

## GERMAN MODAL PARTICLES IN THE IP-DOMAIN

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### 1. Introduction\*

German modal particles (MPs) are a group of about twenty words,<sup>1</sup> which are mainly used in spoken language. They have long been neglected by linguistic research, but have recently become an important field of study for many scholars interested in spoken-language phenomena.

Their function is to express the speaker's mental attitude toward or belief about what he or she is saying, i.e. they usually add the speaker's subjective point of view to the basic meaning conveyed by the utterance.

This group of words has mainly been analysed from a narrow perspective, i.e. only from a semantic and pragmatic one. No deep investigation has been made to capture their syntactic behaviour and most scholars limit themselves to the generic and vague statement that these particles can only occur in the *Mittelfeld* (middle

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<sup>1</sup> That is, *aber, auch, bloß, denn, doch, eben, eigentlich, einfach, etwa, halt, ja, mal, nur, ruhig, schon, sowieso, vielleicht, wohl* and other rather controversial lexemes. I wish to draw attention to the fact that the denomination 'modal particles' is not the only one that can be found in the literature, since one can possibly come across other names, such as 'discourse particles', 'illocutive particles' and so on. I use the term 'modal' here since, as I will illustrate, MPs are not only semantically, but also syntactically related to the mood and modality projections of the clause (Coniglio 2005:38).

field) of a sentence, that is in that portion of the sentence which is delimited, to the left, by the inflected verb<sup>2</sup> and, to the right, by the uninflected form.

This article is a preliminary attempt to define their exact position with respect to the placement of the different classes of adverbs as defined in Cinque (1999) in the framework of the recent cartographic studies. The fine-grained structure of the IP he proposes calls for a deeper syntactic analysis of the material showing up in between IP-linked elements.

Below, I will first present some restrictions on the use of MPs. In the third section, I will target three of these lexemes, namely *ja*, *schon* and *wohl*. Section 4 is a brief introduction to Cinque's theories on the structure of IP and the linear order of adverbs. In sections 5 and 6, I will present grammaticality tests on the three particles under consideration and extend the analysis to all particles, while in section 7 I will draw a clear boundary between higher and lower functional projections. Section 8 is dedicated to the possibility for MPs to co-occur in the same sentence, while in the last section I will take into account the syntactic status of MPs and argue for an analysis in terms of movement in compliance with the X-bar model.

## 2. Modal particles and restrictions on their use

As I have already noted, MPs are generally considered *Mittelfeld*-related elements, i.e. lexemes which occupy some place in between the two verbal positions of matrix clauses of German. However, upon closer inspection we can see that their use is not restricted to the middle field. In fact, they can occur:

(1) in the middle field of matrix clauses, which is the main object of this paper:

- (1) Du wirst es *schon* schaffen.  
you will it *schon* manage

(2) in the middle field of embedded clauses (see Coniglio, forthcoming):

- (2) Er hat ein schlechtes Gewissen, weil er *wohl* gelogen hat.  
he has a bad conscience because he *wohl* lied has  
(Asbach-Schnitker 1977:48)

(3) in the initial field (*Vorfeld*) of wh-interrogative clauses:

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<sup>2</sup> This is true only for matrix clauses, where the inflected verb has undergone the so called V2-movement. In embedded sentences, where the verb remains in a clause-final position, the left edge is represented by the complementizer.

(3) Wer *schon* wird das tun wollen? (Ormelius-Sandblom 1997a:85)  
 who *schon* will it do want-to?

(4) in complex DPs:

(4) In der *wohl* größten urbanen Umgestaltung seit [...] seit [...]  
 in the *wohl* biggest urban reshaping since [...]  
 (Métrich *et al.* 2002:348)

Therefore, a closer scrutiny reveals that they can in principle be found in a number of positions, except for the *Nachfeld* or final field (cf. Meibauer 1994:29), although it is not always clear if we should consider all occurrences of such lexemes as ‘proper’ MPs. It could be the case that only those elements that are restricted to the middle field of the clause are MPs in the right sense (this definition could be extended to particles in complex DPs too), and that, for instance, homophonous particles in the initial field of wh-questions are words of a different nature, since other elements (such as adverbs and DPs) can appear in this position. Nevertheless, for the sake of simplicity, I will focus my attention on their occurrences in the clausal middle field.

From a diachronic point of view, the cause and origin of this restriction have been sufficiently studied and explained (see Abraham 1991 and Coniglio 2005:69ff). However, there is no agreement among researchers regarding how many and in particular which positions in the middle field MPs can occupy. They usually place these special adverb-like lexemes in an adjunct position on the edge of the VP. Furthermore, we find only vague descriptions of their position with respect to other elements, such as:

a. DPs and PPs: it has often been claimed that, since MPs are found before the rhematic elements, they also function as a marking edge of the theme-rheme structure of the proposition. For instance, in the following contrast, the MP *ja* has to occur before the indefinite NP *einen Mann* ‘a man’ in (5a), but in presence of a definite NP in (5b), both positions, before and after *den Mann* ‘the man’ are possible. What follows the MP is the rheme of the sentence.

(5) a. Sie hat {ja} einen Mann \*{ja} kennen gelernt.<sup>3</sup>  
       she has {ja} a man \*{ja} got-to-know  
       b. Sie hat {ja} den Mann {ja} kennen gelernt.  
       she has {ja} the man {ja} got-to-know

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<sup>3</sup> Here and in what follows, braces mean that the lexeme occupies alternatively either one position or the other.

This is probably the result of a movement operation that can only concern definite phrases (see Diesing 1992). By comparison, indefinite ones cannot raise past an MP. Therefore, the reason why one cannot find a rhematic constituent before an MP is that the first occupies a position structurally lower than the latter.

b. Pronouns: it has been observed that MPs can either precede or follow strong pronouns, as in example (6b), but they can only follow a weak pronoun, as illustrated in (6a).

- (6) a. Die Waschmaschine hast \*{ja} du{ja} GESTERN repariert.<sup>4</sup>  
the washing machine have \*{ja} you {ja} YESTERDAY repaired
- b. Die Waschmaschine hast {ja} DU {ja} gestern repariert.  
the washing machine have {ja} YOU {ja} yesterday repaired

What determines the surface order in these examples is the position of the pronoun, which can occur either before or, if stressed, also after the MP...{du/DU} ja {DU}...<sup>5</sup>

c. Adverbs (cfr. Ormelius-Sandblom 1997b:45ff and Meibauer 1994:99ff): some authors have emphasised that an unstressed particle can either precede or, more rarely, follow a sentence adverb, as in (7a). On the other hand, a stressed one can normally be found only after a sentence adverb, as in (7b):

- (7) a. Wir sind {ja} wahrscheinlich {ja} pleite.  
we are {ja} probably {ja} broke
- b. Er soll \*{JA} notwendigerweise {JA} auf den Schadenersatz verzichten.  
he must \*{JA} necessarily {JA} the compensation forgo

However, one can often find deviations from this general rule. Cf. Meibauer (1994:102):

- (8) A: Müller sagt, daß Fritz wahrscheinlich krank ist. Aber ich glaube das nicht.  
Müller says, that Fritz probably sick is but I believe it not
- B: Fritz ist *DOCH wahrscheinlich* krank. (Ich weiß das  
Fritz is *DOCH probably* sick I know it  
von der Krankenschwester.)  
from the nurse

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<sup>4</sup> Here and in what follows, capital letters are used to indicate the presence of stress.

<sup>5</sup> However, there are cases where a clitic MP, such as 'n (a reduced form of *denn*), can occur before a weak subject pronoun (see also Grosz 2005:17ff):

(i) Hast'n du ein Auto? (Weydt *et al.* 1983:20)  
have'n you a car

In this article, I am mainly concerned with precisely this problematic relation between MPs and adverbs. By means of several grammaticality tests I will try to determine the reciprocal syntactic behaviour of the two word classes, thus shedding some light on an issue that has until now been scarcely investigated.

### 3. Modal particles and sentence-type restrictions. Three case studies

Another set of restrictions that have been well documented in the literature concerns the impossibility for all particles to be found in all sentence types, i.e. each MP can occur only in certain sentence types, with the further complication that it is not always obvious if we are dealing with one MP that can be used in different contexts or with more homophonous particles.<sup>6</sup> Leaving aside this long unsolved dispute, I present here a table showing the distribution of each MP with respect to the main sentence types.

#### (9) Sentence-type restrictions:<sup>7</sup>

	Declarative	Yes/no-int.	Wh-interr.	Imperative	Optative	Exclamative	Wh-exclam.
aber						+	antiquated
auch	+	+	+	+			+
bloß			+	+	+		+
denn		+	+				
doch	+		+	+	+		+
eben	+			+			
eigentlich	?	+	+				
einfach	+	+		+			
etwa		+					
halt	+			+			
ja	+						
JA	+	seldom		+	+		
mal	+	+		+			
mir	+			+		+	
nur			+	+	+		+
ruhig	+			+			
schon	+		+	+			
sowieso/eh	+	seldom					
vielleicht		+				+	
wohl	+	+	+				

As we can see, MPs are clearly subject to considerable restrictions. For example, a particle like *denn* can be found only in interrogative sentences, either yes/no- or wh-questions, but on no account can it occur in any other sentence type.<sup>8</sup>

<sup>6</sup> This issue is particularly relevant in the case of the particle *ja*. See 3.1.

<sup>7</sup> Cf. Thurmair (1989:49), Abraham (1986:36; 1991:334), Helbig/Buscha (1991:486ff), Hentschel (1986:199) and Ormelius-Sandblom (1997b:24ff).

<sup>8</sup> But see the problematic case of sentences like (43) below.

I'll now consider three case studies, namely *ja*, *schon* and *wohl*; after giving a very brief account of their function and meaning, I will take into account the sentence types in which each of them can appear.

### 3.1. Ja/JA

Traditionally, we distinguish two MPs or two variants of the same particle *ja*, that is:

- a) an unstressed form, which is usually marked by the semantic feature <BEKANNT><sub>H</sub> (Thurmair 1989:104 and Weinrich 1993:844), i.e. 'known to the hearer', because the information conveyed by the utterance is, or in principle should be, already known to the hearer (see Coniglio 2005:48ff);
- b) a stressed form *JA*, whose function is characterised by the feature <VERSTÄRKUNG> ('strengthening, reinforcement', Thurmair 1989:109), since it is generally used to strengthen the illocutionary force of the utterance (see Coniglio 2005:51ff).

In the specialist literature, there is now general agreement in considering *ja/JA* as two different, though homophonous particles.<sup>9</sup> However, in order to make this distinction more concrete, let us now turn our attention to the observation of the contexts in which they are used.

#### *ja* in declarative sentences

It can have many meanings but its general function is to express that the information is accessible to the hearer.

- (10) Der Attentäter ist *ja* von der Polizei festgehalten worden.  
the assassin is *ja* by the police detained been

#### *JA* in imperative sentences

It strengthens the illocutionary force of the utterance and is often used in warnings and threats.

- (11) Sei *JA* vorsichtig!  
be *JA* careful

#### *JA* in optative sentences

It is generally preceded by other MPs which are compatible with this sentence type, too, such as *doch* and *nur*.

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<sup>9</sup> This is proved by the possibility of combining them in the same sentence:

- (i) Ich darf *ja* meine Unterlagen *JA* nicht vergessen. (Meibauer 1994:140)  
I may *ja* my documents *JA* not forget

- (12) Würde er die Wahrheit *nur JA* bekennen!  
would he the truth *nur JA* confess  
'If only he confessed the truth!'

*JA* in yes/no-questions

It strengthens the illocutionary force of the utterance and is always preceded by the MP *auch*.

- (13) Haben Sie *auch JA* auf den Schadenersatz verzichtet?  
Have you *auch JA* the compensation forgone

*JA* in declarative sentences

We must distinguish two different uses:

- a) *JA* can sometimes be accompanied by certain modal verbs, such as *sollen* 'must', *wollen* 'want-to' and *dürfen* 'may', and its function is the same as in imperative sentences:

- (14) Er soll *JA* auf den Schadenersatz verzichten.  
He must *JA* the compensation forgo

- b) There is another variant of *JA* in declarative sentences, which is used to react to a precedent negated proposition. This 'reactive' variant is often considered as an adverb:

- (15) Speaker A: Der Attentäter ist nicht von der Polizei festgehalten worden.  
Speaker B: Der Attentäter ist *JA* von der Polizei festgehalten worden.  
'The assassin was not detained by the police ~ (Quite the contrary,) the assassin WAS detained by the police.'

### 3.2. Schon

In the specialist literature, this particle is often described by means of the semantic feature <GELTUNGSEINSCHRÄNKUNG> 'validity restriction, limitation', since its main function consists in limiting possible counter-arguments by making a concession (cf. Thurmair 1989:148ff). However, deviations from this basic meaning are frequently registered, according to the sentence type under consideration and/or to the possible presence of stress. See Coniglio (2005:55ff).

*SCHON* in declarative sentences (also without stress)

It is used in many contexts (even idiomatic expressions). The following case is a concessive structure:

- (16) Ich versteh *SCHON*, dass du nichts sagen darfst. Aber...  
I understand *SCHON* that you nothing say may. But...

*schon* in declarative sentences

It expresses certainty as to the realisation of a future event or the truth of a fact that has not yet been proved.

- (17) Er wird es *schon* schaffen.  
he will it *schon* manage

*schon* in wh-questions

It is used in two contexts:

a) in the case of temporary lack of information:

- (18) Na, wie heißt er *schon*?  
Hmm how is-called he *schon*

b) in rhetorical questions:

- (19) Wer verzichtet *schon* auf einen Schadenersatz?  
who forgoes *schon* a compensation

*schon* in imperative sentences

It expresses friendliness, encouragement, warning or even impatience.

- (20) Na los, komm *schon*!  
come on, come *schon*

### 3.3. Wohl

The particle *wohl* is used to restrict the validity of an utterance. That is why it is often described by means of the semantic feature <EINSCHRÄNKUNG> 'limitation, restriction' (Thurmair 1989:140, Weinrich 1993:849). See Coniglio (2005:62ff).

*wohl* in declarative sentences

It expresses a supposition, thus limiting the validity of the utterance.

- (21) Die Polizei wird *wohl* von der Verhaftung berichten.  
the police will *wohl* on the arrest report

Reactive *WOHL* in declarative sentences

As in the case of *JA* and *SCHON*, this particle also has an adverb-like reactive variant.

- (22) Speaker A: Der Attentäter ist nicht von der Polizei festgehalten worden.  
 Speaker B: Der Attentäter ist *WOHL* von der Polizei festgehalten worden.  
 ‘The assassin was not detained by the police ~ (Quite the contrary,) the assassin WAS detained by the police.’

*wohl* in yes/no-questions

Although seldomly used, it is mainly found in polite questions:<sup>10</sup>

- (23) Könnten Sie mir *wohl* bei dieser Angelegenheit helfen?  
 could you me *wohl* with this affair help

*wohl* in wh-questions

This variant is mainly used in contexts where the speaker assumes that the hearer’s capacity to answer is limited:

- (24) Wie geht es ihr *wohl* in ihrem neuen Job?  
 how goes it to-her *wohl* in her new job  
 ‘Who knows how she is doing with her new job?’

#### 4. An account of the hierarchical order of adverbs

The starting point of my investigation was the observation of the striking behaviour of MPs entering into combinations with adverbs. Let us consider the following examples, where three different MPs (*JA*, *schon* and *wohl*) were combined with the same three adverbs (*notwendigerweise* ‘necessarily’, *unvermeidlicherweise* ‘inevitably’ and *nochmals* ‘again’):

- (25) Er soll ... auf den Schadenersatz verzichten.  
 he must ... the compensation forgo  
 a. \*{JA} *notwendigerweise* {JA} (*necessarily*)  
 b. \*{JA} *unvermeidlicherweise* {JA} (*inevitably*)  
 c. {JA} *nochmals* ??{JA} (*again*)
- (26) Nun melden Sie ... Köln an!  
 now call you ... Cologne prt  
 a. \*{schon} *notwendigerweise* {schon} (*necessarily*)

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<sup>10</sup> But it is also found in threatening requests:

(i) Wirst du *wohl* die Klappe halten? (Thurmair 1989:143)  
 will you *wohl* shut-up

- |  |            |                             |          |                   |
|--|------------|-----------------------------|----------|-------------------|
|  | b. {schon} | <i>unvermeidlicherweise</i> | {schon}  | <i>inevitably</i> |
|  | c. {schon} | <i>nochmals</i>             | *{schon} | <i>(again)</i>    |
- (27) Die Polizei wird ... von der Verhaftung berichten.  
the police will ... on the arrest report
- |           |                             |         |                      |
|-----------|-----------------------------|---------|----------------------|
| a. {wohl} | <i>notwendigerweise</i>     | {wohl}  | <i>(necessarily)</i> |
| b. {wohl} | <i>unvermeidlicherweise</i> | {wohl}  | <i>(inevitably)</i>  |
| c. {wohl} | <i>nochmals</i>             | *{wohl} | <i>(again)</i>       |

The behaviour of the three particles is rather puzzling: *JA* has to follow adverbs like *notwendigerweise* ‘necessarily’ and *unvermeidlicherweise* ‘inevitably’, but obligatorily precedes an adverb like *nochmals* ‘again’. Concerning the particle *schon*, it can occur before *unvermeidlicherweise* ‘inevitably’ too. Finally, *wohl* can also be found before adverbs like *notwendigerweise* ‘necessarily’.

In order to explain these facts, it is necessary to ground the research on a sound syntactic theory, which accounts for the internal structure of the middle field and the position of IP-related constituents, such as adverbs. In this respect, I wish to suggest that Cinque’s proposals (1999) seem to provide a quite convincing explanation of examples (25) to (27). He starts from the observation of data about the order of free and bound functional morphemes from a large variety of languages, which is considered a piece of evidence for the underlying structure of the IP-domain. By comparing their order with the reciprocal order of adverbs in a number of languages, he observes that an almost perfect one-to-one relation seems to exist between adverbs and functional morphemes. He thus claims that adverbs would be licensed in the Spec-position of dedicated functional projections, whose heads would be either phonetically silent or realised by such morphemes.

What follows is the complete hierarchy of the functional projections inside IP with an example of each adverb class hosted in their specifiers.

- (28) *The universal hierarchy of clausal functional projections* (Cinque 1999:106ff):

[ *frankly* Mood<sub>speech act</sub> [ *fortunately* Mood<sub>evaluative</sub> [ *allegedly* Mood<sub>evidential</sub>  
[ *probably* Mod<sub>epistemic</sub> [ *once* T(Past) [ *then* T(Future) [ *perhaps* Mood<sub>irrealis</sub>  
[ *necessarily* Mod<sub>necessity</sub> [ *possibly* Mod<sub>possibility</sub> [ ***willingly*** Mod<sub>volition</sub>  
[ ***inevitably*** Mod<sub>obligation</sub> [ ***cleverly*** Mod<sub>ability/permission</sub> [ *usually* Asp<sub>habitual</sub>  
[ *again* Asp<sub>repetitive(I)</sub> [ *often* Asp<sub>frequentative(I)</sub> [ *quickly* Asp<sub>celerative(I)</sub>  
[ *already* T(Anterior) [ *no longer* Asp<sub>terminative</sub> [ *still* Asp<sub>continuative</sub>  
[ *always* Asp<sub>perfect</sub> [ *just* Asp<sub>retrospective</sub> [ *soon* Asp<sub>proximative</sub> [ *briefly* Asp<sub>durative</sub>  
[ *characteristically* Asp<sub>generic/progressive</sub> [ *almost* Asp<sub>prospective</sub>  
[ *completely* Asp<sub>SgCompletive(I)</sub> [ *tutto* Asp<sub>PlCompletive</sub> [ *well* Voice

[ *fast/early* Asp<sub>celerative(II)</sub> [ *again* Asp<sub>repetitive(II)</sub> [ *often* Asp<sub>frequentative(II)</sub>  
 [ *completely* Asp<sub>completive(II)</sub>

The sequence presented here is not actually the one proposed by Cinque himself, since root-modal projections and subject-oriented adverbs (which are linked to these projections) are placed in the position immediately lower to the alethic adverbs (*necessarily*, *possibly* and so on), as suggested by Cinque (1999:78ff). However, he asserts that these functional projections are possibly even lower than habitual adverbs and other adverb classes, but since the data about their reciprocal order is not always consistent, he leaves the question open. Cinque (2001) comes back to this problem and, grounding his analysis on the behaviour of restructuring verbs in Romance languages, he claims that these projections are situated in between aspectual projections, which are the lowest clausal functional projections. As a matter of fact, the observation of the linear order of modal and functional verbs suggests a cartography of the lower portion of the clausal functional projections such as the following:

(29) *Revised hierarchy of clausal functional projections from Asp<sub>habitual</sub>* (Cinque 2001:153):

... Asp<sub>habitual</sub> > Asp<sub>delayed/finally</sub> > Asp<sub>predispositional</sub> > Asp<sub>repetitive(I)</sub> > Asp<sub>frequentative(I)</sub>  
 > **Mod<sub>volition</sub>** > Asp<sub>celerative(I)</sub> > Asp<sub>terminative</sub> > Asp<sub>continuative</sub> > Asp<sub>perfect</sub> >  
 Asp<sub>retrospective</sub> > Asp<sub>proximative</sub> > Asp<sub>durative</sub> > Asp<sub>progressive</sub> > Asp<sub>prospective</sub> >  
 Asp<sub>inceptive</sub> > **Mod<sub>obligation</sub>** > **Mod<sub>ability</sub>** > Asp<sub>frustrative/success</sub> > **Mod<sub>permission</sub>** >  
 Asp<sub>conative</sub> > Asp<sub>completive(I)</sub> > Voice > Asp<sub>celerative(II)</sub> > Asp<sub>inceptive(II)</sub> >  
 Asp<sub>completive(II)</sub> > Asp<sub>repetitive(II)</sub> > Asp<sub>frequentative(II)</sub> ...

Nevertheless, I will assume that subject-oriented adverbs occupy a higher position, one between adverbs in Mod<sub>possibility</sub> and habitual ones. Their position cannot be easily determined since they sometimes behave as higher adverbs.<sup>11</sup> In this article I will not be pursuing this issue, although further investigation is needed. What

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<sup>11</sup> Cf. Coniglio (2005:15 fn. 12). We should probably distinguish subject-oriented adverbs from homophonous manner adverbs more clearly. For instance, the adverb *cleverly* in the following sentence:

(i) John has cleverly read the book.

is structurally ambiguous between a subject-oriented (iia) and a manner interpretation (iib):

(ii) a. It was clever of John to read the book.

b. John read the book cleverly.

See also Cinque (1999:19f).

matters here is that, except for very few cases, this hierarchy seems to hold for German as well.<sup>12</sup>

### 5. *The reciprocal order of modal particles and adverbs*

In this section, I present some grammaticality tests on the three particles discussed in this paper. For reasons of space and perspicuity I will report only some experiments on the lexeme *ja/JA*. For the other tests on *ja*, *schon* and *wohl* I refer to Coniglio (2005:125ff).

In order to investigate their exact position in the clausal middle field, I combined each MP-variant with the different adverbial classes outlined by Cinque (1999). I asked some native speakers to judge the grammaticality of sentences where each variant either preceded or followed the adverb in question. I thus collected interesting data which can possibly give some hints as to the underlying syntactic structure hosting these elements.

Insurmountable problems have often arisen since these tests call for very delicate judgments, thus being susceptible of variation. Furthermore, not all adverbs can occur in all sentence types. Therefore, in these cases it was not possible to construe sentences which were ‘semantically’ acceptable. Native speakers, nevertheless, seem to be able to judge the syntactic wellformedness of a sentence, although it is semantically impossible or deviant. In such cases, I preferred to mention the combination between omission marks, providing the grammaticality judgements anyway.

#### 5.1. *Ja in declarative sentences*

Below, I present the first battery of tests on the unstressed particle *ja* in declarative sentences. In order to allow a more comfortable reading of the data, I have intentionally omitted the translation glosses. Nonetheless, beside each sentence, I indicated the functional projection which hosts the adverb under consideration.

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<sup>12</sup> See Coniglio (2005:148). Just to give a very simple example, consider (i), where an adverb like *damals* ‘then’, related to a temporal projection, is combined with the adverb *schnell* ‘fast’, occupying the specifier of a celerative projection, according to Cinque. The former must obligatorily precede the latter, thus proving the existence of a fixed linear order of adverbs.

- |        |     |                    |                |      |      |                   |
|--------|-----|--------------------|----------------|------|------|-------------------|
| (i) a. | Er  | hat <i>damals</i>  | <i>schnell</i> | eine | neue | Wohnung gefunden. |
|        | he  | has <i>then</i>    | <i>fast</i>    | a    | new  | apartment found   |
| b.     | *Er | hat <i>schnell</i> | <i>damals</i>  | eine | neue | Wohnung gefunden. |
|        | he  | has <i>fast</i>    | <i>then</i>    | a    | new  | apartment found   |

- Mood<sub>speech act</sub> \_\_\_ Der Attentäter ist {ja} *ehrlich gesagt* {ja} von der Polizei festgehalten worden.
- Mood<sub>evaluative</sub> \_\_\_ Der Attentäter ist {ja} *glücklicherweise* {ja} von der Polizei festgehalten worden.
- Mood<sub>evidential</sub> \_\_\_ Der Attentäter ist {ja} *offensichtlich* (?) {ja} von der Polizei festgehalten worden.
- Mod<sub>epistemic</sub> \_\_\_ Der Attentäter ist {ja} *vermutlich* {ja} von der Polizei festgehalten worden.
- T(Past) \_\_\_ Der Attentäter ist {ja} *damals* {ja} von der Polizei festgehalten worden.
- T(Future) \_\_\_ Der Attentäter wird {ja} *jetzt* {ja} von der Polizei festgehalten.
- Mood<sub>irrealis</sub> \_\_\_ Der Attentäter ist {ja} *vielleicht* (?) {ja} von der Polizei festgehalten worden.
- Mod<sub>necessity</sub> \_\_\_ Der Attentäter ist {ja} *notwendigerweise* {ja} von der Polizei festgehalten worden.
- Mod<sub>possibility</sub> \_\_\_ Der Attentäter ist {ja} *möglicherweise* (?) {ja} von der Polizei festgehalten worden.
- Mod<sub>volition</sub> \_\_\_ Der Attentäter ist {ja} *absichtlich* ?{ja} von der Polizei festgehalten worden.<sup>13</sup>
- Mod<sub>obligation</sub> \_\_\_ Der Attentäter ist {ja} *unvermeidlicherweise* {ja} von der Polizei festgehalten worden.
- Mod<sub>abil./permiss.</sub> \_\_\_ Der Attentäter ist {ja} *klugerweise* {ja} von der Polizei festgehalten worden.
- Asp<sub>habitual</sub> \_\_\_ Der Attentäter wird {ja} *normalerweise* {ja} von der Polizei festgehalten.
- Asp<sub>repetitive(I)</sub> Der Attentäter ist {ja} *nochmals* \*{ja} von der Polizei festgehalten worden.
- Asp<sub>frequentative(I)</sub> Der Attentäter ist {ja} *oft* \*{ja} von der Polizei festgehalten worden.
- Asp<sub>celerative(I)</sub> Der Attentäter ist {ja} *schnell* \*{ja} von der Polizei gefesselt worden.
- T(Anterior) Der Attentäter ist {ja} *bereits* \*{ja} von der Polizei festgehalten worden.
- [...] [...]

Some interesting facts emerge from the observation of these first tests. The particle *ja* seems to be able to indifferently<sup>14</sup> precede or follow certain adverb classes, and precisely not only all Cinque's higher adverbs, but also the first class of the

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<sup>13</sup> As seen in section 4, subject-oriented adverbs such as *absichtlich* 'intentionally, deliberately', *freiwillig* 'voluntarily', *gerne* 'with pleasure, not reluctantly' etc. seem to be rather problematic.

<sup>14</sup> The pre- or post-adverbial position of MPs can actually entail slight changes in the meaning of the utterance and enrich it with new subtle nuances, which are very difficult to capture and interpret.

lower adverbs, i.e. habitual adverbs. The particle cannot follow (higher) repetitive adverbs<sup>15</sup> and all adverb classes lower than these.

If we adopt an approach à la Cinque, with adverbs occupying a fixed position and forming a strict hierarchy, we must determine which exact positions MPs occupy, especially since they can occur in between these adverb phrases. We could postulate the existence of MP-related projections interspersed between the ones hosting adverbs. Their exact number could in principle be identical to that of the higher functional projections detected by Cinque. I will come back to this point in section 9.

One could claim that a particle like *ja* in the tests above actually occupies only two positions, a very high one (before adverbs in Mood<sub>speech act</sub>) and a very low one (between habitual and repetitive adverbs). These would be sufficient to derive all grammatical orders reported above. However, let us observe example (30), where I combined adverbs of different classes (*glücklicherweise* ‘luckily’, *vermutlich* ‘probably’ and *nochmals* ‘again’) and tested all possible occurrences of the MP *ja*:

- (30) Er ist {ja} glücklichlicherweise {ja} vermutlich {ja} nochmals \*{ja}  
 he is {ja} luckily {ja} probably {ja} again \*{ja}  
 von der Polizei festgehalten worden.  
 by the police detained been

In presence of more than one adverb, all positions before repetitive adverbs seem to be available, and also the intermediate ones. That is why we have to assume the existence of many intermediate functional projections hosting MPs, but a deeper investigation would be necessary in order to determine their exact number and position. See section 9 for some proposals in this regard.

## 5.2. JA in imperative sentences

*JA* in imperative sentences is a more complex case because, as I hinted before, certain adverb classes are excluded from this sentence type. Therefore, some of the following examples could sound more artificial and unnatural, but nevertheless provide some interesting insight into the phenomenon.

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<sup>15</sup> It is worth mentioning that Cinque (1999:91ff) distinguishes between higher and lower repetitive adverbs. Consider the following sentence:

- (i) Gianni ha di nuovo battuto alla porta di nuovo/ancora. (Cinque 1999:92)  
 ‘G. again knocked on the door again.’

He observes that “[t]he leftmost *di nuovo* quantifies over the event (of knocking on the door, perhaps many times), while the rightmost quantifies over the act itself of knocking”. MPs interact only with the higher class, therefore in the following discussion I will refer to this class, although I sometimes omit the adjective ‘higher’.

Mood <sub>speech act</sub>	Sei *{JA} <i>ehrlich gesagt</i> {JA} vorsichtig!
Mood <sub>evaluative</sub>	Sei *{JA} <i>hoffentlich</i> {JA} vorsichtig!
Mood <sub>evidential</sub>	... ?{JA} <i>offensichtlich</i> {JA} ...
Mod <sub>epistemic</sub>	... *{JA} <i>vermutlich</i> {JA} ...
T(Past)	... {JA} <i>damals</i> {JA} ...
T(Future)	Sei *{JA} <i>jetzt</i> {JA} vorsichtig!
Mood <sub>irrealis</sub>	... *{JA} <i>vielleicht</i> {JA} ...
Mod <sub>necessity</sub>	Sei *{JA} <i>notwendigerweise</i> {JA} vorsichtig!
Mod <sub>possibility</sub>	... *{JA} <i>möglicherweise</i> {JA} ...
Mod <sub>volition</sub>	... (?) {JA} <i>absichtlich</i> {JA} ...
Mod <sub>obligation</sub>	Sei (?) {JA} <i>unvermeidlicherweise</i> {JA} vorsichtig!
Mod <sub>abil./permiss.</sub>	Sei *{JA} <i>klugerweise</i> {JA} vorsichtig!
Asp <sub>habitual</sub> _____	... *{JA} <i>normalerweise</i> {JA} ...!
Asp <sub>repetitive(I)</sub>	Sei {JA} <i>nochmals</i> ?{JA} vorsichtig!
Asp <sub>frequentative(I)</sub>	Sei {JA} <i>oft</i> *{JA} vorsichtig!
Asp <sub>celerative(I)</sub>	Iss {JA} <i>schnell</i> *{JA} die Suppe auf!
T(Anterior)	Sei {JA} <i>bereits</i> *{JA} vorsichtig!
[...]	[...]

Notwithstanding omissions and doubtful cases, the MP in question displays a behaviour significantly different from the unstressed form, since it can apparently occupy only one position, namely the one between habitual and repetitive adverbs.

### 6. Analysis

The following tables give a brief overview of the grammaticality tests on the MP *ja*, *schon* and *wohl* (see Coniglio 2005:117ff). I have listed here the different MP-variants and illustrated the positions these can occupy with respect to the clausal functional projections mentioned in the far left column.

As to the particle *ja/JA*, it displays a rather varied behaviour according to the sentence type taken into consideration. The two particles can potentially occupy all positions before repetitive adverbs, except for *JA* in imperative and declarative sentences. In these cases only the intermediate position between habitual and repetitive adverbs seems to be available.

	ja	JA				
	Declarative	Imperative	Optative	Yes/no-int.	Declarative	React. decl.
Mood <sub>speech act</sub>	●		●	●		●
Mood <sub>evaluative</sub>						
Mood <sub>evidential</sub>						
Mod <sub>epistemic</sub>						
T(Past)						
T(Future)						
Mood <sub>irrealis</sub>						
Mod <sub>necessity</sub>						
Mod <sub>possibility</sub>						
Mod <sub>volition</sub>						
Mod <sub>obligation</sub>						
Mod <sub>abil./permiss.</sub>						
Asp <sub>habitual</sub>	●	●	●	●	●	●
Asp <sub>repetitive(I)</sub>						
Asp <sub>frequentative(I)</sub>						
Asp <sub>celerative(I)</sub>						
T(Anterior)						
[...]						

Just like *ja/JA*, the particle *schon* can ‘regularly’ occupy either more positions (in declarative sentences, when stressed, and in rhetorical questions, if unaccented) or just one position (in declarative sentences, when stressed). However, in wh-interrogatives and in imperatives the particle *schon* displays an anomalous behaviour if compared with that of the other particles: it can occur before subject-oriented adverbs, but not higher, i.e. it cannot precede adverbs in Mod<sub>necessity</sub> and in Mod<sub>possibility</sub>.

	SCHON	schon			
	Declarative	Declarative	Wh-interr.	Rhet. Wh-int.	Imperative
	●			●	
Mood <sub>speech act</sub>					
Mood <sub>evaluative</sub>					
Mood <sub>evidential</sub>					
Mod <sub>epistemic</sub>					
T(Past)					
T(Future)					
Mood <sub>irrealis</sub>					
Mod <sub>necessity</sub>					
Mod <sub>possibility</sub>			●		●
Mod <sub>volition</sub>			●		●
Mod <sub>obligation</sub>			●		●
Mod <sub>abil./permiss.</sub>			●		●
ASP <sub>habitual</sub>	●	●	●	●	●
ASP <sub>repetitive(I)</sub>					
ASP <sub>frequentative(I)</sub>					
ASP <sub>celerative(I)</sub>					
T(Anterior)					
[...]					

Finally, the particle *wohl* displays an apparently more uniform behaviour, since it can in any case occupy the highest positions in the hierarchy of the clausal functional projections. All occurrences higher than Asp<sub>repetitive(I)</sub> seem to be possible.

	WOHL	wohl		
	React. decl.	Declarative	Yes/no-int.	Wh-interr.
Mood <sub>speech act</sub>	●	●	●	●
Mood <sub>evaluative</sub>				
Mood <sub>evidential</sub>				
Mod <sub>epistemic</sub>				
T(Past)				
T(Future)				
Mood <sub>irrealis</sub>				
Mod <sub>necessity</sub>				
Mod <sub>possibility</sub>				
Mod <sub>volition</sub>				
Mod <sub>obligation</sub>				
Mod <sub>abil./permiss.</sub>				
Asp <sub>habitual</sub>	●	●	●	●
Asp <sub>repetitive(I)</sub>				
Asp <sub>frequentative(I)</sub>				
Asp <sub>celerative(I)</sub>				
T(Anterior)				
[...]				

Therefore, despite the considerable difficulties in collecting such data, one thing can be stated with certainty: the three particles cannot occur after repetitive adverbs. This conjecture is also confirmed by the behaviour of the other MPs. As I will illustrate in the next section, when MPs are combined with each other, they always display a precise (although not always unique) order. Since the lowest particles in constellations are *mal* and *JA*, we would expect that, if they can never occur after repetitive adverbs, all other particles cannot either. This seems to be the case. We have already seen that *JA* complies with this assumption, but as to *mal* things are more complicated. There is at least one homophone of the particle *mal*, namely the temporal adverb (*ein*)*mal*, which often blurs the data. Nonetheless, I wish to claim that repetitive adverbs like *wieder* draw a boundary between the MP and the homophonous temporal adverb (*ein*)*mal* ‘once/some day/any time’, as is illustrated in the following example:

- (31) a. Komm (\**ein*)*mal* wieder vorbei!  
Drop-in (\**ein*)*mal* again on-me  
b. Komm wieder (*ein*)*mal* vorbei!  
Drop-in again (*ein*)*mal* on-me

In example (31a) *mal* is an MP, since the full form of the adverb (*ein*)*mal* is not allowed in this position. *Mal* in example (31b) is probably a temporal adverb, because in this case the full form is available too.

To summarize, it is now ascertained that all particles have to occur above a certain adverb class, namely higher repetitive adverbs, but nothing can be said as to the highest position they can occupy as a class.

### 7. The boundary between higher and lower clausal projections

It is more straightforward to try to answer why there is a clear cut between habitual and higher repetitive adverbs. This fact is not very surprising. The lower portion of the clausal architecture hosts adverbs which are linked to aspectual projections, while in the higher one there are only non-aspectual projections, with speaker- and (maybe<sup>16</sup>) subject-oriented adverbs. MPs have obvious closer connections to these projections, rather than to aspectual ones. Hence, it is not at all unexpected for particles to occupy the highest part of the clausal structure.

There is one problem with this scenario. Habitual adverbs are inserted in an aspectual projection, because they seem to be linked to the event structure of the verb. But from the observation of my data, they seem to belong to the class of the higher adverbs. That is to say that in their lowest position, MPs would mark the boundary between higher and lower clausal projections. In what follows, I collected some hints (in Italian and German), which suggest that the projection  $Asp_{\text{habitual}}$  is to be considered as a higher projection, and habitual adverbs consequently as higher adverbs. Let us examine some of these proofs:

1. In Italian (and in other Romance languages) higher adverbs can occur in the post-complement “space” only if they are “de-accented”, as in example (32). The same holds for habitual adverbs, as illustrated in example (33). Cf. Cinque (1999:14f):

- (32) a. \* Prenderò il treno probabilmente.  
‘I will get the train probably.’  
b. Prenderò il treno, probabilmente.  
‘I will get the train, probably.’

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<sup>16</sup> See section 4.

- (33) a. \*Gianni beve vino solitamente.  
'G. drinks wine usually.'  
b. Gianni beve vino, solitamente.  
'G. drinks wine, usually.'

On the contrary, lower adverbs are usually accented if they occur in the post-complement space. Cf. Cinque (1999:13f):

- (34) Da allora, non accetta sempre i nostri inviti mica PIU'.  
'Since then, he doesn't accept always our invitations not any longer.'
2. Higher adverbs cannot move under wh-movement, as we can see from example (35a) and the Italian equivalent (36a). The same holds for habitual adverbs, as is illustrated by examples (35b) and (36b), while some lower adverbs are admitted in such constructions, as can be observed in examples (35c) and (36c). Cf. Cinque (1999:16f).
- (35) a. \*Wie vermutlich geht sie in die Disko?  
'How probably will she go to the disco?'  
b. \*Wie normalerweise geht sie in die Disko?  
'How usually does she go to the disco?'  
c. Wie oft geht sie in die Disko?  
'How often does she go to the disco?'
- (36) a. \*Quanto probabilmente va in discoteca?  
b. \*Quanto normalmente va in discoteca?  
c. Quanto spesso va in discoteca?

In a variety of languages habitual adverbs often display a particular ending (for example *-weise* in German and *-mente* in Italian), which are usually found in some higher adverbs.<sup>17</sup> See, for instance, the German adverbs *normalerweise*, *gewöhnlicherweise*, *üblicherweise* etc. and the Italian ones *normalmente*, *solitamente* and so on.

3. The Italian verb *solere* '(to be) used to' and similar periphrastic constructions related to the projection  $Asp_{\text{habitual}}$ , such as *essere solito*, *essere uso* and *aver l'abitudine di* seem in a certain sense to be "subject-oriented", thus showing

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<sup>17</sup> As for example the German *möglicherweise* 'possibly', *glücklicherweise* 'luckily' and the Italian *probabilmente* 'probably', *necessariamente* 'necessarily'. Note that this ending is typical for some manner adverbs as well, which are event-related adverbs, therefore very low ones. See for instance Italian *irriverentemente* 'impiously' or *brutalmente* 'brutally'.

some connection to higher projections. For example, they require the subject of a sentence to be alive. Cf. Bertinetto (1991:148):

- (37) La fabbrica ?soleva / ??era solita / \*aveva l'abitudine di aprire alle 5.  
the factory used to open at 5

Furthermore, *solere* behaves as a modal verb, not as an aspectual one. A simple test to demonstrate this fact is provided by Cardinaletti/Shlonsky (2004). In contrast to aspectual (38b) and lexical verbs (38c), modal (and auxiliary) ones (38a) can occur in very marked Aux-to-C structures. Cf. Cardinaletti/Shlonsky (2004:545) citing Rizzi (1982:112 fn. 10):

- (38) a. Ritengo [<sub>CP</sub> dover [<sub>IP</sub> tuo fratello/lui tornare a casa]].  
(I) believe (to) have your brother/he (to) come-back to home  
b. \*Ritengo [<sub>CP</sub> cominciare [<sub>IP</sub> tuo fratello/lui a dire sciocchezze]].  
(I) believe (to) begin your brother/he (to) tell nonsense  
c. \*Ritengo [<sub>CP</sub> raccontare [<sub>IP</sub> tuo fratello/lui questa storia]].  
(I) believe (to) tell your brother/he this story

*Solere* seems to be allowed in such constructions as well, displaying another connection to modal verbs, rather than to aspectual ones:

- (39) Ritengo [<sub>CP</sub> soler [<sub>IP</sub> tuo fratello/lui dimostrare grande coraggio]]  
(I) believe (to) be-used your brother/he (to) display great courage  
'I believe your brother/he usually displays great courage'

To summarize, there are a number of reasons to claim that Cinque's *Asp<sub>habitual</sub>-P* is actually a high projection. The distribution of MPs provides further evidence in favour of this hypothesis since they demarcate the boundary between higher and lower adverbs.

### 8. *The reciprocal order of modal particles*

As I mentioned before, it is possible to find MPs in combinations, which can often achieve a high level of complexity:

- (40) Das ist *ja denn doch* die Höhe! [...] (Thurmair 1989:222)  
that is *ja denn doch* the limit

When combined with each other, MPs enter a precise syntactic order, which is not always easy to determine. Helbig/Kötz (1981:41f), for example, proposed to divide them into the following five groups, claiming that the particles of the first class precede those of the second one and so forth:

- 1) *denn, doch, eigentlich, etwa, ja*
- 2) *aber, eben, halt, vielleicht, wohl*
- 3) *DOCH, schon*
- 4) *auch, mal*
- 5) *bloß, nur*

However, such a classification cannot foresee the linear order of two MPs belonging to the same group. Unfortunately, the data are further complicated by the fact that some particles can alternatively occur before or after other particles according to particular circumstances, such as the presence or absence of stress. For instance, see the case of *ja/JA* in the following example (Meibauer 1994:140), where the unstressed variant precedes the particle *auch*, while the stressed one has to follow it:

- (41) a. Der hat *ja auch* seine Hausaufgaben schon gemacht.  
he has *ja auch* his homework already done  
b. Mach *auch JA* deine Hausaufgaben!  
do *auch JA* your homework

Therefore, when analysing MPs, we should keep in mind their single variants, since their syntactic behaviour varies according to these. This is in any case an extremely complex operation, given the number of possible combinations, without considering that not all particles can occur in the same sentence types. The following sequence is the result of a summary observation of the possible main MP combinations:<sup>18</sup>

- (42) *ja > denn > doch > halt/eben > DOCH > wohl > eh/sowieso/nur > bloß > schon/ruhig > mal/JA*<sup>19</sup>

Needless to say, this order is very simplified, since not all MP-variants were taken into account. However, some problematic aspects deserve mentioning:

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<sup>18</sup> This sequence is perhaps the result of scope relations between them, since they are apparently ordered from the more generic to the more specific one. Cf. Thurmair (1989:288f) and Abraham (1995).

<sup>19</sup> Here I mention some examples from Thurmair (1989:203ff) which confirm the plausibility of such a hierarchy. Translations are omitted for the sake of brevity:

- (i) Das ist *ja denn doch* die Höhe! [...]
- (ii) [...] der kann *eben wohl auch* nicht so aus seiner Haut.
- (iii) [...] und auf seine Art hat er mich *ja wohl auch* gern gehabt oder geliebt.
- (iv) Das müssen die *wohl schon* machen.
- (v) [...] Wie konntest du *auch nur* diesem Halunken vertrauen?!
- (vi) Komm *doch nur ruhig mal* vorbei!
- (vii) Sperr *nur JA* das Haus immer gut zu! [...]

1) The order *ja* > *denn* > *doch* is not unchallenged. It is based mainly on exceptional examples like the following:

- (43) Das ist *ja denn doch* die Höhe! [...] (Thurmair 1989:222)  
that is *ja denn doch* the limit

However, as Thurmair herself (ibid.) claims, in this case *denn* is rather a variant of the temporal adverb *dann* 'then', which is attested in some varieties of German. Otherwise, we could not explain why a particle like *denn*, which can occur only in interrogatives (see table (9)), can be found also in exclamative contexts.

- 2) The reciprocal order of *halt* and *eben*, *eh/sowieso* and *nur*, *schon* and *ruhig*, *mal* and *JA*, are rather problematic. The particles in each pair seem to exclude one another for semantic and maybe even for syntactic reasons. We can observe that each particle either conveys the same meaning as the other particle in the pair (as, for instance, in the case of *halt* and *eben*, which are almost synonyms) or the opposite one (see the case of *mal* and *JA*). Hence, since they express identical or exactly opposite values of the same semantic feature, I would suggest that they also occupy the same syntactic positions.
- 3) *Eigentlich* and *vielleicht* occur before *wohl*, but are not mentioned in (42) because it is difficult to determine their position with respect to other MPs.
- 4) *Auch*, *aber* and *einfach* possibly occupy more than one position. Therefore, they are not inserted in (42). More subtle distinctions could be drawn among their different uses and variants.

Despite many unresolved questions, what is interesting to observe here is the fact that the order between two MPs is always attained, even when other material is inserted between them. As we see in example (44), the combination of the two MPs *ja* and *wohl* can only yield the linear order *ja* > *wohl*, no matter if an adverb like *vermutlich* 'probably' precedes (44a), follows (44b) or separates them (44c).<sup>20</sup> All other combinations (44d, e, f), where the particles are in the reversed order *wohl* > *ja*, are excluded:

- (44) a. Das ist vermutlich *ja wohl* nicht wahr.  
b. Das ist *ja wohl* vermutlich nicht wahr.  
c. Das ist *ja* vermutlich *wohl* nicht wahr.  
d. \*Das ist vermutlich *wohl ja* nicht wahr.  
e. \*Das ist *wohl ja* vermutlich nicht wahr.

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<sup>20</sup> This last option is only available for open MP constellations, as in the present case. In close constellations (such as *nicht etwa*) nothing can intervene between the MPs.

- f. \*?Das ist *wohl* vermutlich *ja* nicht wahr.  
'That's probably not true'

If we assume that a fixed sequence of adverbs exists and that particles can occur interspersed between them, what is striking is that MPs are hierarchically ordered as well; it is as if adverbs and MPs were two parallel lines somehow capable of touching each other or intersecting. Hence, it is necessary to formulate some syntactic hypotheses in order to explain these curious facts.

### 9. Modal particles and the X-bar model

The present section is dedicated to the analysis of the syntactic behaviour of German MPs, an issue which is often overlooked by many scholars, even in the framework of the generative studies on Universal Grammar. In most cases, they have been considered as a special group of adverbs and they have shared the same fate as this word class, which has not yet found a definite place in the clausal structure. As a consequence, from a syntactic perspective, they were mainly analysed as free adjuncts occupying a position on the edge of VP, which is a common characteristic of (non-circumstantial) adverbs and MPs. This explanation, however, has the flavour of a contrivance devised for residual constituents (such as adverbs and MPs), which can be hardly integrated into the syntactic structure.

Besides this theory-internal consideration, the hypothesis of free adjunction has other considerable drawbacks.

As in the case of adverbs,<sup>21</sup> if we want to support this conjecture, we should find an explanation for the fact that the sequence of MPs is rigid, too, as we have seen in the preceding section. The combination of the two MPs in (44) is supposed to follow a precise order, namely *ja* > *wohl*, while the inverted one is not allowed. If this were a case of free adjunction, we would expect both orders to be possible, but this is not the case.<sup>22</sup> Furthermore, the free adjunction hypothesis cannot explain cases where besides MPs, other elements (such as adverbs) occur. But I will come back to this point later on.

Recent cartographic studies (Cinque 1999, see section 4 above) have shed some light on the syntactic nature of adverbs and other elements, which had long been considered to be free-adjoined, thus calling for a deeper investigation of these phenomena. However, before targeting the problematic position of MPs in the functional structure of IP, I would like to address a preliminary question, namely the

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<sup>21</sup> Cf. Cinque (1999:47ff) in this regard.

<sup>22</sup> See below where I claim that MPs are subject to a movement operation. I will take into account complex MP-constellations in presence of adverbs, which free adjunction cannot easily explain, if at all.

long disputed syntactic status of MPs, which are considered by some authors to be heads and maximal projections by others. A clear and unique classification for these lexemes seems to be difficult to achieve.

### 9.1. The syntactic status of modal particles

The arguments in favour of the hypothesis that MPs are head-elements are more convincing<sup>23</sup> and more numerous than those favouring an analysis of MPs as maximal projections. Like heads, MPs:<sup>24</sup>

1) cannot be topicalised:

- (45) a. Trinken Sie *ruhig* noch ein Bier!  
           drink you *ruhig* another beer  
       b. \**Ruhig* (,) trinken Sie noch ein Bier!  
           *ruhig* (,) drink you another beer

2) cannot be coordinated:

- (46) Gehen Sie *doch* (\*und) *mal* zum Arzt!  
       go you *doch* and *mal* to-the doctor

3) cannot be modified:

- (47) ≠?Trinken Sie *sehr ruhig* noch ein Bier!  
       drink you *very ruhig* another beer

4) cannot be used in isolation:

- (48) \*Wie kann ich noch ein Bier trinken? *Ruhig*.  
       how can I another beer drink *ruhig*

5) cannot be focalised and usually do not have contrastive accent:<sup>25</sup>

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<sup>23</sup> However, it would remain unexplained how these anomalous non-projecting heads would be integrated into the clausal structure. The adjunction hypothesis is also rather problematic. See (i) below, where *ja* occurs between two maximal projections. If we suppose that heads are adjoined only to other heads, one should explain to which head the MP in question is adjoined:

(i) Die Polizei hat den Attentäter *ja* in einem Bierhaus gefasst.  
       the police has the assassin *ja* in a pub caught

<sup>24</sup> Cf. Coniglio (2005:29ff).

<sup>25</sup> MPs cannot have focus accent, but in the present work (see 3.1, 3.2 and 3.3) also lexemes with contrastive accent are considered to be MPs. See (i):

- (49) a. Halt *mal* den HAMMER!  
       hold *mal* the HAMMER  
       b. \*Halt *MAL* den Hammer!  
       hold *MAL* the hammer

Those who plead for the hypothesis that MPs are maximal projections have less convincing arguments, since they generally adduce only negative proofs. They insist that, otherwise, it would be impossible to reconcile the alleged status of MPs as heads with their syntactic behaviour in cases where scrambled DPs and PPs occur between two MPs. Cf. Ormelius-Sandblom (1997b:40):

- (50) [...] weil es *ja bei jedem Menschenwohl* eine gewisse Entwicklung gibt.  
       because there *ja in every person wohl* a certain development is

The author (ibid.) claims that, since the PP *bei jedem Menschen* occurs between two MPs, it should be an adjunct to the head Mood° (the one which would host the MP). However, an adjunction of a maximal projection to a head is not admitted. That is why an analysis of MPs as heads should be rejected.

As to the opposite conjecture, according to which they are maximal projections, one should state more precisely what kind of projections they are. Two possible solutions have been put forward, i.e. they could be:

- 1) adjuncts to VP.
- 2) specifiers of or adjuncts to a functional projection.

The hypothesis of adjunction to VP is old-fashioned and inadequate, since MPs clearly occur in an IP-internal position and are only apparently on the left edge of VP (cf. Ormelius-Sandblom 1997b:41ff and Meibauer 1994:56). Therefore, one could only adopt the second solution, which is in principle very close to Cinque's proposals as far as adverbs are concerned.

Hence, on one side MPs have intrinsic properties which remind us of head-elements, but on the other side they behave like maximal projections in presence of other constituents in the middle field. How can we solve this aporia?<sup>26</sup> We could maintain that both hypotheses are correct. As hinted above and in section 5, in analogy with Cinque's analysis of adverbs, MPs could be considered to be specifiers of MP-related functional projections (MoodPs). In this sense, they would be

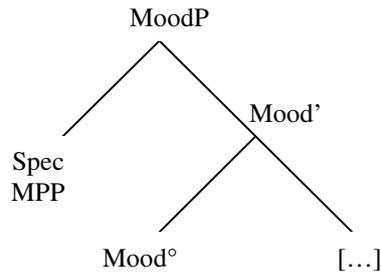
- 
- (i) Speaker A: Er ist nicht betrunken.  
       Speaker B: Er ist *JA/SCHON/WOHL* betrunken!  
       'He is not drunk. ~ (Quite the contrary,) He IS drunk!'

In such cases they are not accepted as MPs by all researchers. However, from a syntactic point of view they display the same behaviour as MPs. See section 6.

<sup>26</sup> Cf. Meibauer (1994:53).

maximal projections, namely modal particle phrases (MPPs), as illustrated in the following tree-structure (cf. Ormelius-Sandblom 1997b:37):

(51) *The structure of MoodP*



Thus, MoodP would be similar to the functional projections which host AdvPs and DPs in the clausal structure (cf. Cinque 1999:44ff, 108f).

The most delicate point, however, is the internal structure of MPP. I would claim that, since particles cannot project, they must probably be considered deficient non-branching structures, as illustrated here:<sup>27</sup>

(52) *The structure of MPP*




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<sup>27</sup> Cf. Ormelius-Sandblom (1997b:43 fn. 87). The author claims that the fact that they cannot be “expanded” does not entail that MPs cannot be maximal projections, because there are units, such as *sicherlich* ‘certainly’, that cannot be modified as in the case of MPs (i), but that can nevertheless occur in the initial field (ii) and must therefore be maximal projections:

- |                        |            |     |          |      |       |
|------------------------|------------|-----|----------|------|-------|
| (i) *sehr/*gerade      | sicherlich |     |          |      |       |
| very/right             | certainly  |     |          |      |       |
| (ii) <i>Sicherlich</i> | wird       | sie | morgen   | da   | sein. |
| <i>certainly</i>       | will       | she | tomorrow | here | be    |

MPP would be as to say a ‘degenerated’ maximal projection. It is interesting to observe that many or maybe all these particles have originated from adverbs, which have undergone a grammaticalisation process, and their exceptional behaviour is, perhaps, the consequence of this phenomenon.<sup>28</sup> Also intriguing is the hypothesis that MPs are generated as maximal projections, but behave as if they were heads, because they are deficient XPs.<sup>29</sup> Consequently, they cannot occupy those positions which are only available for full-fledged XPs.<sup>30</sup>

### 9.2. The movement hypothesis

Much more problematic is the syntactic freedom of MPs with respect to other clausal elements. In fact, the possibility for them to co-occur interspersed between adverbs and other constituents make the analysis more complex. One could interpret the phenomenon in either of the following ways (cf. Ormelius-Sandblom 1997b: 43ff):

- 1) Flexible base generation: MPs could be merged “at any time” during the derivation, before or after a certain adverb, in one of the different MP-related functional projections. Let us consider this example:

(53) Das ist     {ja} vermutlich   {ja} nicht       wahr.  
      this is     {ja} probably   {ja} not       true

The two grammatical orders of the adverb and the particle in this sentence would be the result of a simple Merge operation of the kind in (54a), if the particle is merged before the adverb is, or of the kind in (54b), if it is merged afterwards. Therefore, MPs would be base-generated in the same position where they occur at PF. No movement would affect them.

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<sup>28</sup> See Abraham (1991) and Coniglio (2005:86ff). As to the hypothesis that MPs are the result of a grammaticalisation process cf. Diewald (1997, 1999), Meibauer (1994), Molnár (2002), Ormelius-Sandblom (1997b) and Wegener (2002).

<sup>29</sup> Cf. Cardinaletti (2007) for a similar conclusion.

<sup>30</sup> Developing the tripartite classification of pronouns proposed by Cardinaletti/Starke (1999:176) and extending it to adverbs, an interesting parallel could be drawn between adverbs and MPs, on one side, and pronouns and full DPs, on the other, as illustrated by (i), but this would require a more elaborate discussion.

(i) Clitic MPs (cl. adverbs) < MPs (weak adv.) < ‘Proper’ adverbs < (Circumst.) adverbials  
      Clitic pronouns           < Weak pronouns < Strong pronouns < Full DPs

See fn. 5, where I first mentioned clitic MPs, which can be found in some varieties of German. Cf. Grosz (2005).

- (54) a. ... [<sub>MoodP</sub> *vermutlich* Mood° [<sub>MoodP</sub> *ja* Mood° [ IP ... ]]]  
 b. ... [<sub>MoodP</sub> *ja* Mood° [<sub>MoodP</sub> *vermutlich* Mood° [ IP ... ]]]

2) Movement analysis: MPs would be merged in a low base position and undergo movement to the specifier of an MP-related functional projection MoodP (see section 6). The two possible combinations in sentence (53) would be obtained through a movement operation concerning the particle *ja* and targeting two different landing sites, either before or after the projection of the epistemic adverb *vermutlich* ‘probably’. The starting position of this movement would be the same in both cases.

- (55) a. ... [<sub>MoodP</sub> *vermutlich* Mood° [<sub>MoodP</sub> *ja*<sub>i</sub> Mood° [ IP ... t<sub>i</sub> ... ]]]<sup>31</sup>  
 b. ... [<sub>MoodP</sub> *ja*<sub>i</sub> Mood° [<sub>MoodP</sub> *vermutlich* Mood° [ IP ... t<sub>i</sub> ... ]]]

Here I will argue for the second hypothesis. A simple example can prove that we are dealing with a movement phenomenon.<sup>32</sup> Let us combine the two MPs *ja* and *wohl* with the same adverb *vermutlich* ‘probably’, as in example (56) and (57). Both the pre-adverbial and the post-adverbial position are available for the two particles:

- (56) a. Das ist *ja* vermutlich nicht wahr.  
           this is *ja* probably not true  
 b. Das ist vermutlich *ja* nicht wahr.  
           this is probably *ja* not true
- (57) a. Das ist *wohl* vermutlich nicht wahr.  
           this is *wohl* probably not true  
 b. Das ist vermutlich *wohl* nicht wahr.  
           this is probably *wohl* not true

If we now try to combine per analogy the two MPs, we would expect that, given that adverbs occupy a fixed position, both sequences in (58) are correct. However, surprisingly, sentence (58b) is not acceptable.

- (58) a. Das ist *ja* vermutlich *wohl* nicht wahr.  
           this is *ja* probably *wohl* not true  
 b. \*?Das ist *wohl* vermutlich *ja* nicht wahr.  
           this is *wohl* probably *ja* not true

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<sup>31</sup> Notice that we can dispense with this movement operation. In the absence of another element that allows us to detect this movement, we can assume that the particle did not move from its base position.

<sup>32</sup> See Cinque (1999:47ff), who adopts this method to challenge the free adjunction hypothesis.

Whatever intervenes between the MPs, the sequence must be necessarily *ja > wohl* (see section 8). Notice that the conjecture of a flexible base generation cannot easily explain these facts.<sup>33</sup> As we saw in section 8, MPs display a fixed linear order also “at distance”, i.e. when they are interspersed between adverbs, scrambled DPs and so on. There is clearly a strong link between them and a good viable solution is to surmise that they are generated in a common base position, where they can enter a rigidly ordered hierarchy.

Hence, the movement hypothesis is highly plausible.<sup>34</sup> MPs would be generated in a base position which I would claim to be the functional projection between habitual and higher repetitive adverbs. As we saw above, this is the lowest position that all MPs can occupy (see section 5 and 6). For reasons that still remain to be explained, under certain circumstances they can raise from this position to the different MP-related functional projections which are interspersed between the mood and modality projections proposed by Cinque, thus being able to raise over some adverb classes.<sup>35</sup> So, for instance, if we look at the tables in section 6, in the case of *JA* in imperative sentences no movement is allowed, while as to *wohl* this is always available, even targeting a projection higher than all AdvPs. Finally, in the case of *schon* in imperatives, this movement is possible, but limited in its range, since the highest projections are precluded.

However, it is not clear how many and which MP-related functional projections are involved and if they are created by the movement itself or if they are always present in every sentence. I would postulate the existence of as many projections as there are those detected by Cinque for the higher portion of the sentence, but further research would be necessary on this point.

### 9.3. Movement of particle constellations

We still have to explain how this movement operation over some adverb classes can take place when we are dealing with a particle constellation. Let us consider example (44), repeated here as (59):

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<sup>33</sup> The drawbacks are identical with those of the free adjunction hypothesis for adverbs (see Cinque 1999:47ff).

<sup>34</sup> See Ormelius-Sandblom (1997b:43ff) against the movement hypothesis. She claims that MPs occupy a fixed position (as adjuncts) and that the variable overt positions of the MPs are due to the movement of other phrases. It would be difficult to reconcile this idea with the perspective adopted here that adverbs stay put in fixed positions. If adverbs cannot be moved, MPs must move past them.

<sup>35</sup> See Coniglio (forthcoming) where I assume an additional covert movement to SpecForceP at LF.

- (59) a. Das ist vermutlich *ja wohl* nicht wahr.  
b. Das ist *ja wohl* vermutlich nicht wahr.  
c. Das ist *ja* vermutlich *wohl* nicht wahr.  
d. \*Das ist vermutlich *wohl ja* nicht wahr.  
e. \*Das ist *wohl ja* vermutlich nicht wahr.  
f. \*?Das ist *wohl* vermutlich *ja* nicht wahr.  
‘That’s probably not true’

In (59), the movement operation can involve only the particle *ja*, both *ja* and *wohl* or neither *ja* nor *wohl*. Under no circumstances is it possible for the particle *wohl* to move past *ja*.<sup>36</sup>

- (60) \* ... *wohl*<sub>i</sub> ... *ja* ... t<sub>i</sub> ...

Here I argue that MP-combinations imply ‘multiple adjunctions’ à la Kayne (1994:19ff). A cluster of MPs is generated in the Spec-position of a functional projection MoodP through recursive adjunctions.<sup>37</sup> An open constellation,<sup>38</sup> such as *ja wohl* in (59), would be generated in a structure like the following:

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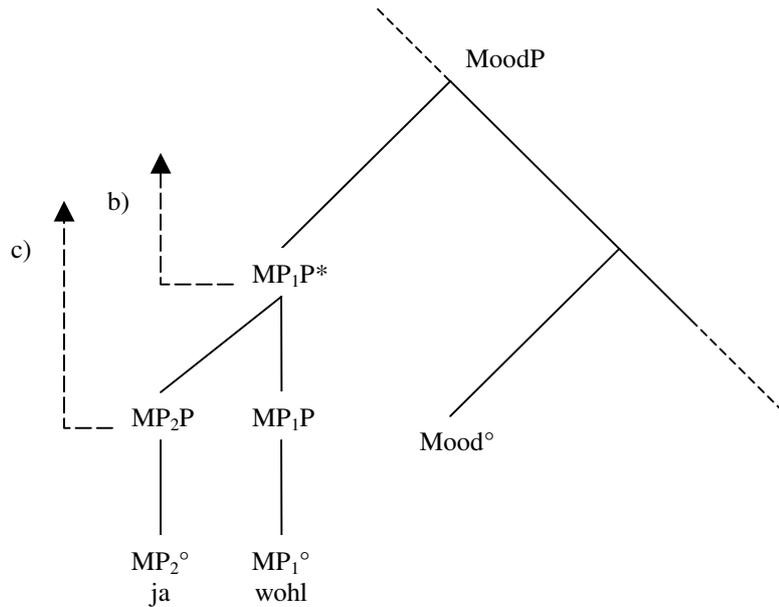
<sup>36</sup> One could suspect that, in example (59), it is the adverb (not the particles) that for some reason has been moved. But see example (30) again or example (i) below, where *ja* and *wohl* are combined with the adverbs *glücklicherweise* ‘luckily’ and *vermutlich* ‘probably’. The particles seem to behave the same way. Every other possible order is excluded. Translations are omitted for the sake of clarity:

- (i) a. Der Attentäter ist glücklicherweise vermutlich *ja wohl* von der Polizei gefasst worden.  
b. Der Attentäter ist glücklicherweise *ja* vermutlich *wohl* von der Polizei gefasst worden.  
c. Der Attentäter ist *ja* glücklicherweise vermutlich *wohl* von der Polizei gefasst worden.  
d. Der Attentäter ist glücklicherweise *ja wohl* vermutlich von der Polizei gefasst worden.  
e. Der Attentäter ist *ja* glücklicherweise *wohl* vermutlich von der Polizei gefasst worden.  
f. Der Attentäter ist *ja wohl* glücklicherweise vermutlich von der Polizei gefasst worden.

<sup>37</sup> This would also explain the narrow link that seems to exist between some particles in (multiple) combinations. See for instance the case of (*doch wohl*) *nicht etwa* and close constellations in general. See fn. 38.

<sup>38</sup> Open constellations are those combinations of MPs where one or more constituents, such as AdvPs, DPs and PPs, can occur in between them; close constellations, on the other hand, are indivisible sequences of MPs. Cf. Thurmair (1989:290ff).

(61) *Movement options of a particle constellation*



I assume this is the underlying structure that we find in the base generation position (between  $Asp_{\text{habitual}}$  and  $Asp_{\text{repetitive(I)}}$ ). It is precisely here that the MPs would enter the hierarchical order  $ja > wohl$ . From here, the particles can possibly raise to the specifier of higher MP-related projections MoodPs. If we take into account the movement options that are at stake in this example, we observe that three possibilities can be envisaged:

- a) both particles stay put,<sup>39</sup> thus yielding sentence (59a);
- b) the whole cluster  $MP_1P^*$ , namely *ja wohl*, moves, thus resulting in (59b);
- c) only  $MP_2P$ , i.e. the particle *ja* alone, moves, as in (59c).

Such movement operations take place in respect to a sort of minimality between particles, so that, in example (59), no order where *wohl* precedes *ja* is possible.

<sup>39</sup> Notice that they could have undergone some movement operation anyway, although there is no overt element that allows us to perceive it.

This would answer the question why two particles can be linked also ‘at a distance’. In a movement analysis a unique sequence is admitted, which is established in the base projection, and movement can take place only preserving this order.

The hypothesis of the generation in a unique base projection preceding every movement operation would allow us to explain two other important facts. Firstly, we can account for the existence of close or lexicalised MP-constellations, such as *nicht etwa* (see fn. 38), which cannot be split by other intervening material (adverbs, DPs and so on). Such an analysis can foresee that, since these combinations are generated in inseparable clusters in adjacency conditions, on no account can they be split. Secondly, we can explain the strict restrictions arising in the creation of (open) MP-constellations, which cannot take place at random, but always depends on certain compatibility criteria, such as the possibility for the particles to show up in the same sentence type (see section 3) and the agreement of their semantic features (see Thurmair 1989:203).

In conclusion, I would like to emphasise that although it is now clear enough why MPs occur in the higher portion of the clausal structure,<sup>40</sup> much work remains to be done in order to explain the reasons for their movement. A more refined analysis of the interaction between adverbs and MPs from a semantic point of view will probably give a definitive answer to this problem.

### 10. Conclusions

In this article I addressed the issue of the syntactic behaviour of German modal particles. I started my analysis by introducing three case studies, namely *ja*, *schon* and *wohl*, and by considering their use restrictions. I then presented some grammaticality tests on the three lexemes and showed that they all follow a precise syntactic pattern. Hence, I tried to extend my analysis to the other particles and to the cases where they are combined with each other. I claimed that MPs are base-generated in a functional phrase between two of Cinque’s clausal projections, namely  $Asp_{\text{habitual}}$  and  $Asp_{\text{repetitive(I)}}$ . Finally I argued for a movement hypothesis and tried to explain all these facts in compliance with X-bar theory.

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<sup>40</sup> In Coniglio (forthcoming) I assume the existence of a link between MPs and the projection Force in the CP-domain and I postulate a covert movement of MPs to SpecForceP.

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