German Modal Particles in the Functional Structure of IP

Marco Coniglio
University of Venice

1. Introduction

German modal particles (MPS) are a group of about twenty words, which are mainly used in the spoken language. They have been long neglected by the 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.

1. The present work is a shortened version of some chapters of my M.A. thesis, which was presented at the seminario di ricerca in sintassi avanzata held in Venice on January 30th 2006. Most parts of sections 2 to 7 have also been presented at the Zweite Tagung Deutsche Sprachwissenschaft in Italien, held in Rome on February 9th-11th 2006). I would like to thank Anna Cardinaletti for her very helpful comments and suggestions.

2. 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 meet 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. S. Coniglio (2005:38).
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 (middlefield) of a sentence, that is in that portion of the sentence which is delimited, to the left, by the inflected verb 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 generative 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, and 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 other 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 middlefield-related elements, i.e. lexemes which occupy some place in between the two verbal positions of matrix clauses of German. However, at a closer inspection, we can see that their use is not restricted to the middlefield. In fact, they can occur:

1. in the middlefield of matrix clauses, which is the main object of my research:

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3. 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.
(1) Du wirst es schon schaffen.
You will it schon manage

2. in the middlefield of embedded clauses:

(2) Er hat ein schlechtes Gewissen, weil er wohl gelogen hat.
He has a bad conscience because he wohl lied has

(Asbach-Schnittker 1977:48)

3. in the prefield (Vorfeld) of wh-interrogative clauses:

(3) Wer schon wird das tun wollen?
Who schon will it do want-to?

(Ormelius-Sandblom 1997a:85)

4. in complex NPs:

(4) In der wohl größten urbanen Umgestaltung seit der Neuerschaffung von Paris…
In the wohl biggest urban reshaping since the reconstruction of Paris…

(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 postfield one – Nachfeld), 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 middlefield of the clause are MPs in the right sense (this definition could be extended to particles in complex NPs too), and that, for instance, homophonous particles in the prefield 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 the their occurrences in the clausal middlefield.

From a diachronic point of view, the cause and origin of this restriction have been sufficiently studied and explained. However, if we want to determine, how many and which positions in the middlefield MPs can occupy, we must state that there is no

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agreement among researchers on this point. 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 is often 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)  
\begin{align*}
\text{a. Sie hat } & \{ja\} \text{ einen Mann } *\{ja\} \text{ kennen gelernt.}^6 \\
\text{She has } & \{ja\} \text{ a } \text{ man } *\{ja\} \text{ got-to-know} \\
\text{b. Sie hat } & \{ja\} \text{ den Mann } \{ja\} \text{ kennen gelernt.} \\
\text{She has } & \{ja\} \text{ the man } \{ja\} \text{ got-to-know}
\end{align*}

This is probably the result of a movement operation that can only concern definite phrases. By comparison, indefinite ones cannot rise 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. Subject pronouns: it is generally observed that MPs can either precede or follow strong pronouns, as in example (6b), but they cannot precede a weak pronoun, only follow, as illustrated in (6a).

(6)  
\begin{align*}
\text{a. Die Waschmaschine } & \text{ hast } *\{ja\} \text{ du } \{ja\} \text{ GESTERN repariert.} \\
\text{The washing machine have } *\{ja\} \text{ you } \{ja\} \text{ YESTERDAY repaired} \\
\text{b. Die Waschmaschine } & \text{ hast } \{ja\} \text{ DU } \{ja\} \text{ gestern repariert.} \\
\text{The washing machine have } \{ja\} \text{ YOU } \{ja\} \text{ yesterday repaired}
\end{align*}

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}...

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6. Here and in what follows, braces mean that the lexemes occupies alternatively either one position or the other.

7. 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):
c. Adverbs: 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):

    Müller says, that Fritz probably sick is but I believe it not

    B: Fritz ist DOCH wahrscheinlich krank. (Ich weiß das von der Krankenschwester.)
    Fritz is DOCH probably sick I know it from the nurse

In this article, I am mainly concerned with precisely the 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 been scarcely investigated until now.


Another set of restrictions which are 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 well-defined 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

(i) Hast ‘n du ein Auto?  (Weydt et al., 1983:20)

    Have ‘n you a car

with more homophonous particles. Leaving aside this long unsolved dispute, I present here a table showing the distribution of each MP with respect to the main sentence types.

**Sentence-type restrictions:**

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<th></th>
<th>Declarative</th>
<th>Yes/no-int.</th>
<th>Wh-interrog.</th>
<th>Imperative</th>
<th>Optative</th>
<th>Exclamative</th>
<th>Wh-exclam.</th>
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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.\(^{11}\)

I’ll now consider three case studies, namely *ja*, *schen* and *wohl*, and, 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.

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9. This issue is particularly relevant in the case of the particle *ja*. See 3.1.


11. But see the problematic case of sentences like (43) below.
3.1. *Ja/JA*

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

- an unstressed form, which is usually marked by the semantic feature \(<\text{BEKANNT}>\)_H (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;\(^{12}\)
- a stressed form *JA*\(^{13}\), whose function is characterised by the feature \(<\text{VERSTÄRKUNG}>\) (‘strengthening’, Thurmair (1989):109), since it is generally used to strengthen the illocutive force of the utterance.\(^ {14}\)

In the specialist literature, there is now general agreement in considering *ja/JA* as two different, though homophonous particles.\(^ {15}\) But, 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 illocutive force of the utterance and is often used in warnings and threats.

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\(^{13}\) Here and in what follows, capital letters are used to indicate the stressed form.


\(^{15}\) 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
(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*.

(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 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 between two different uses:

- *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

- 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 reverse,) 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 eventual presence of an accent.\(^\text{16}\)

**SCHON in declarative sentences**

In principle it can also be unstressed and is used in many contexts (even idiomatic expressions). The following is a case of 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:

• in the case of temporary lack of information:

(18) Na, wie heißt **er schon**?

Hmm how is-called he **schon**

• in rethorical questions:

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\(^{16}\) See Coniglio (2005:55ff).
(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 and Weinrich (1993):849).\(^{17}\)

**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*, also this particle 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 reverse,) the assassin WAS detained by the police.’

**wohl in yes/no-questions**
Although seldomly used, it is mainly found in polite questions:\(^{18}\)

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\(^{18}\) But it is also found in threatening requests:
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:

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) a. Er soll *{JA} notwendigerweise {JA} auf den Schadenersatz verzichten.
    b. Er soll *{JA} unvermeidlicherweise {JA} auf den Schadenersatz verzichten.
    c. Er soll {JA} nochmals ??{JA} auf den Schadenersatz verzichten.

    He must {JA} necessarily/inevitably/again {JA} the compensation forgo

(26) a. Nun melden Sie *{schon} notwendigerweise {schon} Köln an!
    b. Nun melden Sie {schon} unvermeidlicherweise {schon} Köln an!
    c. Nun melden Sie {schon} nochmals *{schon} Köln an!

    Now book (you) {schon} necessarily/inevitably/again {schon} Cologne prt

(27) a. Die Polizei wird {wohl} notwendigerweise {wohl} von der Verhaftung berichten.

(i) Wirst du wohl die Klappe halten?

Will you wohl shut-up
b. Die Polizei wird {wohl} unvermeidlicherweise {wohl} von der Verhaftung berichten.

c. Die Polizei wird {wohl} nochmals *{wohl} von der Verhaftung berichten.

The police will {wohl} necessarily/inevitably/again {wohl} on the arrest report

The behaviour of the three particles is rather puzzling: \textit{JA} has to follow adverbs like \textit{notwendigerweise} ‘necessarily’ and \textit{unvermeidlicherweise} ‘inevitably’, but obligatorily precedes an adverb like \textit{nochmals} ‘again’. Concerning the particle \textit{schon}, it can occur before \textit{unvermeidlicherweise} ‘inevitably’ too. Finally, \textit{wohl} can also be found before adverbs like \textit{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 middlefield 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 IP. By comparing their order with the reciprocal order of adverbs observed in a number of languages, there seems to exist an almost perfect one-to-one relation 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) \textit{The universal hierarchy of clausal functional projections} (Cinque 1999:106ff):

\begin{verbatim}
[ frankly Mood\_speech act [ fortunately Mood\_evaluative [ allegedly Mood\_evidential [ probably Mod\_epistemic [ once T\_Past) [ then T\_Future) [ perhaps Mod\_arealis [ necessarily Mod\_necessity [ possibly Mod\_Possibility [ willingly Mod\_vollition [ inevitably Mod\_obligation [ cleverly Mod\_ability\_permission [ usually Asp\_habitual [ again Asp\_repetitive(I) [ often Asp\_frequentative(I) [ quickly Asp\_celerative(I) [ already T\_Anterior) [ no longer Asp\_terminative [ still Asp\_continutive [ always Asp\_perfect [ just Asp\_retrospective [ soon Asp\_proximate [ briefly Asp\_durate [ characteristically Asp\_generic\_progressive [ almost Asp\_prospective [ completely Asp\_Sg\_completive(I) [ tutto Asp\_Pl\_completive [ well Voice [ fast\_early Asp\_celerative(I) [ again Asp\_repetitive(II) [ often Asp\_frequentative(II) [ completely Asp\_completive(II)
\end{verbatim}
The serialisation presented here is not actually the one proposed by Cinque himself, since root-modal projections and subject-oriented adverbs (which are linked to these) are placed in a position immediately lower than 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\textsubscript{habitual} (Cinque 2001:153):

\[
\ldots \text{Asp}_{\text{habitual}} > \text{Asp}_{\text{delayed/finally}} > \text{Asp}_{\text{predispositional}} > \text{Asp}_{\text{repetitive(I)}} > \text{Asp}_{\text{frequentative(I)}} > \\
\text{Mod}_{\text{vollition}} > \text{Asp}_{\text{celerative(I)}} > \text{Asp}_{\text{terminative}} > \text{Asp}_{\text{continutive}} > \text{Asp}_{\text{perfect}} > \text{Asp}_{\text{retrospective}} > \\
\text{Asp}_{\text{proximative}} > \text{Asp}_{\text{durateive}} > \text{Asp}_{\text{progressive}} > \text{Asp}_{\text{prospective}} > \text{Asp}_{\text{inceptive}} > \text{Mod}_{\text{obligation}} > \\
\text{Mod}_{\text{ability}} > \text{Asp}_{\text{frustrative/success}} > \text{Mod}_{\text{permission}} > \text{Asp}_{\text{conative}} > \text{Asp}_{\text{completive(I)}} > \text{Voice} > \\
\text{Asp}_{\text{celerative(II)}} > \text{Asp}_{\text{inceptive(II)}} > \text{Asp}_{\text{completive(II)}} > \text{Asp}_{\text{repetitive(II)}} > \text{Asp}_{\text{frequentative(II)}} \ldots
\]

Nevertheless, I assume that subject-oriented adverbs occupy a higher position, one between alethic and habitual adverbs, since their position is more difficult to determine.\textsuperscript{19} In this article I will not be pursuing this issue, although further

\textsuperscript{19} Cf. Coniglio (2005:15 n. 12). We should probably distinguish more clearly between subject-oriented adverbs from homophonous manner adverbs. For instance, the 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).
investigation is needed. What matters here is that, except for very few cases, this hierarchy seems to hold for German as well.\textsuperscript{20}

5. The reciprocal order of modal particles and adverbs

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

In order to investigate their exact position in the clausal middlefield, 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 some 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.

---

\textsuperscript{20} See Coniglio (2005:148). Just to give a very simple example, consider (i), where an adverb like \textit{damals} ‘then’, related to a temporal projection, is combined with the adverb \textit{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 \textit{damals schnell} eine neue Wohnung gefunden.
   He has \textit{then fast} a new apartment found

b. *Er hat \textit{schnell damals} eine neue Wohnung gefunden.
   He has \textit{fast then} a new apartment found
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.

<table>
<thead>
<tr>
<th>Mood</th>
<th>Psychology</th>
<th>Speaker</th>
<th>Mood</th>
<th>Speaker</th>
<th>Mood</th>
<th>Speaker</th>
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<th>Mood</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>speech act</td>
<td>Der Attentäter ist <em>{ja} ehrlich gesagt</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>evaluative</td>
<td>Der Attentäter ist <em>{ja} glücklicherweise</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>evidential</td>
<td>Der Attentäter ist <em>{ja} offensichtlich (?)</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>epistemic</td>
<td>Der Attentäter ist <em>{ja} vermutlich</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>T(Past)</td>
<td>Der Attentäter ist <em>{ja} damals</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>T(Future)</td>
<td>Der Attentäter wird <em>{ja} jetzt</em> (ja) von der Polizei festgehalten.</td>
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<tr>
<td>irrealis</td>
<td>Der Attentäter ist <em>{ja} vielleicht (?)</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>necessity</td>
<td>Der Attentäter ist <em>{ja} notwendigerweise</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>possibility</td>
<td>Der Attentäter ist <em>{ja} möglicherweise (?)</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>volition</td>
<td>Der Attentäter ist <em>{ja} absichtlich (?)</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>obligation</td>
<td>Der Attentäter ist <em>{ja} unvermeidlicherweise</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>ability/pers</td>
<td>Der Attentäter ist <em>{ja} klugerweise</em> (ja) von der Polizei festgehalten worden.</td>
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<td>habitual</td>
<td>Der Attentäter wird <em>{ja} normalerweise</em> (ja) von der Polizei festgehalten.</td>
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<tr>
<td>repetitive</td>
<td>Der Attentäter ist <em>{ja} nochmals</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>frequentative</td>
<td>Der Attentäter ist <em>{ja} oft</em> (ja) von der Polizei festgehalten worden.</td>
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<tr>
<td>celerative</td>
<td>Der Attentäter ist <em>{ja} schnell</em> (ja) von der Polizei gefesselt worden.</td>
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<tr>
<td>T(Anterior)</td>
<td>Attentäter ist <em>{ja} bereits</em> (ja) von der Polizei festgehalten worden.</td>
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 [...] [...]

Some interesting facts emerge from the observation of these first tests. The particle *ja* seems to be able to indifferently\(^{22}\) precede or follow certain adverb classes, and

\footnote{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.}

\footnote{The pre- or post-adverbal 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.}
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precisely not only all Cinque’s higher adverbs, but also the first class of the lower adverbs, i.e. habitual adverbs. The particle cannot follow (higher) repetitive adverbs\textsuperscript{23} 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 have to determine which 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 be in principle identical to that of the higher functional projections detected by Cinque. But I will come back to this point in section 9.

One could claim that a particle like \textit{ja} in the tests above actually occupies only two positions, a very high one (before adverbs in Mood\textsubscript{speech act}) 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 (\textit{glücklicherweise ‘luckily’, vermutlich ‘probably’ and nochmals ‘again’}) and tested all possible occurrences of the MP \textit{ja}:

(30) Er ist {ja} glücklicherweise {ja} vermutlich {ja} nochmals *{ja} von der Polizei festgehalten worden.
He is {ja} luckily {ja} probably {ja} again *{ja} 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

\textsuperscript{23} It is worth mentioning the fact 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 \textit{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, although I sometimes omit the adjective ‘higher’.
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.

\[
\begin{align*}
\text{Mood}_{\text{speech act}} & \quad \text{Sei} *\{JA\} \text{ ehrlich gesagt} \{JA\} \text{ vorsichtig!} \\
\text{Mood}_{\text{evaluative}} & \quad \text{Sei} *\{JA\} \text{ hoffentlich} \{JA\} \text{ vorsichtig!} \\
\text{Mood}_{\text{evidential}} & \quad \ldots *\{JA\} \text{ offensichtlich} \{JA\} \ldots \\
\text{Mod}_{\text{epistemic}} & \quad \ldots *\{JA\} \text{ vermutlich} \{JA\} \ldots \\
T(\text{Past}) & \quad \ldots \{JA\} \text{ damals} \{JA\} \ldots \\
T(\text{Future}) & \quad \text{Sei} *\{JA\} \text{ jetzt} \{JA\} \text{ vorsichtig!} \\
\text{Mood}_{\text{irrealis}} & \quad \ldots *\{JA\} \text{ vielleicht} \{JA\} \ldots \\
\text{Mod}_{\text{necessity}} & \quad \text{Sei} *\{JA\} \text{ notwendigerweise} \{JA\} \text{ vorsichtig!} \\
\text{Mod}_{\text{possibility}} & \quad \ldots *\{JA\} \text{ möglicherweise} \{JA\} \ldots \\
\text{Mod}_{\text{volition}} & \quad \ldots (?)\{JA\} \text{ absichtlich} \{JA\} \ldots \\
\text{Mod}_{\text{obligation}} & \quad \text{Sei} (?)\{JA\} \text{ unvermeidlicherweise} \{JA\} \text{ vorsichtig!} \\
\text{Mod}_{\text{abil./permis.}} & \quad \text{Sei} *\{JA\} \text{ klugerweise} \{JA\} \text{ vorsichtig!} \\
\text{Asp}_{\text{habitual}} & \quad \ldots *\{JA\} \text{ normalerweise} \{JA\} \ldots! \\
\text{Asp}_{\text{repetitive(I)}} & \quad \text{Sei} \{JA\} \text{ nochmals} \{JA\} \text{ vorsichtig!} \\
\text{Asp}_{\text{frequentative}} & \quad \text{Sei} \{JA\} \text{ oft} *\{JA\} \text{ vorsichtig!} \\
\text{Asp}_{\text{celerative(l)}} & \quad \text{Iss} \{JA\} \text{ schnell} *\{JA\} \text{ die Suppe auf!} \\
T(\text{Anterior}) & \quad \text{Sei} \{JA\} \text{ bereits} *\{JA\} \text{ vorsichtig!} \\
\ldots & \quad \ldots
\end{align*}
\]

Notwithstanding omissions and doubtful cases, the MP in question displays a significantly different behaviour 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’ve 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.

<table>
<thead>
<tr>
<th></th>
<th>Declarative</th>
<th>Imperative</th>
<th>Optative</th>
<th>Yes/no-int.</th>
<th>Declarative</th>
<th>React. decl.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>ja</em></td>
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<tr>
<td><em>JA</em></td>
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</table>

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_{necessity} and in Mod_{possibility}. 
Finally, the particle *wohl* displays an apparently more uniform behaviour, since it can, in any event, occupy the highest positions in the hierarchy of the clausal functional projections. All occurrences higher than \( \text{Asp}_{\text{repetitive}(t)} \) seem to be possible.

### Table

<table>
<thead>
<tr>
<th>SCHON</th>
<th>schon</th>
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<tbody>
<tr>
<td></td>
<td>Declarative</td>
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<tr>
<td>Mood</td>
<td>speech act</td>
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<tr>
<td>Mood</td>
<td>evaluative</td>
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<td>Mood</td>
<td>evidential</td>
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<td>Mood</td>
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<td>T</td>
<td>(Past)</td>
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<td>T</td>
<td>(Future)</td>
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<tr>
<td>Mood</td>
<td>unrealis</td>
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<tr>
<td>Mod</td>
<td>necessity</td>
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<td>Mod</td>
<td>possibility</td>
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<td>Mod</td>
<td>obligation</td>
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<td>Mod</td>
<td>habitual/permit.</td>
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<tr>
<td>Asp</td>
<td>habitual</td>
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<tr>
<td>Asp</td>
<td>repetitive(1)</td>
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<td>Asp</td>
<td>sequential(1)</td>
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<td>Asp</td>
<td>declarative(1)</td>
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<tr>
<td>T</td>
<td>(Anterior)</td>
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### Table

<table>
<thead>
<tr>
<th>WOHL</th>
<th>wohl</th>
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<tbody>
<tr>
<td>Mood</td>
<td>speech act</td>
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<td>Mood</td>
<td>evaluative</td>
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<tr>
<td>Mood</td>
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<td>Mood</td>
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<td>(Anterior)</td>
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[...]
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 a 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

More straightforward is to try to answer as to why there is a clear cut between habitual and higher repetitive adverbs. This fact is not very surprising, since 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\(^*24\)) subject-oriented adverbs, and MPs have obvious closer connections to these projections.

\(^*24\) See section 4.
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 a projection of aspectual type, 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 $\text{As}_{\text{habitual}}$ 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):

   ‘I will get the train probably’
   b. Prerenderò il treno, probabilmente.
   ‘I will get the train, probably’

(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 curiously 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).
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(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?  
   Italian
   b. *Quanto normalmente va in discoteca?
   c. Quanto spesso va in discoteca?

3. 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. See, for instance, the German adverbs normalerweise, gewöhnlicherweise, üblicherweise etc. and the Italian ones normalmente, solitamente and so on.

4. The Italian verb solere ‘(to be) used to’ and similar periphrastic constructions related to the projection Asp\textsubscript{habitual}, such as essere solito, essere uso and aver l’abitudine di seem in a certain sense to be “subject-oriented”, thus showing 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 and 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 and Shlonsky (2004:545) citing Rizzi (1982:112 n. 10):

\[25\]

As for example German möglicherweise ‘possibly’, glücklicherweise ‘luckily’ and 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’.
(38) a. Ritengo \[CP \text{dovere} [IP tuo fratello/lui tornare a casa]]. \text{Italian}
(I) believe (to) have your brother/he (to) come-back to home
b. *Ritengo \[CP \text{cominciare} [IP tuo fratello/lui a dire sciocchezze]].
(I) believe (to) begin your brother/he (to) tell nonsense
c. *Ritengo \[CP \text{raccontare} [IP tuo fratello/lui questa storia]].
(I) believe (to) tell your brother/he this story

Also solere seems to be allowed in such constructions, displaying another connection with modal verbs, rather than with aspectual ones:

(39) Ritengo \[CP \text{soler} [IP tuo fratello/lui dimostrare grande coraggio]] \text{Italian}
(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 lot of reasons to claim that Cinque’s Asp_{habitual-P} is actually a high projection and MPs provide further evidence in favour of this hypothesis as well.

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 \text{ja denn doch} die Höhe! […] \text{(Thurmair, 1989:222)}
That is \text{ja denn doch} the limit

When combined with each other, MPs enter a precise syntactic order, which is not always easy to determine. Helbig and 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) \text{denn, doch, eigentlich, etwa, ja}
2) \text{aber, eben, halt, vielleicht, wohl}
3) \text{DOCH, schon}
4) \text{auch, mal}
5) \text{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, MPs should be analysed having in mind their single variants, because 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. Here I present the sequence of the main MPs, which one can summarily observe:  

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

---

26. This serialisation 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).

27. 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! […]
Needless to say this order is very simplified, since not all MP-variants were taken into account. However, some problematic aspects deserve mentioning:

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 the 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 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 every particle either convey 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 positions, 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)\(^{28}\). All other combinations (44d, e, f), where the particles are in the reversed order \(wohl > ja\), are excluded:

\[
\begin{align*}
(44) & \quad a. \text{Das ist vermutlich } ja \text{ wohl nicht wahr.} \\
& \quad b. \text{Das ist } ja \text{ wohl vermutlich nicht wahr.} \\
& \quad c. \text{Das ist } ja \text{ vermutlich wohl nicht wahr.} \\
& \quad d. \*\text{Das ist vermutlich wohl } ja \text{ nicht wahr.} \\
& \quad e. \*\text{Das ist wohl } ja \text{ vermutlich nicht wahr.} \\
& \quad f. \*\text{Das ist wohl vermutlich } ja \text{ nicht wahr.}
\end{align*}
\]

‘That’s probably not true’

If we assume that there exists a fixed sequence of adverbs and that particles can occur interspersed between them, it is striking for MPs to be hierarchically ordered as well; it’s 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.

\[9. \text{Modal particles and the X-bar model}\]

The present section is dedicated to the analysis of the syntactic behaviour of German MPs, an issue which is often evaded 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, so that 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 shows other considerable drawbacks.

\[^{28}\text{This last option is only available for open MP constellations, as in the present case. In close constellations (such as nicht etwa) nothing can intervene between the MPs.}\]
As in the case of adverbs, 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 \textit{ja} > \textit{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. Furthermore, the free adjunction hypothesis cannot explain cases where other elements besides MPs, such as adverbs, occur. But I will come back to this point below.

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. But, before targeting the problematic position of MPs in the functional structure of IP, I would like to address a preliminary question, namely the 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 for the hypothesis that MPs are head-elements are more convincing and more numerous. Like heads, MPs:

\begin{itemize}
\item \cite{Coniglio2005}{29}
\end{itemize}

\begin{itemize}
\item \cite{Cinque1999}{29}. Cf. Cinque (1999:47ff) in this regard.
\item \cite{Coniglio2005}{30}. 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.
\item \cite{Coniglio2005}{31}. However, it would remain unexplained how these anomalous non-projecting heads would be integrated in the clausal structure. Also the adjunction hypothesis is rather problematic. See (i) below, where \textit{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:
\item (i) Die Polizei hat den Attentäter \textit{ja} in einem Bierhaus gefasst.
\textit{the police has the assassin \textit{ja} in a pub caught}
\end{itemize}

\begin{itemize}
\item \cite{Coniglio2005}{32}. Cf. Coniglio (2005:29ff).
\end{itemize}
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:33

(49)  
a.  Halt *mal* den HAMMER!  
    Hold *mal* the HAMMER

33. 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):

(i) Speaker A: Er ist nicht betrunken.  
    Speaker B: Er ist *JA/SCHON/WOHL* betrunken!  
    ‘He is not drunk. ~ (Quite the reverse,) 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.
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 their alleged status 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 Menschen wohl 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 maintained, 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. 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 middlefield. How can we solve this aporia? We could maintain that both hypotheses are correct. As hinted above and in section 5, in analogy with


36. Cf. Cardinaletti (forthcoming) for a similar conclusion.
Cinque’s analysis of adverbs, MPs could be considered to be specifiers of MP-related functional projections (MoodPs). In this sense, they would be maximal projections, namely modal particle phrases (MPPs), as is illustrated in the following tree-structure:\(^{37}\)

\[
(51) \quad \text{MoodP} \\
\quad / \quad \backslash \\
\quad \text{MPP} \quad \text{Mood’} \\
\quad / \quad \backslash \\
\quad \text{Mood°} \quad […]
\]

Thus, MoodP would be similar to the functional projections which host AdvPs and DPs.\(^{38}\)

The most delicate point is, however, 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:\(^{39}\)

\[
(52) \quad \text{MPP} \\
\quad | \\
\quad | \\
\quad \text{MP°}
\]


\(^{39}\) Cf. Ormelius-Sandblom (1997b:43 n. 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 \textit{sicherlich} ‘certainly’, that cannot be modified as in the case of MPs (i), but that can nevertheless occur in the prefield (ii) and must therefore be maximal projections:

(i) \text{*sehr/*gerade sicherlich} \\
very / right \textit{certainly}

(ii) \textit{Sicherlich} wird sie morgen da sein. \\
\textit{certainly} 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\textsuperscript{40}. Also intriguing is the hypothesis that MPs are generated as maximal projections, but behave as if they were heads, because they are deficient XPs. Consequently, they cannot occupy those positions which are only available for full-fledged XPs.\textsuperscript{41}

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:\textsuperscript{42}

1) Flexible base generation (Flexible Merge): 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:

\begin{equation}
\text{Clitic MPs (“clitic adverbs”) } < \text{ MPs (“weak adverbs”) } < \text{ ‘Proper’ adverbs } < \text{ Adverbials}
\end{equation}

\begin{equation}
\text{Clitic pronouns } < \text{ Weak pronouns } < \text{ Strong pronouns } < \text{ Full DPs}
\end{equation}

See n. 7, where I first mentioned clitic MPs. They can be found in some varieties of German and display a quite different behaviour. Cf. Grosz (2005).

\textsuperscript{40} 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).

\textsuperscript{41} Developing the tripartite classification of pronouns proposed by Cardinaletti and 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.

\textsuperscript{42} Cf. Ormelius-Sandblom (1997b:43ff).
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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.

(54) a. … [MoodP vermutlich Mood° [MoodP ja Mood° [IP …]]]
    b. … [MoodP ja Mood° [MoodP vermutlich Mood° [IP …]]]

2) Movement analysis (Merge & Move): MPs would be merged in a low base position and undergo movement to the specifier of an MP-related functional projection MoodP.43 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’. But the starting position of this movement would be the same in both cases.

(55) a. … [MoodP vermutlich Mood° [MoodP ja Mood° [IP … t; …]]]
    b. … [MoodP ja Mood° [MoodP vermutlich Mood° [IP … t; …]]]

Here I will argue for the second hypothesis. That this is a movement phenomenon can be inferred by a simple example.44 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

43. See section 6.

44. See Cinque (1999:47ff), who adopts this method to challenge the free adjunction hypothesis.
(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, the 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

Whatever intervenes between the MPs, the sequence must be necessarily *ja > wohl*. Notice that the conjecture of a flexible base generation cannot easily explain these facts. 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. 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. For reasons that are still to be explained, under certain circumstances they can

45. See section 8.

46. The drawbacks are identical with those of the free adjunction hypothesis for adverbs (see Cinque (1999):47ff).

47. See Ormeli-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.

48. See section 5 and 6.
rise 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 climb over some adverb classes. 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, but I would postulate the existence of as many projections as 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 have still to explain how this movement over some adverb classes can take place when we are dealing with a particle constellation. Let us consider example (44), repeated here as (59):

(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 admitted for the particle wohl to move past ja.\(^49\)

\(^49\) 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 \(\text{glücklicherweise} \) ‘luckily’ and \(\text{vermutlich} \) ‘probably’. The particles seem to behave the same way. Every other possible order is excluded. Translations are omitted for the sake of clarity:
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. An open constellation, such as *ja wohl* in (59), would be generated in a structure like the following:

(61)  
\[
\begin{array}{cccc}
\text{MoodP} & / & \backslash & \text{MP}_1^\text{P}^* & \text{Mood}^\uparrow \\
/ & \backslash & / & / & / \\
/ & \backslash & / & / & / \\
/ & \backslash & / & / & / \\
/ & \backslash & / & / & / \\
\text{MP}_2^\text{P} & \text{MP}_1^\text{P} & \text{Mood}^\circ \\
| & | & | & | \\
| & | & | & | \\
| & | & | & | \\
\text{MP}_2^\circ & \text{MP}_1^\circ \\
\text{ja} & \text{wohl}
\end{array}
\]

(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.

50. 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 n. 51.

51. Open constellations are those combinations of MPs where one or more constituents, such as AdvPs, DPs and PPs, can occur between them; close constellations are, on the other hand, indivisible sequences of MPs. Cf. Thurmair (1989:290ff).
This is probably the underlying structure in the base generation position (between Asp\textsubscript{habitual} and Asp\textsubscript{repetitive(I)}). It is precisely here that MPs would enter the hierarchical order \textit{ja} > \textit{wohl}. And, from here, the particles can possibly rise 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:

1) both particle stay put,\textsuperscript{52} thus giving the sentence (59a);
2) the whole cluster MP\textsubscript{1}P*, namely \textit{ja wohl}, moves, thus resulting in (59b);
3) only MP\textsubscript{2}P, i.e. the particle \textit{ja} alone, moves, as in (59c).

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

This would answer the question why two particles can be linked also ‘at distance’. In a movement analysis there is a unique sequence admitted, which is exactly 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 \textit{nicht etwa},\textsuperscript{53} 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, 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.

\textsuperscript{52} Notice that they could have undergone some movement operation anyway, although there is no overt element that allows us to perceive it.

\textsuperscript{53} See n. 51.
10. Conclusions

In this article I addressed the issue of the syntactic behaviour of German modal particles. I started 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 $\text{Asp}_{\text{habitual}}$ and $\text{Asp}_{\text{repetitive}}(I)$. Finally I argued for a movement hypothesis and tried to explain all these facts in compliance with X-bar theory.

References


