of *nacha* in (13a) is the temporal one: 'What did he eventually do afterwards?' (13b) may under certain conditions allow the same interpretation but it seems that the DiP reading of *nacha* becomes more prominent. 'What did he as a consequence of … do eventually?'[19] This intuition is in line with the general impression

[18] My Lower Bavarian native speaker informants Bruno Jonas, Rosemarie Spannbauer-Pollmann and Helmut Weiß (p.c.) reject wh-questions with *eppa*. Hans Altmann and Walter Breu are skeptical. Certain other speakers, including Ludwig Zehetner, agree with my judgements. Importantly, Anthony Rowley (p.c.) found the following two examples in his collection.

(i) Was is jetzt des **eppern** scho wieder?
what is now this EPPA already again
'Good lord, what's this again?!'
(*Altbayerische Heimatpost* 781 (2019) No. 1, p. 14)

(ii) Was is **ebba** a Mensch?
what is EBBA a human.being
'What is man? Can we ever know?'
(J. Reitmeier, Th. Stammberger, *Woyzeck: Ein Drama in bairischer Mundart nach Georg Büchner*)

[19] This is unexpected, as one reviewer notices. But there are indeed rare cases in which higher adverbs that do not qualify as topics may be scrambled to the left of a DiP.

(i) Hans trinkt ja gewöhnlich Kaffee ⇨ Hans trinkt gewöhnlich ja ~~gewöhnlich~~ Kaffee
Hans drinks JA usually coffee

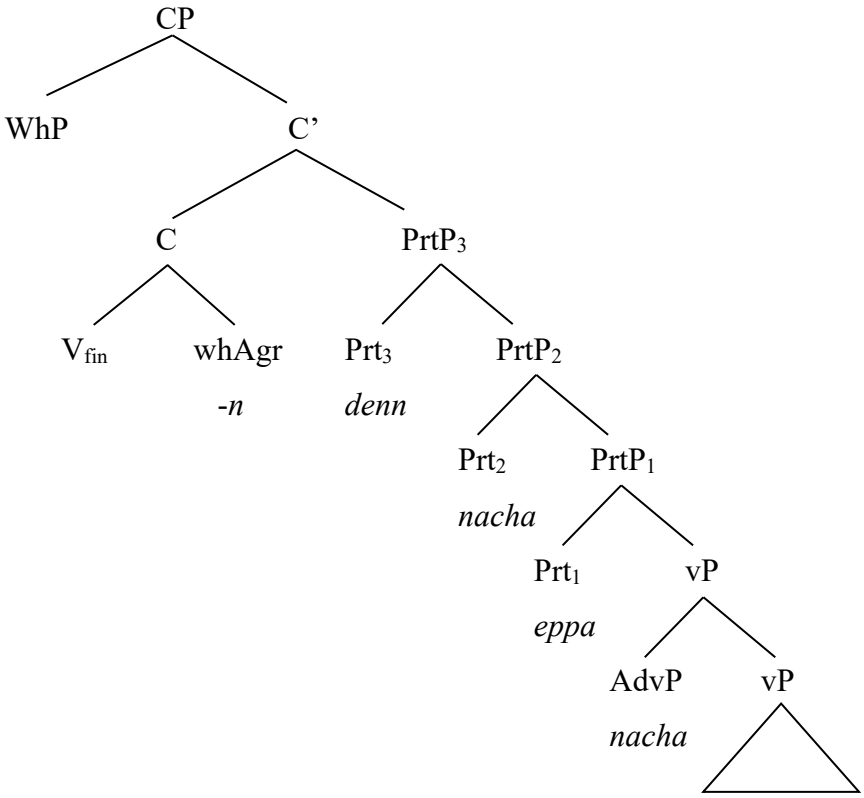
(ii) Host ebba nacha koa Zeit nemma? ⇨ Host nacha ebba ~~nacha~~ koa Zeit nemma?
have.you EBBA NACHA no time left

Viesel (2022: 162) speculates about middle field emphatic scrambling but finds that the relevant factor would have yet to be conclusively determined.

that DiPs are positioned in the upper space to the left of *v*P whereas adverbs are positioned in the lower space. Since German is SOV, there is no visible landmark between the lower and the upper region of the middle field. Given that *eppa* is a DiP, the situation is somewhat clearer. If *nacha* precedes *eppa*, it is in the upper region and acts as a DiP. If it follows *eppa*, it could be in the lower region and act as a regular adverb.

If so, Bavarian displays the following landscape of discourse particles in wh-questions.

(14)



Why is the ordering as it is? In some cases, the answer is obvious, in others it is not. Since '*n* is a clitic, it precedes any other relevant element. In German, the functional head it is attached to is the finite verb that lands in the C-position, the so-called "Wackernagel" position. In the hierarchy of Q-sensitive DiPs, *denn* is always the highest. In comparison with '*n*, *denn* retains a distinctive semantics but the impression prevails that the high position of *denn* is related to its generality. *Denn* being a member of the deictic elements identifiable as "d-words", points to something arbitrary and underspecified in the common ground of speaker and hearer. This follows from the context condition in (9). DiPs that are more specific always follow *denn*. When we consider *nacha*, we see that it follows *denn*. As expressed in (10), *nacha* cannot be

reduced to *denn*. It presupposes some antecedent eventuality, a clear relic of the temporal meaning of German *nachher* ("afterwards") from which it is derived.[20] The unmarked precedes (or out-scopes) the marked.[21] *Eppa* is clearly distinct from *nacha*. It signals uncertainty on the side of the speaker, a feature that is missing entirely from *nacha*. This may be the reason why a particular ordering can hardly be detected between *nacha* and *eppa*. Consider the polar questions in (15) and the constituent questions in (16).

(15) a. Host **eppa nacha** nomoi g'heirat?
have.2SG EPPA NACHA once-more married
'Did you by the way get married again?'
b. Host **nacha eppa** nomoi g'heirat?

(16) a. Wer werd **eppa nacha** da neie Bresident?
who becomes EPPA NACHA the new president
'Who will eventually become the new president?'
b. Wer werd **nacha eppa** da neie Bresident?
who becomes NACHA EPPA the new president

Nevertheless, my intuition is that the temporal interpretation of *nacha* prevails in (15a)/(16a) whereas the DiP-reading is distinguishable in (15b)/(16b). Consider a non-eventive state of affairs such that temporality plays no role, and the temporal adverb *nacha* is inapplicable.

(17) a. (#)Is da Simmerl **eppa nacha** a Bua vom Huaberbauer?
is the Simmerl EPPA NACHA a boy from Huaberbauer
'Is Simmerl by the way a son of Huaberbauer?'
b. Is da Simmerl **nacha eppa** a Bua vom Huaberbauer?

[20] Since there is an important historical dimension involved, things may in the end be more complex than can be presented here. The Old High German ancestor of *denn* is *thanne* ("then"), for which Abraham (1991) identifies next to a localistic an early temporal interpretation. Following stages show increasing abstraction toward logical, illocutive and discourse functional interpretations. In comparison, the history of Bavarian *nacha* is far shorter. As a DiP, it may not have started before the 19th century. Its temporal grounding is still prominent and must not be confused with the shifts of developments that separate current *denn* from its origin.

[21] An anonymous reviewer wants an explanation for this. Unfortunately, I do not have one.

(17a) strikes me as awkward. My tentative explanation is that *nacha* is understood literally as 'afterwards'; since kinship relations are not alterable, this interpretation is likely to provoke a semantic conflict. No such effect arises in (17b). In (17b), *nacha* is in the space of DiPs where the temporal interpretation has ceased to play a role.

The data are subtle. Only careful testing with competent native speakers could arrive at fully reliable results. An agenda for future research.

3.3. Wh-drop

As I have shown in Bayer (2010, 2012, 2013a,b, to appear), Bavarian shows the phenomenon of wh-drop. Instead of (17),

(17) a. Wos wead'**n** des?
what becomes-N that
'What will that be?'
b. Wos duast'**n** do?
what do.2SG-N there
'What are you doing there'

one can under certain contextual conditions also find (18).[22]

(18) a. ___ wead'**n** des?
b. ___ duast'**n** do?

Wh-drop is heavily constrained. Only *wos* (what) can be dropped, and dropping can only affect bare arguments in either of the two structural cases accusative and nominative. The reason must be that *wos* is the unmarked wh-element, and that wh-elements other than *wos* cannot be formally recovered.

In a judgement task, 14 native speakers of Bavarian were asked to judge (17) and (18) along a tripartite scale in which √ stands for "optimal, perfect", ? stands for "uncertain, not really good but not impossible either" and * for "bad, clearly impossible". As expected, (17)

[22] Questions of this type are usually brief, are uttered with excitement and mainly carry a critical or even angry undertone. Often, they are perceived as rude. They are proto-types of what Obenauer (2006) identified as *disapproval questions*.

received the best rating: √ 100%, ? 0%, * 0%. The rating of (18) was mixed: √ 23%, ? 62%, * 15%. The low acceptance rate may be a reflex of the marked character and the sub-standard nature of wh-drop; nevertheless, 62% of the ratings see wh-drop as marginally possible. With 15%, flat rejection is rather low.

The next step was a comparison of the same sentences without the clitic *'n*.

(19) a. Wos wead des?
b. Wos duast do?

The ratings were almost as good as those in (17): √ 96%, ? 4%, * 0%. The reason seems to be that wh-questions without '*n* are not really ungrammatical; even if the presence of '*n* would be preferred, such sentences are familiar from Standard German. The revelation follows when we consider the results for wh-drop under the absence of '*n*.

(20) a. ___ wead des?
b. ___ duast do?

Here, the rating is √ 0%, ? 8%, * 92%. In other words, rejection is almost total. The impression is that the examples in (20) do not even allow the conclusion that a question could have been intended. The only guide to the intended interrogative interpretation is '*n*. Thus, everything depends on the presence of '*n*.

The next question is whether '*n* can be replaced by *nacha*. As we know, *nacha* is a Q-sensitive DiP, and as such could be functionally on a par with '*n* in being able to identify the clause as an interrogative. The speakers were asked to rate the following sentences with *nacha*.

(21) a. Wos wead **nacha** des?
what becomes NACHA that
'What will that be?'
b. Wos duast **nacha** do?
what do.2SG NACHA there
'What are you doing there?'

The result shows that questions with *nacha* are close to perfect: √ 92%, ? 0%, * 8%. Let us next see what happens when wh-drop occurs in these clauses.

(22) a. ___ wead **nacha** des?
b. ___ duast **nacha** do?

If *nacha* is on a par with '*n*, the result should equal the one for (18b). However the result was quite different: √ 0%, ? 23%, * 77%. While wh-drop in the presence of '*n* was 23% fully grammatical, wh-drop in the presence of *nacha* was not grammatical for anyone. With 77%, (22) received a rather high rejection rate, whereas the correspondent clause with '*n* received a rejection rate of only 15%.

This result is remarkable. It tells us that there is more to '*n* than simply disambiguating the clause toward the interrogative interpretation. Although there was no systematic testing for *denn*, informal testing suggests that it is equally unable to license wh-drop.[23] Bavarian wh-drop depends on the clitic nature of '*n*. The Q-sensitivity that is found in the DiPs *denn* and *nacha* is not sufficient.[24]

The empirical results strongly support the proposal in Bayer (2010, 2012, 2013a,b) that the clitic '*n* has turned from a Q-sensitive DiP to a wh-agreement morpheme. Obviously, Bavarian '*n* has been subject to a reanalysis that we are well familiar with through the shift of pronominal clitics to quasi inflectional morphemes that give rise to so-called "Comp-inflection".[25] The diachronic process runs as seen in the three stages of (23).

(23) a. $[_{CP}$ wh $[_{C'}$ C+T $[_{TP}$ ... ***denn*** ... $[_{T'}$ T $[_{vP}$ ...
CLITICIZATION →

[23] Andreas Trotzke (p.c.) informs me that in Ruhrdeutsch wh-drop is an option when '*n* is used but not when *denn* is used.
(i) __ is'**n** das für'n komischer Vogel?
is'N that for-a funny bird
'What kind of strange guy is that?'
(ii) ??__ is **denn** das für'n komischer Vogel?
(iii) * __ is das **denn** für'n komischer Vogel?
Quite clearly, a DiP in its middle field position is unable to license wh-drop; once the DiP gets close to the C-position, the result gets better, perhaps because *denn* ceases to be clearly distinguishable from '*n*.

[24] In a study of Thuringian, Pankau (2020) argues that wh-drop may occur because the "question particle" *enn* can unambiguously identify a clause as a question. The fact that, as far as I could see, *enn* arises only as part of the C-complex seems to play a minor role in his analysis.

[25] Bayer (1984) and following work.

b. $[_{CP}$ wh $[_{C'}$ C+T+***n***$_i$ $[_{TP}$ ... t_i ... $[_{T'}$ T $[_{vP}$ ...

REANALYSIS AS A WH-CONGRUENCE MARKER →

c. $[_{CP}$ **wh** $[_{C'}$ C+T+$[_{whAGR}$ ***n***$]$ $[_{TP}$ ... $[_{T'}$ T $[_{vP}$ ...

Being an agreement morpheme, the '*n* in (23c) has lost its connection to its original determination as a DiP. A natural consequence is that '*n* has lost the pragmatic impact that is found in *denn*. This explains why '*n* may coexist with *denn* without giving rise to redundancy. Through the amalgam in C, '*n* enters spec-head agreement with the wh-element in SpecCP. For concreteness, this can be implemented as feature valuation. The agreement morpheme has an unvalued wh-agreement feature that gets valued by the wh-operator in SpecCP.

(24) a. $[_{CP}$ **wh** $[_{C'}$ C+T+$[_{whAGR}$ ***n***$]_{uWh}$ $[_{TP}$ ... $[_{T'}$ T $[_{vP}$ ... AGREE →

b. $[_{CP}$ **wh** $[_{C'}$ C+T+$[_{whAGR}$ ***n***$]_{\sout{uWh}}$ $[_{TP}$ ... $[_{T'}$ T $[_{vP}$ ...

From (24) it is but a small step to wh-drop. The simplest analysis assumes that wh does not need to be spelled out at PF.[26]

4. A comparative note on North-East Italian dialects

Bavarian is not an isolated case. One can be sure that at closer inspection all kinds of languages show special markers such as DiPs which take an influence of the fine-tuning of sentences that express variations of speech acts. Striking examples come from Italian dialects.

Poletto (2000: ch.3) discusses examples of wh-interrogatives in Rhaeto-Romance which involve the particle *pa* which mainly appears in clause-final position of questions or alternatively follows the wh-item. A number of functions of *pa* are identified, e.g. as a Q-particle, as a focus marker (Poletto & Zanuttini, 2003), or as an emphasizer. Locating *pa* in SpecCP, i.e. analyzing it as XP, was motivated by the Head-Movement-Constraint (HMC) and has meanwhile been given up by various researchers in favor of DiPs as functional heads. I will limit my comparative note to Munaro & Poletto (2005), henceforth MP. MP present a study of North-Eastern Italian dialects of the Veneto, mainly from Pagotto. The lexical relation of the particle

[26] In fact, the licensing of a null operator OP may be more complex. OP may lack a wh-feature and acquire its similarity to a wh-operator only by agreement with '*n*. In that case, '*n* would have to have an interpretable wh-feature. This is not the right place to enter such speculations.

po – pa in Rhaeto-Romance – from Latin *post* 'afterwards' and the Bavarian DiP *nacha* may not be totally accidental. From the functional side, *po* seems to be strongly related to *denn*. *Po* is widespread in the area whereas Bavarian *nacha* seems to enjoy only a rather limited existence. Hack (2014) finds the Q-sensitive particle *po* in dialects of Dolomite Ladino. In Badiot/Marèo and Gherdëina, *po* appears to be obligatorily in wh-questions, a property that it shares with the Bavarian clitic '*n*. Recall that '*n* has become obligatory in Bavarian wh-questions. Thus, from the functional side, *po* and *denn*/'*n* have more in common than *po* in relation with *nacha*.

Po plays an important role in questions in Pagotto (Pg) and in Venetian (Ve). It appears in clause-final position and in Pagotto also in initial position. The idea here is that *po* is merged as a functional head with a clause that undergoes raising to the particle's Spec-position, such that the particle appears clause-finally.[27] Alternatively, only the wh-element may raise up to SpecPrtP.

(25) a. Quando eli rivadi, **po**? Pg
when are-they arrived PO
'When did they arrive?'

b. Quando, **po**, eli rivadi? Pg
when PO are-they arrived

MP point out that in (25a) the speaker's reference to a preceding communicative situation is required "that has been left suspended and is taken up again at present". This is close to what we have identified as the semantic contribution of Bavarian *nacha*. When *po* follows the wh-item immediately, as in (25b), they argue that "the speaker asking for the time of the arrival, […] expresses a slight astonishment about the fact that the event has taken place." Here I witness some similarity with German constructions in which a Q-sensitive DiP undergoes merger with a wh-phrase and moves with it to its clause-initial destination.[28] Although no such cases could have been presented from published sources, one can be sure that they are structurally possible in Bavarian.

[27] I will not comment on the theoretical issue that Cardinaletti (2011) refers to, namely that according to Abels (2003) an XP must not raise to the specifier of a functional head Y° that selects XP.

[28] In Bayer (2018; 2023) and in previous work, I refer to it as SPrtP (*Small Particle Phrase*) to distinguish it from standard cases like (26a) in which the particle has propositional scope at S-structure.

(26) a. Wer hot **nacha** a so rumbleat?
who has NACHA so around.bawled
'Who bawled around like that?'
b. [WER **nacha**] hot a so rumbleat?

In agreement with the V2-constraint, Wh-phrase and DiP must form a constituent. (26b) is felicitous if the question has been around for a while and the speaker gets nervous about the identity of the person who bawled around. Bayer (2018) identifies this with a grammatically encoded form of emphatic marking.

MP identify formal syntactic properties of sentence particles (SPs) in North-East Italian dialects which correspond in various ways to or deviate from the findings about Bavarian DiPs.

First, *SPs* are sensitive to the clause type: they never occur in declarative clauses. The first statement is undoubtedly confirmed; the second one is not. In German/Bavarian, there are various DiPs that arise in declarative/assertive clauses, e.g. *ja, wohl, fei*.

Secondly, *SPs* never occur in embedded contexts. For the cases under consideration, this seems to be true, but in Bavarian there are other DiPs that can – under the right constellations – well emerge in embedded clauses. One example would be the DiP *fei* (see Hinterwimmer 2019).

Third, *SPs* can always occur in sentence-final and sometimes also in clause-initial position. Here the similarity breaks down. Genuine German DiPs are never found in clause-peripheral positions. Clause-final DiPs are typically found in strictly head-final languages. There is broad agreement that in these languages, the DiP is merged with the clause as DiP + TP after which TP moves to the left: [TP [DiP [~~TP~~]]]. Thus, elementary word order is established as in the Italian dialects. German adverbs arise at different levels of the middle field, but never in CP-peripheral positions. The appearance of certain Italian SPs is special and needs extra attention. Notice that in Pagotto, *po* can appear sentence-initially.

(27) a. **Po**, quando eli partidi? Pg
PO when are-they left
'When did they leave?'
b. **Po**, va a ciorlo! Pg
PO go to take.it
'Go and take it!'

Hinterhölzl and Munaro (2015: 60ff.) observe that unlike in the regular clitic occurrences of *po* in Bellunese, sentence-initial *po* is an autonomous prosodic unit and expresses strong surprise of the speaker. Their analysis seems to be controversial. Referring to the clause-external appearance of *po*, Larrivée & Poletto (2018) speak of an "intermediate stage in the syntacticization of Sentence Particles". Cardinaletti (2011) rejects MP's analysis altogether. For her, Italian DiPs arise as deficient adverbs in the upper middle field, similarly to DiPs in German. Merger of an empty functional head provides a specifier into which TP or a sub-constituent can be raised.[29]

Fourth, *SPs* can occur immediately after the wh-element. In Pagotto, the particle *mo* (from Latin *modo*, 'now') cannot appear clause-initially but may follow a wh-element, also in an isolated wh-XP as seen in (28c).[30]

(28) a. Quando rivaràli, **mo**? Pg
when arrive.FUT-they MO
'When will they arrive?'

b. Quando, **mo**, rivaràli? Pg
when MO arrive.FUT-they
'When will they arrive?'

c. Quando **mo**? Pg
when MO
'When?'

[29] According to Cardinaletti, sentence-final particles are merged lower than the so-called "FamiliarTopic" position which hosts right-dislocated constituents, and which follow the particle.
(i) L' ha comprata, **poi**, la casa?
it he.has bought *poi* the house
'Did he buy the house? (I'm wondering)'

[30] As a matter of fact, the Bavarian temporal adverb *iats* (German *jetzt* 'now') seems to work as a DiP in wh-questions. Walter Breu (p.c.) suggests to me that my example in (i) would be better for him with *iats* replacing *eppa* as seen in his example in (ii).
(i) Wer is'**n eppa** der Wamperte do hint im Egg?
who is-N EPPA the fatty there back in.the corner
'Who could be the fatty back there, I'm wondering.'
(ii) Wer kant **iats** der Wampate do hint an Egg sei?
who could IATS the fatty there back in.the corner be
Notice that *iats* must be a DiP in this context. Reference to speech-time makes little sense. Interestingly, the unusually comprehensive collection of DiPs in Helbig (1988) does not mention *jetzt* as a German DiP although dictionaries report it as expressing the speaker's irritation in questions. One can be almost sure that the semantic correspondence with *modo/mo* is not accidental.

MP suggest partial raising to the specifier of the SP. Instead of the entire TP, only the wh-XP undergoes raising.[31] In German/Bavarian, one can observe similar linear constellations, but since clause-peripheral DiPs/SPs are impossible, a derivation in which the wh-phrase would raise into a clause-peripheral DiPs is strictly impossible. Consider (26b), repeated in (29a) or the fragment in (29b).

(29) a. [WER **nacha**]hot a so rumbleat?
who NACHA has such around.bawled
'Who was it after all who has bawled around like that?'

b. A: Irgendwer hot rumbleat. B: WER **nacha**?
someone has around.bawled who NACHA
'Someone bawled around.' 'Who?'

The DiP cannot arise from a peripheral position, and it cannot by itself move to a peripheral position either. Therefore, it must have joined the wh-XP in the middle-field to form a *Small Particle Phrase* (SPrtP) from where it can move to SpecCP in the form of regular wh-movement. Assuming an empty head for the particle as in (30), the SPrtP *WER nacha* raises to SpecSPrtP where *nacha* takes clausal scope under spec-head agreement with the empty head [$_{Prt°}$ ∅] , and then moves on to SpecCP for wh-valuation.

(30) [[WER nacha] hot [$_{PrtP}$ [~~WER nacha~~] [$_{Prt'}$ [$_{Prt°}$ ∅] [$_{vP}$ [~~WER nacha~~] a so rumbleat]]]]?

The system from which this analysis follows is presented in detail in Bayer (2018; 2020; 2023).[32] It is interesting to see that in her footnote 24, Cardinaletti (2011) considers such an analysis for Italian. Exploring this option for the dialects under consideration is, of course, outside the scope of the present remarks.

Fifth, *SPs* may to a limited extent cooccur with other SPs.[33] MP mention *ti* and *po*, which appear in the fixed order *po* > *ti*.

[31] This is essentially what has been suggested by Bayer, Dasgupta & Mukhopadhyay (2014) for the head-final language Bangla in which TP or a proper sub-constituent of TP can raise to the specifier of a particle.

[32] Hinterhölzl and Munaro (2015) suggest an analysis of German that denies the constituency of SPrtP and is in general strongly incompatible with my analysis. Commenting on their account of German would require space and time that is not available here.

[33] Penello & Chinellato (2008) for particle stacking in other dialects of the Veneto.

(31) Quando eli rivadi, **po**, **ti**? Pg
when are-they arrived PO TI
'When have they arrived?'

Although the system does not seem to be very productive in this respect, the structural similarity with German/Bavarian should not be overlooked. In Bavarian, (6c) can easily be articulated with stacked DiPs as in (32).

(32) [Für was **denn nacha**] braucht'**n** der mein Huat so umanand schmeiß'n?

The V2-constraint requires that *für was denn nacha* must be a single SPrtP. Apart from this, the order of DiPs is exactly the same as the one in the middle field. *Für was* ***nacha denn*** would be ungrammatical.[34]

Sixth, MP mention the possibility that the pronoun-based *SP*s *ti* and *lu* can be "reduced to clitic forms, which are at a later stage reanalyzed as agreement markers". Consider their examples under the headline *Pronominal sentential particles*.

(33) a. **Te** vien Paduan
you come
'You are coming'

b. **Te** mange**t** Lombard
you eat.T
'You are eating'

c. Mange**t** Lombard
eat.T
'Are you eating?'

The pronoun *te* seen in (33a) seems to have first undergone cliticization and then restructuring to a verbal suffix.[35] In (33b), it coexists with the overt subject pronoun. (33c) shows that the pronoun can be dropped. This reduction shows that *-t* has become an agreement marker.

[34] There is a transparent parallel derivation by which the SPrtP is successively built up and matched against the corresponding middle-field positions. For a first analysis see Bayer and Trotzke (2015) and for more detail Trotzke (2017).

[35] Given that the donor language Latin has person/number suffixes, one could wonder how *-t* could become a verbal suffix on top of them. Quoting Rohlfs (1968), Christoph Schwarze (p.c.) points out to me that in the

The development of *denn* to the agreement marker *-n* is similar. As has been shown in (23), the cliticized *-n* joins the C-position and is reanalyzed as an agreement marker.

We see that data from the Italian dialects considered here show a number of similarities with data from Bavarian.

Po corresponds lexically to the DiP *nacha* and functionally more closely to the DiP *denn*. DiPs show the behavior of functional heads that result from the reduction of various XPs by grammaticalization. DiPs usually scope over the proposition at S-structure but occasionally also permit the formation of sub-sentential units (SPrtPs), especially in fragmentary questions. In both sets of dialects, stacking of DiPs can be observed. When stacking occurs, their order is fixed. In both dialect groups, processes of reanalysis can be found in which a DiP turns into an agreement marker. Nevertheless, there are also significant differences. The Italian restriction to the root clause is liberalized in Bavarian under certain conditions and for certain DiPs that have not been discussed here. Most importantly, the Italian dialects show less integration of DiPs into the functional grid of the clause than Bavarian.

6. Summary

The landscape of discourse particles in Bavarian questions has revealed a cartographic structure above *v*P and below C by which three segments can be distinguished.

I. The lower region above *v*P (and its extension by a NegP) hosts adverbs. Adverbs are mobile. The adverb under closer attention was *nacha* 'afterwards'. *Nacha* in the interpretation as a temporal adverbial is free to appear in topicalized (SpecCP) or even in post-verbal position.

II. The region right above hosts discourse particles of which three could be identified. These DiPs observe the order *denn* > *nacha* > *eppa*. They make different semantic contributions. *Denn* out-scopes the other two as it is the most general Q-sensitive DiP and as such requires only an abstract epistemic reference to the common knowledge of speaker and hearer. The element *nacha* that follows *denn* derives from the homonymous

transition from Latin to the dialects the person/number suffix has frequently disappeared so that the subject clitic could step in.

adverb to which it is related via a process of grammaticalization. *Nacha* implies some eventuality or eventualities to which the expected answer is vaguely related as a consequence. This makes *nacha* more specific than *denn*. The DiP *eppa* follows *nacha*. But it can also precede it. When it does, *nacha* tends to be understood as the temporal adverb and not as the homophonous DiP.

III. ‘*n* is special. It is even higher than *denn*. The reason is that ‘*n* is a clitic that appears at the finite verb in C-position or the finite verb and personal pronoun clitics; ‘*n* is part of the Wackernagel complex from which it cannot be separated. Diachronically, ‘*n* marks the endpoint of a development from adverb to DiP, and from DiP to an agreement marker. In modern Bavarian, it enriches the C-position with a wh-feature that agrees with the wh-operator in SpecCP. Under adequate conditions of recoverability, this enables the grammar to use a null-operator in SpecCP (“wh-drop”).

Our comparison of Bavarian with North-Eastern Italian dialects has shown the expected typological differences but also large areas of convergence in which discourse particle play a central role in the syntactic structuring of the grammar-to-discourse mapping.

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