The Structure of the German Clause
Some Speculations on Verbal Clusters

Holm Braeuer, December 2000, an unfinished working paper

1. Introductory Remarks

As opposed to English, German has significant word order differences between matrix and embedded clauses, which are due to the verb second (V2) effect. It has been argued that the more basic data for German clause structure can be found in embedded clauses and therefore I’ll concentrate on them. Here are some examples of embedded clause-structures:

(1) daß der Mann dem Onkel das Paket nicht geschickt hat
    that the NOM man the DAT uncel the ACC parcel not sent has
    (... that the man didn’t send the parcel to the uncle)

(2) ob der Mann das Kind der Gefahr ausgesetzt haben wird
    if the NOM man the ACC child the DAT danger exposed have will
    (... if the man will have exposed the child to the danger)

(3) weil sie es ihm nicht zusichert
    because she the NOM it the ACC he the DAT not promises
    (... because she doesn’t promise it to him)

Apart from scrambling, the non-marked overall order in German embedded clauses seems to be one of the following:

(I) CP < DP NOM (Subj) < DP DAT (IO) < DP ACC (DO) < nicht < VP

(II) CP < DP NOM (Subj) < DP ACC (DO) < DP DAT (IO) < nicht < VP

While one can find (I) in most constructions with 3 DP Arguments, one always has (II) with Pronouns and sometimes with (exceptional?) verbs like ‘aussetzen’ (expose), which are rather rare.

In matrix sentences, just to mention it here, the structure is similar apart from that the finite verb being in some C projection and the subject in the corresponding SpecCP. (The first position can be occupied by other material for several reasons, but I’m not concerned with that here.) Thus, the above examples of embedded clauses would have the following structure if they were matrix sentences (with the moved elements in italics):

(4) Der Mann hat dem Onkel das Paket nicht geschickt.
    The NOM man has the DAT uncel the ACC parcel not sent.
    (The man didn’t send the parcel to the uncel.)

(5) Der Mann wird das Kind der Gefahr ausgesetzt haben.
    The NOM man will the ACC child the DAT danger exposed have.
    (The man will have exposed the child to the danger.)

(6) Sie sichert es ihm nicht zu
    She NOM promises it ACC him DAT not prt
    (She didn’t promise it to him.)

Thus, in matrix sentences we have the following (unmarked) word order:
Although the depicted orders in (I) to (IV) are not the only ones there are (supposedly due to scrambling), I assume that the patterns of German clauses in (I) to (IV) are the primary one’s.

Three parts of the German clause have been distinguished traditionally. From the beginning of a sentence to the end, we have:

1. the *Vorfeld* (includes: CP, V2 positions, Fokus, wh-words)
2. the *Mittelfeld* (includes: Subject, DO and IO, most adverbs, NegP)
3. the *Nachfeld* (finite or infinite main verbs, modals and auxiliaries)

Although, these distinctions are so to speak pre-Generative Grammar and mainly descriptive, I’ll stick to them in the following, because I want to find a (at least) descriptive adequate Generative Grammar account of German clause structure and the three concepts are in a way descriptively adequate insofar as they are generalisations about what kind of word is allowed in which place in German clauses. I’ll discuss all three fields in reverse order, but my main concern will be the structure of the verbal projections.

2. The German Nachfeld

I. Introductory Remarks

According to Larson (1988, 1990) and subsequently Chomsky (1993, 1995) the VP projection should be considered as a VP-shell of the following form:

\[
\text{vp} \\
\text{DP}_{\text{Subj}} \quad \text{v'} \\
\text{v} \quad \text{VP} \\
\text{Verb}_i \quad \varnothing \quad \text{DP}_{\text{IO}} \quad \text{V'} \\
\text{V} \quad \text{t} \quad \text{DP}_{\text{DO}}
\]

This structure has been formed by head-movement of the main verb (base-generated in upper case V) to an light verb (base-generated in lower-case v) c-commanding it. In the above structure this is done by left adjoining the main verb to the (phonetically empty) light verb. At the first glance, this pattern nicely fits German clause structure insofar as the serialization of the DPs is concerned. If we just assume that there is a head final IP above the VPs and that V moves to light-v and – probably because V has strong features in German – subsequently to the I-head (V-to-I movement) we get the (finite) verb in the very last position. This could give us a typical word order of embedded clauses, as depicted in (I):

\[
[\text{IP} [\text{vp} [\text{Subj} [\text{v'} \text{ t}_i [\text{VP} [\text{v' \text{ t}_i \text{ DO}]]]}] [\text{Verb}_i \text{+I}]]
\]

There are two facts that might speak against this proposal. The first one is that the V-projections in German seem to be head-final which can be seen by considering more complex verbal constructions. An auxiliary verb f.i. always follows its participle which is its complement (but compare this to (11) as an counterexample):
(7) daß Jan Maria das Buch gegeben hat  
that Jan Maria the book given has

The same is true for modals. The infinitival verb precedes the modal:

(8) daß Jan Maria das Buch geben muß  
that Jan Maria the book give must

Moreover, this pattern is consistent in even more complex constructions. In constructions where modals or volitive verbs are higher than the auxiliary which is in turn higher than the main verb, the order of the participating verbal heads is exactly the mirror image of this hierarchy:

(9) daß Jan Maria das Buch gegeben haben muß  
that Jan Maria the book given-Part have-Inf must-3sg

The same can be seen in passive clauses:

(10) daß Maria das Buch gegeben worden sein muß  
that Maria the book given-PastPart been-PassPart have-Inf must-3sg

The second problem is that Infl seems to be head-initial. If we assume that some head moves out from a V-projection to some head of an I-projection it would land to the right of the VPs in an head-final Infl-system. This is what has been assumed so far. But, from the following examples, whatever their internal analysis may be, we can see that this may not be the case:

(11)

a  daß Jan Maria das Buch hat geben wollen  
that Jan Maria the book has-3sg give-Inf would-like-IPP

b  daß Jan Maria hat das Buch geben wollen  
that Jan Maria has-3sg the book give-Inf would-like-IPP

c  daß Jan hat Maria das Buch geben wollen  
that Jan has-3sg Maria the book give-Inf would-like-IPP

Assuming that V ist final and the auxiliary verb has the uppermost position in VP, these examples suggest that it moved to some higher functional head within Infl; and because it appears to the left of the other verbs that it c-commands and not to the right, Infl-projections must be head-initial. The slight ungrammaticality of (11)b could be due to an effect of interference with the usual order in matrix sentences; having both an overt complementizer like ‘daß’ and V2 is generally considered as bad. But interestingly, (11)b isn’t as bad as f.i. (12) is, which might point to the conjecture that the auxiliar in (11)b is actually in Infl and not in C:

(12) *daß Jan hat Maria das Buch gegeben  
that Jan has Maria the book given

We have to bear in mind, that the data in (11) could be analysed as a case of XP-movement instead of head-movement. In this case the entire VP with its auxiliary verbal head would move to a specifier position of Infl. If the maximal projections in Infl are rightbranching – which I take for granted – then XP-movement to some specifier of a functional projection would have the surface effect of movement to the left. At this point, I don’t know how to decide between the two options. We would have to find a phonetically realized head which stays definitely within the Infl-system, but such a thing is difficult to come by, at least in German.
Let’s for a moment just grant that V is head-final and Infl head-initial, then we would have to conclude, that the auxiliary or the modal verb in a basic order like (7)-(9) hasn’t moved to some Infl-head at all. This is quite possible, because – as opposed to English – a modal is a usual V-head in German and thus might be base-generated within the VP-system and not in Infl. A modal behaves like a full verb, has a full inflection and may even have a DP object:

(13) daß Jan Tango kann
    that Jan tango can-3sg
    ‘that Jan can dance the tango’

What about the branching direction of the maximal projection of VP? A left-branching order results in a ‘DO-IO-Verb-Subj’ pattern, whereas the right-branching variant of the maximal projection gives us a base order of ‘Subj-IO-DO-Verb’, which is exactly as the surface order appears to be. Taken together all this, I conclude that the German clause structure might look like this:

(14) daß Jan Maria das Buch gegeben hat
    that Jan Maria the book given-Part has-3sg

```
CP
däß         ...
  VP
    hat-3sg
      VP
        v'
          VP
            v
              v'
                gegeben₁
                  ∅
                    Maria
das Buch
```

Whether or not the subject and/or the IO/DO moved out of VP doesn’t matter here. The surface order would presumably be the same in both cases. The same is true wrt to the question whether the complex verbal head (gegeben+∅) moves subsequently via head-movement to the perfective auxiliary verb ‘hat’ – the resulting surface structure would be the same.

Wrt. main verbs that take finite or infinite clauses we get similar structures. In these cases the direct object just isn’t a DP but a CP and we arrive at an internal structure like that of (14):

(15) daß Jan Maria [CP daß er das Buch verkauft hat] erzählt hat
    that Jan Maria that he the book sold has told has

```
CP
däß [CP daß...
  VP
däß [CP daß...
    hat-3sg
      VP
        v'
          VP
            v
              v'
                gegeben₁
                  ∅
                    Maria
das Buch
```

This structure may even be iterated, as the following examples show:

(16) daß Jan Maria [CP₁ daß Hans Johanna [CP₂ ob er das Buch verkauft hat] gefragt hat] erzählt hat
    that Jan Maria that Hans Johanna whether he the book sold has asked has told has

```
CP₁
däß [CP₁ daß...
  CP₂
däß [CP₂...
    hat-3sg
      VP
        v'
          VP
            v
              v'
                gegeben₁
                  ∅
                    Maria
das Buch
```
erzählt hat
that Jan Maria that Hans Johanna PRO the book to sell persuaded has told has

I would judge these sentences as absolutely grammatical thought I admit that they might be a bit difficult to process.

The obvious problem, we get into at this point, is that the sentences in (15) and (16) both have prefered variants which seem not at all to fit into the proposed analysis:

(17) daß Jan Maria erzählt hat ]CP daß er das Buch verkauft] that Jan Maria told has that he the book sells

daß Jan Maria überredet hat [CP PRO das Buch zu verkaufen] that Jan Maria persuaded has PRO the book to sell

 daß Jan Maria erzählt hat [CP1 daß Hans Johanna gefragt hat [CP2 ob er das Buch verkauft hat]] that Jan Maria told has that Hans Johanna asked has whether he the book sold has

 daß Jan Maria erzählt hat [CP1 daß Hans Johanna überredet hat [CP2 PRO das Buch zu verkaufen]] that Jan Maria told has that Hans Johanna persuaded has PRO the book to sell

With an analysis like (14) there is just no way to derive these sentences. In fact, though it might easily be overlooked, there is more which can appear to the right of the highest verb in the structure. Just think of verbal modifiers like ‘ins Regal’ (on the shelf) or ‘nach Wien’ (to Vienna). This fact also doesn’t fit into the pattern of (14):

(18a) daß Jan das Buch hat runter stellen wollen ins Regal that Jan the book has-3sg down put-Inf would-like-IPP on the shelf

daß Jan dem Onkel das Paket zurückschicken wollte nach Wien that Jan the uncle the parcel back-send-Inf wanted to Vienna

I should point out that the grammaticality of (18a) depends on the complexity of the involved verbs, i.e. whether they come together with a preposition like ‘runter’ (down) or ‘zurück’ (back) or not:

(18b) *daß Jan das Buch hat stellen wollen ins Regal that Jan the book has-3sg put-Inf would-like-IPP on the shelf

*daß Jan dem Onkel das Paket schicken wollte nach Wien that Jan the uncle the parcel send-Inf wanted to Vienna

At this point, I am not quite sure what to do with these results, but there might be two possibilities to pursue: One would be to postulate a further VP-projection on top of the auxiliary or volitive verb in (17) and (18a), into which Spec-positions the clauses or PPs could move to. But, of course, such an construction would give rise to a left-branching (maximal) VP which is at odds with what we have assumed so far. If we stick to a right-branching VP structure than there are only head-positions on the right side of the occurring verbs and no CP or PP could ever appear there. A more radical and maybe more natural alternative might be to favour a VO-approach (and head-initial VPs) instead. For such an approach, nothing mysterious would follow from (17) and (18a); and the data in (11) too may well speak in favour for it.

How would such an account look like? Head-final phenomena in a base generated head-initial structure are taken to be the result of massive XP-movement to the left (higher up in the structure) applied to almost all complements. A natural reason for moving out is case checking – at least as far
as DPs are concerned. Unlike them, complement-clauses (finite or infinite) might well stay, which would explain (17). And there might also be an easy explanation as to why the PPs ends up to the right in examples like (18) – they may check their cases internal against the prepositional head. Seen in this light, a VO framework may after all be in the game. Let’s look again at example (17):

... daß Jan Maria erzählt hat, daß er das Buch verkauft

The crucial points in this sketch are surely that the DPs moved out of VP and that the main verb adjoins to the light verb in small-v and (as a head-complex) subsequently to the auxiliary verb c-commanding it. Under this assumptions the ‘inverted order’ of the German verbal complexes is not mysterious, though this order is not base generated in a VO framework. But, as we saw in Larson’s verb shell analysis, this process is needed anyway in double object constructions and thus, it may well be available for the next step of moving the complex main+light verb complex further on to the auxiliar to built the even more complex head cluster ((erzählt_l+Ø)_k hat). (I assumed that the auxiliary verb is highest and the subject is generated in Spec-vp, but I’m not at all sure about the relative positions of small-v and the auxiliary.)

Unfortunately, it seems that we get into trouble with this proposal too. A minor problem arises with PPs and prepositional particles that can be complements of certain verbs. Consider the following examples with ergative predicates (it has been argued that ergative predicates have an outer vp-shell if they are used transitively):

(19) ... weil die Hausfrau [die Vase] [in Stücke] brach
    because the homemaker the vase into pieces broke

(20) ... weil er [den Laden] [dicht] macht
    because he the store down closes

In the example (19) the PP ‘in Stücke’ (into pieces) surfaces to the left of the verb. This could be explained by saying that as a XP it moved to some functional position which is higher than that of the verbal head. But this explanation doesn’t work with (20), because ‘dicht’ (down) is a P-head and thus cannot move into a Spec-position. We may explain (20) by saying that this preposition has adjoined with the verb. Thus, (19) and (20) may have the following structures:
(21) \[ CP \textit{ weil } [IP (die Hausfrau), (die Vase), (in St"{u}cke)], [VP t_i, [v. \textit{ brach}]+\emptyset [VP t_j [v. t_I [PP t_k]]]] \]

(22) \[ CP \textit{ weil } [IP er, den Laden], [VP t_i, [v. (dicht)+macht)+\emptyset [VP t_j [v. t_I [P t_k]]]] \]

Something similar could be true with resultative predicates that take a adjectival head as complement which appears to the left of the verb:

(23) \[ \textit{ weil die S"{a}ure das Lakmus rot f"{a}rbt } \]
\[ CP \textit{ weil } [IP (die S"{a}ure), (das Lakmus)], [VP t_i, [v. (rot)+f"{a}rbt)+\emptyset [VP t_j [v. t_I [A t_k]]]] \]

because the acid the litmus paper red turns

Although we get asymmetrical results in very similar constructions (i.e. constructions with a full PP-complement and such with just a P-complement), this could look fine. The trouble arises if we want to stick to the following hypothesis about the position of subjects in German: Some authors argued that German can have two different subject-positions in overt syntax, one in an external SpecIP-position (as above) and another in an internal SpecVP-position (Diesing 1992; Kratzer 1988 – mentioned in Diesing 1992). Diesing argues that these two positions can be distinguished by using sentential particles like ‘ja’ and ‘doch’ which supposedly mark the VP-boundary. (She refers to Webelhuth 1989 in this particular case, but gives other evidences too, f. i. her main point is that you get different interpretations for bare plurals depending on the position where they arise; i.e. a generic interpretation in a VP external position and an existential interpretation in a VP internal position):

(24)

\( \begin{align*} a & \textit{ weil Hausfrauen ja doch die Vase in St"{u}cke brachen} \\
& \text{[= „Hausfrauen“ in external position]} \\
& \text{because homemakers prt prt the vase <prt prt> into pieces broke} \\

b & \textit{ weil ja doch Hausfrauen die Vase in St"{u}cke brachen} \\
& \text{[= „Hausfrauen“ in internal position]} \\
& \text{because prt prt homemakers the vase into pieces broke} \end{align*} \)

If the subject ‘Hausfrauen’ in the latter case is in SpecVP, then obviously this would give the wrong word order in a head-initial framework where all complements must move out to some position in IP in order that the verb appears at the rightmost position of the sentence. If the subject is really in Spec-vp (and assuming that the other arguments remain in their base-positions too), then we would get unacceptable results:

(25) \[ \textit{ * weil ja doch } [VP Hausfrauen brachen+\emptyset \textit{ die Vase in St"{u}cke}] \]

Of course, the case would be similar with (22). It should be mentioned that this problem doesn’t arise within a head-final framework, because whether or not the subject or some argument moves out doesn’t affect the relative position of the verb at all.

Another point may be made wrt VP-adverbs (if there are real VP-adverbs in German). In a VP-shell analysis there are two positions where an VP-adverb could adjoin to, the inner VP or the outer vp. Thus, the prediction is that such adverbs can have two positions and this is what we find:

(26)

\( \begin{align*} a & \textit{ weil die Hausfrau sorgf"{a}ltig die Vase in St"{u}cke brach} \\
& \text{because the housemaker carefully the vase into pieces broke} \\

b & \textit{ weil die Hausfrau die Vase sorgf"{a}ltig in St"{u}cke brach} \\
& \text{because the housemaker the vase carefully into pieces broke} \end{align*} \)
Both examples are straightforwardly accounted for in a head-final structure, if we just assume that both complements stay in their base-positions. (I assume this here, although (26)b could be derived in several other ways):

(27)

\[
\begin{align*}
(a) & \quad \text{CP weil [IP (die Hausfrau), [vp ti [v' sorgfältig [v' [vp die Vase [v [ip in Stücke] ti] brach]]]]]}
\end{align*}
\]

\[
\begin{align*}
(b) & \quad \text{CP weil [IP (die Hausfrau), [vp ti [v' sorgfältig [v' [vp die Vase [v' [ip in Stücke] ti] brach]]]]]}
\end{align*}
\]

If we take (21) as a paradigmatic structure in a head-initial framework and assume that the adverb ‘sorgfältig’ (carefully) is either an adjunct of v’ or of V’, than we get again unacceptable results in all possible variants (i.e. with or without moved complements):

(28)

\[
\begin{align*}
(a) & \quad \text{*weil die Hausfrau die Vase in Stücke sorgfältig brach}
\end{align*}
\]

\[
\begin{align*}
& \quad \text{*weil die Hausfrau sorgfältig brach die Vase in Stücke}
\end{align*}
\]

\[
\begin{align*}
& \quad \text{*weil die Hausfrau die Vase sorgfältig brach in Stücke}
\end{align*}
\]

\[
\begin{align*}
(b) & \quad \text{*weil die Hausfrau die Vase in Stücke brach sorgfältig}
\end{align*}
\]

\[
\begin{align*}
& \quad \text{*weil die Hausfrau die Vase brach sorgfältig in Stücke}
\end{align*}
\]

\[
\begin{align*}
& \quad \text{*weil die Hausfrau brach die Vase sorgfältig in Stücke}
\end{align*}
\]

As far as I can see it, the general problem with the VP head-initial framework seems to be that for every step the subject or the complements can move out from their positions, there is always a possible position for the finite verb so that it surfaces just one step below the subject but above all possible complements. The challenge might just be to explain why the verb doesn’t move higher at one step of the derivation and why almost all complements (apart from clausal complements in general and some PPs under very restricted conditions) move further on – and to be sure – to do this in such a way that it is consistent with the great diversity in the German Nachfeld (which exhibits pretty little variability) and the great diversity in the German Nachfeld (which exhibits pretty much variability).

This is the point where I want to make a short excursus into the syntax of the German Mittelfeld.

3. The German Mittelfeld

Let me repeat the primary, unmarked order of the German Mittelfeld, which can be summarized in the following way (PRN stands for pronoun):

\[
\begin{align*}
\ldots \text{< DP_NOM/PRN_NOM < PRN_ACC < PRN_DAT < DP_DAT < DP_ACC < Neg < PP} \ldots
\end{align*}
\]

What is at question here, is of course the order of the complement DPs and thus, most research concerning the Mittelfeld is focused on scrambling, i.e. on the explanation of deviating word orders. There may be some additional questions regarding the differences between full DPs and Pronouns, but in the following remarks I’m not concerned with this topic. I’ll rather stick to the implications which this order together with the two proposals for the picture of the German clause structure.

Let’s begin with a relative coarse look at a common clause structure under the split-IP/VP hypothesis where only morphosyntactic functional projections are under consideration. The bold printed items show the places where a verbal head could in principle be incorporated; all specifier positions are Positions where especially DPs move to – thus SpecAgrSP, SpecAgrIOP and SpecAgrOP are assumed to be the canonical case positions for subject, indirect object and direct object respectively. I only
depict a structure from a VP head-initial framework point of view. There are no differences to an head-final framework as long as only the relevant Spec-Positions are under consideration:

\[
\begin{array}{c}
\text{Spec} \quad \text{AgrSP} \\
\text{Spec} \quad \text{AgrS} \\
\text{Spec} \quad \text{TP} \\
\text{T} \quad \text{v} \\
\text{Spec} \quad \text{AgrIO} \\
\text{Spec} \quad \text{AgrIO'} \\
\text{AgrO} \\
\text{Spec} \quad \text{V'} \\
\text{Comp}
\end{array}
\]

Lets assume we have a sentence with a ditransitive Predicate, where subject and both objects are DPs:

(29) weil der Direktor dem Abteilungsleiter einen Brief geschrieben hat
because the-NOM director the-DAT departmental manager a-ACC letter written has-3sg

The DO ‘a medal’ originates in CompVP, the IO ‘dem Abteilungsleiter’ in SpecVP, the main ditransitive verb ‘given’ in V and the subject ‘der Direktor’ presumably in Spec-vp. In minimalist terms all movement is feature driven and checking is supposed to happen in a spec-head relation. Thus, we go on and say that: a) the DO raises from CompVP to SpecAgrOP and the V-head incorporates into AgrO = checking the accusative case of DO; b) the IO raises from SpecVP to SpecAgrIO and the V-head incorporates into AgrIO = checking the dative case of IO; c) the subject moves to SpecAgrS = checking its nominative case. The auxiliary ‘hat’ must appear above the light verb vp, so that the subject can check its agreement features against it. Thus, it may originate in T or in a additional VP layer on top of vp. In order to produce the ‘inverted order’ of the verbal heads by means of head incorporation, we would have to assume that the main participle ‘geschrieben’ must move at least to the layer where the auxiliary originates (top VP or T, depending on where aux originates itself).

This gives us only something which is close to the typical English word order:

(30) *(weil) der Direktor geschrieben hat dem Abteilungsleiter einen Brief
(31) a weil der Direktor einen Brief an den Abteilungsleiter geschrieben hat
because the-NOM director a-ACC letter written
b weil der Direktor dem Abteilungsleiter einen Brief zu schicken versprochen hat
because the-NOM departmental manager to send promised
If we would hold an account in which CPs and PPs are able to scramble to some higher position, we would have to say that the do it for different reasons. This can be seen by a couple of striking differences between (31a) and (31b) which are immediately not due to the fact that the PP in (31a) is an indirect object and the CP in (31b) a direct object.

In (31a) the PP ‘an den Abteilungsleiter’ can appear to the right or the left of the DO ‘einen Brief’ but the CP ‘einen Brief zu schicken’ of (31b) can only appear adjacent to the verbal position:

(32)
\[
\begin{align*}
\text{a} & \quad \text{weil der Direktor an den Abteilungsleiter einen Brief geschrieben hat} \\
& \quad \text{because the-NOM director to the-ACC departmental manager written has-3sg}
\end{align*}
\]
\[
\begin{align*}
\text{b} & \quad \text{*weil der Direktor einen Brief zu schicken dem Abteilungsleiter versprochen hat} \\
& \quad \text{because the-NOM director PRO a-ACC letter to send the-DAT departmental manager promised has}
\end{align*}
\]

The next difference is that contrary to the data in (32) a CP like ‘einen Brief zu schicken’ is preferred to appear on the right of the verb whereas a PP may only appear in this place under very specific circumstances (which may have to do with the complexity of the main verb):

(33)
\[
\begin{align*}
\text{a} & \quad \text{*weil der Direktor einen Brief geschrieben hat an den Abteilungsleiter} \\
& \quad \text{because the-NOM director a-ACC letter written has-3sg to the-ACC departmental manager}
\end{align*}
\]
\[
\begin{align*}
\text{b} & \quad \text{weil der Direktor den Brief zurückgeschickt hat an den Abteilungsleiter} \\
& \quad \text{because the-NOM director the-ACC letter back-sended has-3sg}
\end{align*}
\]
\[
\begin{align*}
\text{c} & \quad \text{weil der Direktor dem Abteilungsleiter versprochen hat einen Brief zu schicken} \\
& \quad \text{because the-NOM director the-DAT departmental manager promised has}
\end{align*}
\]
\[
\begin{align*}
& \quad \text{a-ACC letter to send}
\end{align*}
\]

The position of the subject as opposed to the positions of IO, DO which can be DPs, PPs or CPs seems to be pretty fixed, at least in embedded clauses. The IO may precede the subject, but not both IO and DO. DO cannot precede the subject if it is unspecific; a specific DO gives an slightly odd, but better reading:

(34)
\[
\begin{align*}
\text{a} & \quad \text{weil der Direktor dem Abteilungsleiter einen Brief geschrieben hat (unmarked order)} \\
& \quad \text{weil der Direktor den Brief dem Abteilungsleiter geschrieben hat}
\end{align*}
\]
\[
\begin{align*}
\text{b} & \quad \text{weil der Direktor dem Abteilungsleiter einen Brief geschrieben hat}
\end{align*}
\]
\[
\begin{align*}
\text{c} & \quad \text{weil der Direktor dem Abteilungsleiter versprochen hat einen Brief zu schicken}
\end{align*}
\]

We get similar results in main clauses with V2 effect, where one can topicalize almost any constituent. The order after the verb in V2 is somewhat consistent with the order in embedded sentences, which points to the conclusion that moving a constituent to the front of a matrix clause is a different process than scrambling of internal DPs/PPs/CPs:

(35)
\[
\begin{align*}
\text{a} & \quad \text{Der Direktor hat dem Abteilungsleiter einen Brief geschrieben} \\
& \quad \text{Der Direktor hat einen Brief dem Abteilungsleiter geschrieben}
\end{align*}
\]
\[
\begin{align*}
\text{b} & \quad \text{Dem Abteilungsleiter hat der Direktor einen Brief geschrieben}
\end{align*}
\]
The most straightforward thesis would be that the subject always stays in Sepc Agr SP in embedded clauses or in matrix clauses (if some other constituent moved to Spec CP in the latter case) and that there is at least one more position between Agr SP and Agr OP, into which an indirect object may scramble – this may have to do with specificity (but I didn’t consider other differences), and one more position above Agr SP where the indirect object can more easily raise than the direct object.

I don’t have an explanation about what is going on between above and below Agr SP. But, it seems that there must be a certain amount of different (non morphosyntactical) projections involved. Since first, we have the different positions of indirect object PPs relativ to the DO. This may be suggested by comparing examples of (35) which have indirect object DPs and the following ones:

(36)

a1 weil der Direktor an den Abteilungsleiter einen Brief geschrieben hat
because the-NOM director to the-ACC departmental manager a-ACC letter written has-3sg

a2 weil der Direktor an den Abteilungsleiter den Brief geschrieben hat
because the-NOM director to the-ACC departmental manager the-ACC letter written has-3sg

b1 weil der Direktor einen Brief an den Abteilungsleiter geschrieben hat
because the-NOM director a-ACC letter to the-ACC departmental manager written has-3sg

b2 weil der Direktor den Brief an den Abteilungsleiter geschrieben hat
because the-NOM director the-ACC letter to the-ACC departmental manager written has-3sg

c1 weil der Direktor einen Brief zurückgeschickt hat an den Abteilungsleiter
because the-NOM director a-ACC letter back-sended has-3sg to the-ACC departmental manager

c2 weil der Direktor den Brief zurückgeschickt hat an den Abteilungsleiter
because the-NOM director the-ACC letter back-sended has-3sg to the-ACC departmental manager

The DP ‘einen Brief’ (a letter) can have a specific or non-specific, i.e. existential reading, and ‘den Brief’ (the letter) only has a specific reading. If we stick to the mapping hypothesis of Diesing (1992) then an indefinite with an existential reading stays in VP whereas a DP with a specific reading appears outside of VP. This would explain why (a1), (b1) and (b2) are good and why (a2) is bad. A further hypothesis presents itself, namely that the examples in (a) represent a base order (or at least a order where the DO stays in its case position Spec Agr OP) whereas the examples in (b) represent a scrambled order (such that there is a ‘specificity’-feature which must be checked by the DPs ‘den Brief’ and ‘einen Brief’ outside VP). The examples in (c) may point to some similar conclusion.

It must be said at this point that this conjecture is somewhat problematic wrt the relative position of the verbal complex ‘geschrieben hat’. If we assume that Agr OP is inside VP, then it would be o.k.
say that ‘einen Brief’ in the above examples may stay within VP and get an existential reading. But then the auxiliar ‘hat’ (has) would appear above AgrOP which is at odds with the examples in (36). On the other hand, if we assume that AgrOP is outside VP and that for that reason the DO appears to the left of the verbs, then we cannot easily rely on the mapping hypothesis. I have found different opinions about the relative position of object agreement positions in the literature, but unfortunately there was no discussion about this issue. As far as I can judge, we could say that AgrOP is outside VP and by this rescue the apparent word order, and we may even stick to the mapping hypothesis insofar as we say that it is not a difference between inside VP and outside VP which gives us the required readings, but between a DP in its case position and a DP in some other functional position higher up, where features like specificity or others are checked. I mean that such an account should be prefered anyway and I will go one tacitly assuming that such an account is on the right track in general.

When an object DP must move to SpecAgrOP and may move further on if it has some specificity feature to be checked, then we should get a different picture with direct objects which are not DPs but CPs, because these neither have to check case not specificity. CP objects can either appear to right or immediately to the left of the verbal complex, but never higher up:

(37)

<table>
<thead>
<tr>
<th></th>
<th>weil der Direktor dem Anteilungsleiter versprochen hat, den Brief zu schreiben</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>because the-NOM director the-DAT departmental manager promised has PRO the-ACC letter to write</td>
</tr>
<tr>
<td>b</td>
<td>weil der Direktor dem Abteilungsleiter, den Brief zu schreiben, versprochen hat</td>
</tr>
<tr>
<td></td>
<td>because the-NOM director the-DAT departmental manager PRO the-ACC letter to write promised has</td>
</tr>
<tr>
<td>c</td>
<td>*weil der Direktor, den Brief zu schreiben, dem Abteilungsleiter versprochen hat</td>
</tr>
<tr>
<td></td>
<td>because the-NOM director PRO the-ACC letter to write the-DAT departmental manager promised has</td>
</tr>
</tbody>
</table>

Under the above assumptions, (37a) would have to be a base order. (37c) is bad, because a CP has no specificity feature to check. What remains dubious is (37b), which is at least as good as (37a), but seems to involve movement in a head-initial framework of VP. What could explain movement of CP objects to a position above the verbal complex but below the corresponding IO? I must concede that I have no good answer but only a guess to this question. That a CP can move to a position which appears left to the verbal complex seems to have to do with the ‘presence’ of an overt (in finite clauses) or covert (in invinitival clauses) complementizer, though I don’t know what conclusion one should draw from it. The fact just is, that a structure like (37b) is not possible with a complementizer free finite clause which has a matrix word order (and where the verb is usually in the subjunctive mood):

(38)

<table>
<thead>
<tr>
<th></th>
<th>weil der Direktor dem Abteilungsleiter gesagt hat, er schreibe einen Brief</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>because the director the departmental manager told has, he (would) write a letter</td>
</tr>
<tr>
<td>b</td>
<td>*weil der Direktor dem Abteilungsleiter, er schreibe einen Brief, gesagt hat</td>
</tr>
<tr>
<td></td>
<td>because the director the departmental manager he (would) write a letter told has</td>
</tr>
</tbody>
</table>

Before going on to more complex data, I want to summarize what we have found so far:

1. The subject appears in a relatively fixed position in overt syntax, presumably in SpecAgrSP (disregarding Diesing’s subject internal hypothesis), and it doesn’t participate in scrambling.
2. A direct object DP must move to SpecAgrOP and may move further on, if it has to check some other features (such as specificity). An direct object above the subject position gives almost always bad results.
3. A CP in direct object position remains in its base generated position (because there are no relevant features to check) but may move out to some position which is immediately to the left of the verbal complex, if some preconditions are fulfilled. (An overt or covert complementizer seems to be required.)

4. An indirect object DP behaves like a DO DP: it must move to SpecAgrIOP and may move further on, if it has to check some other features.

5. Indirect PPs are the most difficult cases: They may appear either above or below of unspecific direct object DPs, but not hardly above specific ones; and, depending on the complexity of the involved verbs, may even appear below the position where the verb appears, which is presumably their base position.

I want to conclude this section by one further argument for the claim that IO and DO both usually move out from their base position. This argument relies on examples with IPP-aux shift, and where we have a floating quantifier like ‘allen’ (all) that can be analysed as a stranded item which shows some position where the corresponding DP moved through:

(39)

a weil der Direktor allen seinen Angestellten einen Brief hat schicken müssen because the director all his office-workers a letter has-3sg send-Inf must-Inf

b weil der Direktor (___ seinen Angestellten) allen t einen Brief hat schicken müssen because the director ___ his office-workers all a letter has-3sg send-Inf must-Inf

c *weil der Direktor (___ seinen Angestellten) einen Brief allen t hat schicken müssen because the director ___ his office-workers a letter all has-3sg send-Inf must-Inf

d *weil der Direktor (___ seinen Angestellten) einen Brief hat allen t schicken müssen because the director ___ his office-workers a letter all send-Inf must-Inf

e weil der Direktor (___ seinen Angestellten) hat allen t einen Brief schicken müssen because the director his office-workers has-3sg all a letter send-Inf must-Inf

f *weil der Direktor (___ seinen Angestellten) hat einen Brief allen t schicken müssen because the director ___ his office-workers has-3sg a letter all send-Inf must-Inf

These examples could have a straightforward analysis if we assume that the IO moved in (39.b-f) to SpecTP, so that it has a trace in SpecAgrOP (as shown in b), but no trace below DO but above the auxiliar (as shown in c). The example in e could mean that IO has a trace in SpecAgrOP but the auxiliar ‘hat’ moved to the T-head. In d and f the DO ‘einen Brief’ appears above the stranded quantifier ‘all’ and thus above a trace of IO, which is not a possible structure and thus bad.

(40)

a weil der Direktor den Brief (___ seinen Angestellten) hat allen t schicken müssen because the director his office-workers has-3sg all a letter send-Inf must-Inf

b weil der Direktor (___ seinen Angestellten) den Brief hat allen t schicken müssen because the director his office-workers has-3sg all a letter send-Inf must-Inf

I would like to conclude this section by saying that there is a real tie between the two possibilities of a head-final or head-initial VP framework. Many constructions can be explained in either framework, but some are difficult in one or the other. A head-initial framework has specific difficulties with everything which appears to the right of the finite verb, i.e. with the following examples:

daß Jan Maria erzählt hat, daß er das Buch verkauft
that Jan Maria told has that he the book sells
daß Jan Maria überredet hat, das Buch zu verkaufen
that Jan Maria persuaded has PRO the book to sell

daß Jan das Buch hat runter stellen wollen ins Regal
that Jan the book has-3sg down put-Inf would-like-IPP on the shelf

In addition, the examples with IPP-aux shift are problematic:

daß Jan Maria das Buch hat geben wollen
that Jan Maria the book has-3sg give-Inf would-like-IPP

A head-initial framework, on the other hand, may have the reverse problem in showing how preposed CPs can be managed and why PPs should move:

daß Jan Maria, daß er das Buch verkauft hat, erzählt hat
that Jan Maria that he the book sold has told has

daß Jan Maria, das Buch zu verkaufen, überredet hat
that Jan Maria PRO the book to sell persuaded has

It lies in the very nature of this latter proposal that it must make sure that everything has moved out of VP in order to have the finite verb at the end of the sentence, where it in most cases appears. This movement assumption might be obvious with DPs which want to have their case checked. Less obvious are PPs because these have their case checked in an internal position. Moreover, the only way to get complements, which are heads like bare prepositions or adjectives, in a preverbal position is by head adjunction to the verb, but this produces asymmetrical explanations for otherwise very similar structures:

... weil die Hausfrau die Vase in Stücke brach
because the homemaker the vase into pieces broke

... weil er den Laden dicht macht
because he the store down closes

And, if we want to distinguish between two different positions of subjects in overt German syntax, then we have trouble to explain how it can be that a subject stays in VP. And, if we believe that there are VP-adverbs which can adjoin to different positions in a VP-shell structure, then this is also not easily to be derived in a head-initial framework:

weil Hausfrauen ja doch die Vase in Stücke brachen
because homemakers prt prt the vase into pieces broke

weil ja doch Hausfrauen die Vase in Stücke brachen
because prt prt homemakers the vase into pieces broke

weil die Hausfrau sorgfältig die Vase in Stücke brach
because the housemaker carefully the vase into pieces broke

weil die Hausfrau die Vase sorgfältig in Stücke brach
because the housemaker the vase carefully into pieces broke

In the next section I’ll take again a closer look at the data of the German Nachfeld.
3. Verb clusters/clause union in German

1) Verbs that form clusters

i) auxiliars, modals, permissives, aspectuals

Most verbal complexes in German bear two features: they appear in an ‘inverted order’ and are almost impermeably by other material. The easiest examples of verbal cluster formers in German are auxiliary, modal, volitive, permissive and aspectual verbs like ‘kommen’ (come) and ‘gehen’ (go). The perfective auxiliaries take a participle and the others an infinitival complement:

(41) daß Jan *gelaufen* ist
    that Jan walked has
    daß Jan *Maria* das Buch *gegeben* hat
    that Jan Maria the book given has
    daß Jan *laufen* kann
    that Jan walk can
    daß Jan *gehen* darf
    that Jan walk may
    daß Jan *spielen* geht
    that Jan play goes

ii) control constructions

Much more interesting as the foregoing examples are control verbs. These verbs seem to have two different readings available: At the one hand they behave like usual cluster formers. Such constructions show an ‘inverted order’ – the full complement clause appears to the left of the control verb itself; such readings are impermeable insofar as intervening material gives a bad reading. (Although, it must be said that a ‘nicht’ between them is not ‘absolutely’ ungrammatical.) At the other hand control constructions may appear with the infinitival clause to the right of the control verb. In this case, the objects may or may not raise out of the clause, i.e. may or may not intervene between the control verb and the infinitival verb of the complement. Such constructions are ‘full’ permeable as opposed to seemingly cluster forming control constructions which are not full permeable in that they give raise to bad readings.

The difference between the two available readings is clearly there and in the following I’ll speak – lacking better technical notions – of ‘partial cluster forming control constructions’ (in the first reading) as opposed to ‘true control constructions’ (in the second reading) in order to mark the difference. The term ‘partial’ is intended to indicate that the cluster is not ‘absolutely’ impermeable. Intervening material like ‘nicht’ results in a slightly worse but not in a completely bad sentence.

(42) Partial cluster forming control constructions (the expressions which belong to the complement clause are underlined):

    daß Jan Maria <nicht> das Buch <nicht> zu *verkaufen* <nicht> verbieten(/vorgeben) wird.
    that Jan Maria <not> the book <not> to sell <nicht> forbid(/pretend) will.

    daß es <gerade> <gerade> zu *regnen* <not> begann(/anfing)
    that it <just> to rain <not> began

    daß Jan <nicht> das Radio <nicht> auseinanderzunehmen <nicht> probiert.
that Jan the radio <not> to-take-apart <"?” not> tries.

daß Jan <nicht> das Radio <nicht> auseinanderzunehmen <"?” nicht> lernen(/verlernen) kann.
that Jan the radio <not> to-take-apart <” not> learn(/forget) can-3sg.

daß Jan Maria <nicht> <nicht> zu kommen <"?” nicht> überreden wird.
that Jan Maria <not> to come <” not> persuade will-3sg.

(43) True control constructions

daß Jan Maria <nicht> <nicht> das Buch <nicht> verbieten(/vorgeben) wird <nicht> zu verkaufen.
that Jan Maria <not> the book <not> forbid(/pretend) will <not> to sell.

daß Jan Maria <nicht> verbieten(/vorgeben) wird, <nicht> das Buch <nicht> zu verkaufen.
that Jan Maria <not> forbid(/pretend) will <not> the book <not> to sell

daß es <gerade> begann(/anfing), <gerade> zu regnen.
that it <just> began <just> to rain

daß Jan <nicht> probiert, das Radio <nicht> auseinanderzunehmen.
that Jan <not> tries the radio <not> to-take-apart

daß Jan <nicht> das Radio <nicht> probiert <nicht> auseinanderzunehmen.
that Jan not> the radio <not> tries <not> to-take-apart

(44) Infinitivus Pro Participio (IPP) - auxiliary switch and double infinitives

iii) Infinitivus Pro Participio (IPP) - auxiliary switch and double infinitives

If a verbal complex is build up from an auxiliary verb in connection with an modal/volitive/permissive verb, then the modal shows up as an infinitival participle instead of a ‘real’ participle. Such constructions show the interesting effect that the order between both switches.

(44) daß Jan das Buch hat lesen können/wollen/dürfen
that Jan the book has read-Inf can/want/may-IPP

At the first glance, this seems not to be possible if there is a ‘real’ participle present:

(45) *daß Jan das Buch hat gelesen
that Jan the book has-3sg read-Part

* daß Jan war spielen gegangen
that Jan was-3sg play-Inf gone-Part

But considering more complex examples it becomes clear that this is not quite true:

(46) daß Jan das Buch lesen gedurft hat
that Jan the book read-Inf may-Part has-3sg

daß Jan das Buch hat lesen gedurft
that Jan the book has-3sg read-Inf may-Part

(47) daß Jan das Buch lesen können gedurft hat
that Jan the book read-Inf can-Inf may-Part has-3sg

daß Jan das Buch hat lesen können gedurft
that Jan the book has-3sg read-Inf can-Inf may-Part

I am not quite sure, but it seems that either a participle of a permissive like ‘dürfen’ varies in some respect from the more garden variety of participles; or we might conjecture that the participle (real or infinitival) wants to be “clustered in”. In (45) there is only the auxiliar verb itself available for this “need” whereas in (46) and (47) there is more stuff around.

This pattern of switching, however, seems not only possible with auxiliary+IPP constructions but with double infinitives as well. It might be remarkable that similar to the example in (45) switching isn’t possible when there is only one infinitive around. (48) and (49) show the parallels:

(48) daß Jan das Buch darf lesen können
that Jan the book may-3sg read can-Inf

(49) *daß Jan das Buch kann lesen
that Jan the book can-3sg read-Inf

The most astonishing fact may be that there are different levels of acceptance of so switched verbal complexes wrt. to whether the verbs occur with or without particles or proverbs. The data are such that there is in most cases a slightly better result with complex verbs that stay together with a particle/proverb. This is shown in (50) to (56) wrt. to auxiliaries and modals:

(50) geben (give)

*daß Jan Maria das Buch hat gegeben
that Jan Maria the book has-3sg given-Part

*daß Jan Maria das Buch möchte geben
that Jan Maria the book wants-3sg give-Inf

(51) zurückgeben (give back)

*daß Jan Maria das Buch hat zurückgegeben
that Jan Maria the book has-3sg back-given-Part

*daß Jan Maria das Buch möchte zurückgeben
that Jan Maria the book wants-3sg hand-over-Inf

(52) übergeben (hand over)

*daß Jan Maria das Buch hat übergeben
that Jan Maria the book has-3sg handed-over-Part

*daß Jan Maria das Buch möchte übergeben
that Jan Maria the book wants-3sg hand-over-Inf

(53) bringen (bring)

*daß Jan das Buch hat gebracht
that Jan the book has-3sg brought-Part

*daß Jan das Buch kann bringen
that Jan the book can-3sg bring-Inf

(54) unterbringen (accommodate)
(55) nehmen (take)

* daß Jan das Radio hat genommen
  that Jan the radio has-3sg taken-Part

* daß Jan das Radio darf nehmen
  that Jan the radio wants-3sg take-Inf

(56) auseinandernehmen (take apart)

* daß Jan das Radio hat auseinandergenommen
  that Jan the radio has-3sg apart-taken-Part

* daß Jan das Radio darf auseinandernehmen
  that Jan the radio wants-3sg apart-take-Inf

The examples with the more complex main verbs exhibit generally more acceptable results than those without. There seem to be different levels of acceptability depending on which proverb has been chosen and whether it goes together with a modal/permissive verb + infinitive or with an auxiliary verb + participle, but this might differ from speaker to speaker or depend on the dialect spoken.

We’ve already seen that control constructions are different. It must be taken into account that these constructions have two different readings. Nevertheless, we may ask whether switching in these contexts exhibits similar patterns. In the examples below I start with partial clustering readings in (57) and (58) and then give true control readings in (59) and (60). I chose double object control predicates in the last case in order to avoid interference with V2-complementizer effects.

(57) probieren (try)

* daß Jan Maria das Buch zurückzugeben hat probiert
  that Jan Maria the book back-to-give has-3sg tried-Part

* daß Jan Maria das Buch zurückzugeben sollte probieren
  that Jan Maria the book back-to-give should-3sg try-Inf

(58) ausprobieren (try out)

* daß Jan Maria das Buch zurückzugeben hat ausprobiert
  that Jan Maria the book back-to-give has-3sg tried-Part

* daß Jan Maria das Buch zurückzugeben sollte ausprobieren
  that Jan Maria the book back-to-give should-3sg try-Inf

(59) überreden (persuade)

* daß Jan Maria hat überredet das Buch zurückzugeben
  that Jan Maria has-3sg persuaded-Part the book back-to-give
daß Jan Maria sollen überreden das Buch zurückzugeben
that Jan Maria should-3sg persuade-Inf the book back-to-give

(60) schwören (swear) [ändern, da Subjekt-Kontrollverb im Unterschied zu 46!]

daß Jan Maria hat geschworen das Buch zurückzugeben
that Jan Maria has-3sg sweared-Part the book back-to-give

daß Jan Maria sollen schwören das Buch zurückzugeben
that Jan Maria should-3sg swear-Inf the book back-to-give

3) More on features of verbal clusters

i) impermeability

As seen in §§ 2.II.1-2, auxiliar and modal/volitive/permissive/aspectual verbs are always impermeable. Control verbs on the other hand have two variants: the partial cluster reading is almost impermeable and the true control construction is generally permeable. The reason for this might be that the connection between the control verb and its complement isn’t a case of clustering at all. The complement clause of which the complement verb is part seems to provide suitable positions for the objects of the verbal head.

(61) daß Jan versuchen wird [PRO (der Maria) (das Buch) zu geben]
that Jan try will Maria the book to give

(62) daß Jan (der Maria), versuchen wird [PRO ti (das Buch) zu geben]
that Jan Maria try will the book to give

(63) daß Jan (der Maria), (das Buch), versuchen wird [PRO ti, tj zu geben]
that Jan Maria the book try will to give

ii) infinitivus pro participio (IPP) - auxiliary switch

Clustering constructions that are build up from an auxiliary verb in connection with an modal/volitive/permissive verb show the interesting effect that the order between both may be switched. This possibility, however, doesn’t depend on the auxiliary being the finite verb. The same is true for other finites:

(64) modal/volitive/permissive IPPs + auxiliar

daß Jan das Buch lesen können/wollen/dürfen hat
that Jan the book read can-Inf/want-Inf/may-Inf has

daß Jan das Buch hat lesen können/wollen/dürfen
that Jan the book has read can-Inf/want-Inf/may-Inf

(65) modal/volitive IPPs + permissives

daß Jan das Buch lesen können/wollen darf
that Jan the book read can-Inf/want-Inf may-3sg

daß Jan das Buch darf lesen können/wollen
that Jan the book may-3sg read can-Inf/want-Inf
Switching of positions, however, is not possible with aspectual verbs and control constructions:

(66) *aspectual verbs*

daß Jan spielen gegangen ist.
that Jan play gone is
* daß Jan ist spielen gegangen.
* that Jan is play gone

(67) *control verbs*

daß Jan Maria das Radio zu geben versucht hat
that Jan Maria the radio to give tries has
* daß Jan Maria das Radio hat zu geben versucht
* that Jan Maria the radio has to give tries

(iii) *particle/proverb climbing/stranding*

Particles like ‘ab’ in ‘ab-holen’ (pick up) may climb (or strand) independently of their verbal heads in languages like Dutch or Hungarian. In German this seems to be the case only in matrix clauses where the paticle appears as stranded at the end of the clause:

(68) Jan holt das Buch ab
Jan picks the book up

Climbing of the particle over the verb itself is possible but only if we topicalize it into the matrix-SpecCP, which is generally open for a wide variety of constituents:

(69) Ab holt Jan das Buch
Up picks Jan the book

Whatever the analysis of these and similar sentences might be, it seems that the particle and the corresponding verb don’t built a syntactic unit. Thus, we might conjecture that in embedded clauses the Particle could somehow strand/raise though this may not be overtly visible as it is in matrix clauses.

If we say that something stands or climbs/raises we speak about movements and thus, we have to relativize this conjecture to the possible explanations of the building of verbal clusters. Here, we may either assume that a head-final OV-structure or a head initial VO-structure is base generated. A head final OV-structure could get its characteristic clustering features by rightward-raising and left-adjoining of the verbal heads. In this case the assumption that the Particle is left stranded in the lowermost V-node (=a), the assumption that it raises together with the verbal head (=b) and the assumption that it raises separately (=c) cannot be distinguished in their surface order:

(70) “that Jan the book up-pick wants”

\[
\begin{align*}
  a & \quad \text{daß Jan das Buch ab t} _1 [v_1 [v_2 holens], [v_1 \text{ will}]] \\
  b & \quad \text{daß Jan das Buch t} _1 [v_1 [v_2 ab-holens], [v_1 \text{ will}]] \\
  c & \quad \text{daß Jan das Buch t} _j t _j [v_1 abj [v_2 holens], [v_1 \text{ will}]]
\end{align*}
\]

The picture is different if we assume that a head-initial VO structure is base generated and propose that the cluster is established by leftward-raising and left-adjoining of the verbal heads. Here only the inseperatly and seperatly climbing thesis have the same surface effects as opposed to stranding (=a) which gives an unacceptable result:
(71) “that Jan the book up-pick wants”

a  daß Jan das Buch \([v_1[v_2 	ext{ holens}],[v_1 \text{ will}]\) ab \(_t_t\)

b  daß Jan das Buch \([v_1[v_2 	ext{ ab-holens}],[v_1 \text{ will}]\) \(_t_t\)

c  daß Jan das Buch \([v_1 \text{ ab}],[v_2 \text{ holens}],[v_1 \text{ will}]\) \(_t_t\)

iv) gapping

(72) auxiliaries

*... daß Jan ein Auto gekauft hat und Maria ein Rad verkauft e
that Jan a car buy-Part can-3sg and Maria a bike sell-Part can-3sg

(73) modals

*... daß Jan ein Auto kaufen kann und Maria ein Rad verkaufen e
that Jan a car buy-Inf can-3sg and Maria a bike sell-Inf can-3sg

(74) modal-IPP+auxiliary switch

... daß Jan ein Auto hat kaufen wollen and Maria ein Rad e verkaufen können
that Jan a car has buy-Inf want-IPP and Maria a bike has buy-Inf want-IPP

4. Topicalizing tests

… to be discussed

5. How to explain verbal clusters?

i) Summing Up

Most verbal clusters in German exhibit two earmarks: they are impermeable and appear in an ‘inverted order’. Counterexamples arise with control verbs, but this might be due to the fact that these have ‘true control’ readings where no clustering appears in those respects which have to take into consideration here. When a control verb is enclosed in an (almost impermeable) verbal cluster then it has its full complement (which is of course more deeply embedded) to its left:

(75) daß Jan der Maria das Buch zu geben versuchen wird
that Jan Maria the Buch to give try will-3sg

In the other reading only the the matrix clause is involved in clustering but not the complement. The assumption that the complement verb is still in the complement clause would explain the different word order and the permeability effects:

(76) daß Jan der Maria das Buch versuchen wird zu geben
that Jan Maria the book try will-3sg to give

(77) daß Jan der Maria versuchen wird das Buch zu geben
that Jan Maria try will-3sg the book to give

(78) daß Jan versuchen wird der Maria das Buch zu geben
that Jan try will-3sg Maria the book to give

The next thing to consider is that modal-IPPs and double infinitives switch their position with the auxiliar. This is opposed to ‘real’ participle constructions:
Indirect evidence from matrix clauses with V2 effects seems to show that the verb and its particle
don't constitute a single syntactic unit. This seems to support the thesis that there could be (invisible)
Particle climbing/stranding in embedded clauses as well, which would be particularly plausible if we
assume that a matrix clause with V2 effect is so to speak built up out of an embedded one by
movement of the highest verbal head.

gapping, particles

ii) OV vs. VO approaches

Although, German verbal clusters seem only to exhibit the ‘inverted order’ (if we embrace IPP-aux
switch and only partially clustered control verbs), this could be explained in an OV framework as well
as in an VO framework. In an OV framework which assumes a head final verbal system, we get the
‘inverted’ order for free (it would be base-generated). The clustering effects could be explained by
some form of rightward movement of the lower verb(s), forming a verbal cluster via left-adjunction to
the verbal heads. For VO–based approaches the opposite is true: the ‘English order’ would be basic
while the ‘inverted order’ must be derived via some syntactic operation, presumably by moving and
leftward adjoinment of the lower verbs to the higher verbal heads.
I am going on to consider both frameworks by starting with the ‘easy’ cases of clusters built from
auxiliary, modal, volitive and permissive verbs. I take this to be the basic case. Then, I’ll consider the
potentials of explaining the behavior of control verbs and IPP/double infinitive-auxiliar switch as well.

**OV-approaches**

i) The Head Movement Analysis

Although in an OV-approach we might get the ‘inverted order’ of the clustering complex for free, a
reasonable analysis should explain the effect of clause union in building verbal clusters. This could be
done by considering Verb Raising by adjoining the lower heads to the higher ones, which has exactly
this effect:

(83) daß Jan [gehen dürfen hat]
    daß Jan [tₙ ... t₁ [v₁ [[v₃ gehen], [v₂ dürfen]], [v₁ hat]]]
    that Jan go-Inf may-IPP has-3sg

The IPP-auxiliar switch could be explained by assuming that V₃ first left-adojins to V₂ and the
resulting complex V₃-V₂ right adjoins to V₁:

(84) daß Jan [wird gehen dürfen]
    daß Jan [tₙ ... t₁ [v₁ [v₁ wird] [[v₃ gehen], [v₂ dürfen]]]]
    that Jan will-3sg go may-Inf
The proposal in (40) and (41) might not be quite true for several reasons. Firstly, I think that such an account of ‘mixed’ adjoinments is in itself not very plausible. Secondly, it is well conceivable that the auxiliary verb doesn’t participate in the complex. Evidence comes from matrix as well as from embedded clauses:

(85) daß Jan hat (ins Kino) gehen dürfen
    that Jan has-3sg (to the cinema) go-Inf may-IPP

(86) Jan hat (ins Kino) gehen dürfen
    Jan has-3sg (to the cinema) go-Inf may-IPP

These counterevidences may be overcome by considering that the auxiliary verb could leave the verbal projections entirely by left-raising to some higher I-head instead:

(87) daß Jan hat (ins Kino) gehen dürfen
    daß Jan [I [hat] [ti [V2 [v3 gehen], [v2 dürfen]] [v1 t]]]
    that Jan has-3sg go-Inf may-IPP

(88) Jan hat (ins Kino) gehen dürfen
    Jan [C’ [hat] [Vp [ti [V2 [v3 gehen], [v2 dürfen]] [v1 t]]]]
    that Jan will-3sg go may-Inf

This analysis implies that the the complex ‘hat gehen dürfen’ is only partially clustering. Confirmation for this claim comes from the following examples:

(89) daß er noch muß nach Bonn zurückfahren können
    that he still must-3sg to Bonn back-drive-Inf can-Inf

(90) daß er gerne möchte wieder Museen besuchen können
    that he gladly would-like-3sg again museums visit-Inf can-Inf

(91) daß er nur einige Probleme hat schnell lösen können wollen
    that he only some problems has-3sg quickly solve-Inf can-Inf want-IPP

In this respect the constructions with IPP/DI-auxiliar switch differ from these without:

(92) daß er noch nach Bonn zurückfahren können <*nach Bonn> muß
    that he still to Bonn back-drive-Inf can-Inf <*to Bonn> must-3sg

(93) daß er gerne wieder Museen besuchen können <*wieder Museen> möchte
    that he gladly again museums visit-Inf can-Inf <*again museums> would-like-3sg

(94) daß er nur einige Probleme schnell lösen können wollen <*schnell> hat
    that he only some problems quickly solve-Inf can-Inf want-IPP <*quickly> has-3sg

This could be easily explained by that within VP only the verbal heads can appear at the right side; there is just no other available place where something could appear. When we explain the phenomenon of the IPP/DI-Aux switch by saying that the uppermost verb moves on to some functional head in Infl, then there might be plenty of place for some intervening stuff. Taken all this together, it might be a good bet to say that only INF+IPP resp. INF+INF participating in building complex verbal heads. On the other hand, neither auxiliaries, nor ‘real’ participles nor even particles are involved. Evidence might come if we consider the possibilities of fronting verbs to a CP-position in matrix sentences, because we know that there is only one position available and thus only one constituent can move to it. In (95) I give examples from the variety of the so far discussed data:
(95) daß Jan Maria (PRO) Hans das Buch zu geben nicht überreden wird.
that Jan Maria (PRO\textsubscript{Maria}) Hans the book to give not persuade will.

In this case, head-movement is not an available option, because the clause just isn’t a head that could adjoin to some other verbal head c-commanding it. The same is true for sentences which involve finite clauses, but here an intervening ‘nicht’ gives a fully grammatical sentence:

(96) daß Jan Maria, daß Hans ihm das Buch gibt, nicht erzählen wird.
that Jan Maria that Hans him the book gives not tell will.

Because of the latter and because (95) is hard but not absolutely ungrammatical, one way out would be just to assume that the complement clauses don’t move at all which is, after all, plausible not only wrt. to the partial permeability of these examples.

What about (97)?

(97) daß Jan Maria (PRO) Hans das Buch überreden wird zu geben
that Jan Maria (PRO\textsubscript{Maria}) Hans the book persuade will to give

This example is absolutely strange within the framework just considered. The verb ‘zu geben’ would have to move out of the embedded clause to which it belongs, in order to right-adjoin to ‘überreden wird’. I take this to be un conceivable. (The rightward movement of the remnant CP to some Spec-Position within VP is not an available move in a right-branching max-projection account of VP.) Similar but less complex examples of this pattern were given in the introductory remarks of this paragraph. I repeat one here for convenience together with a parallel case wrt. (96, 97):

(98) daß Jan versucht hat PRO Maria das Buch zu verkaufen
that Jan tried has PRO Maria the book to sell

(99) daß Jan Maria überreden wird, (PRO) Hans das Buch zu geben
that Jan Maria persuade will (PRO) Hans the book to give

This problem might be a general knock-down for OV frameworks. One solution might lie in a second possible account within the OV tradition.

\textit{ii) The VP Movement Analysis} (the third construction?)

Because of the general availability of a movement operation which empties the verb phrase of everything except the verbal head (by scrambling, in particular) a ‘remnant XP–movement’ approach (modeled along the lines of VP–topicalisation) of Verb Raising is also a possible candidate of explaining cluster verbs. For this account what raises — though it looks like a simple verb — is actually a full verbal projection.

This account seems to be reasonable in particular wrt. control constructions. To derive the ‘true control’ pattern we could just say that – after emptying or partially emptying the lower VP-node from non-verbal material – the entire VP moves on to the Spec-position of the higher VP node. Compare:

(100) daß Jan Maria das Buch zu verkaufen versucht hat
 daß Jan [Maria], [das Buch], [\textsubscript{VP1} [\textsubscript{VP2} [\textsubscript{CP} t, \textsubscript{i} zu verkaufen] [\textsubscript{v2} \textsubscript{tk}]] [\textsubscript{v1} [\textsubscript{v2} versucht]\textsubscript{k} [\textsubscript{v1} hat]]
 that Jan Maria the book to sell tried has

(101) daß Jan Maria das Buch versucht hat zu verkaufen.
 daß Jan [Maria], [das Buch], [\textsubscript{VP1} [\textsubscript{v1} t, \textsubscript{i} versucht]\textsubscript{k} [\textsubscript{v1} hat]]
 [\textsubscript{SpecVP1} [\textsubscript{VP2} [\textsubscript{CP} t, \textsubscript{i} zu verkaufen] [\textsubscript{v2} \textsubscript{tk}]]]
 that Jan Maria the book tried has to sell
(102) daß Jan Maria versucht hat das Buch zu verkaufen.
   daß Jan [Maria]i [VPi [V1i t_m [V2i versucht]]]k [V1i hat]]
   [SpecVPi [VP2i CP das Buch zu verkaufen] [V2i tk]]m]
   that Jan Maria tried has the book to sell

(103) daß Jan versucht hat Maria das Buch zu verkaufen.
   daß Jan [VPi [V1i t_m [V2i versucht]]]k [V1i hat]]
   [SpecVPi [VP2i CP Maria das Buch zu verkaufen] [V2i tk]]m]
   that Jan tried has Maria the book to sell

2) VO-approaches

A VO framework could have many advantages above an OV framework, in particular when it comes to conceptual issues. In an OV analysis we have to say that German is a ‘mixed branching’ language, because it is without doubt that some categories, i.e. C, D and N, are head initial and thus show the ‘English’-like head-complement order. Above this, as Zwart (1993) argues, the head-initial categories in German show the feature that the head and the complement are adjacent, i.e. cannot be separated. This is not true, as we can conclude from the above discussion, for seemingly head-final categories like V. V allows their complements to move out and for this reason the OV order could as well be an effect of movement and not of base generation.

What would an explanation of clause union effects in a VO framework look like?

i) Head-movement analysis

The leftward head-movement analysis has it that the ‘inverted/roll-up order’ of the Germanic and Hungarian verb cluster is created by a succession of head-incorporation operations: the lowest head left-joins to the higher head, the complex thus formed subsequently left-joining to the next higher head, and so forth. The term ‘roll-up’ most conspicuously characterises this particular derivation of ‘inverted orders’: it literally rolls up the carpet.

ii) VP-movement analysis

… to be discussed

iii) Morphosyntactic Merger

… to be discussed

4. The German Mittelfeld

a) Let me repeat the primary, unmarked order of the German Mittelfeld, which can be summarized in the following way (PRN stands for pronoun):

(XII) … < DP NOM/PRN NOM < PRN ACC < PRN DAT < DP DAT < DP ACC < Neg < PP < …

What is at question, is of course the order of the complement DPs and thus, most research concerning the Mittelfeld is focused on scrambling, i.e. on the explanation of this and deviating word orders. There may be some additional questions regarding the differences between full DPs and Pronouns, but in the following remarks I’m not concerned with these topics. I’ll rather stick to the implications which this order together with the proposal in (VIII) has for the picture of the German clause structure. Obviously, we must assume a lot of functional heads between CP and the Verb-Auxiliary-related functional projections where all DPs, PPs and PRNs have to move to.
b) In comparison to the English clause structure which is supposed to have the following order according to the split-Inf hypothesis:

(XIII) \[ CP \rightarrow [C \rightarrow [AgroP \rightarrow [Agro' \rightarrow [TP \rightarrow [T' \rightarrow [NegP/Neg' \rightarrow [AgroP \rightarrow [Agro' \rightarrow [VP \rightarrow [V' \rightarrow \ldots \ldots \ldots]]]]]]]]]]]]

it seems that German doesn’t fit this pattern:

(XV) \[ CP \rightarrow [C \rightarrow [AgroP \rightarrow [Agro' \rightarrow [AgroP_1 \rightarrow [Agro_1' \rightarrow [AgroP_2 \rightarrow [Agro_2' \rightarrow [NegP/Neg' \rightarrow [FP \rightarrow \ldots \ldots \ldots [TP \rightarrow \ldots \ldots \ldots]]]]]]]]]

I abbreviate the relevant positions with Agro_1 and Agro_2, because it depends on whether you have full DPs or just PRNs as DO and IO in an unmarked position (and maybe on some lexical features of double-object verbs too). The IP-projections have to be internally unidirectional, i.e. head-initial or head-final. If IPs are head-final, then we would (according to the split-Inf hypothesis) expect further positions after Infl proper.

… to be discussed

5. The German Vorfeld: Speculations on V2

Most linguists derive the V2 configuration by verb movement to the head of a CP- projection which is commonly explained by the assumption that these projections are V-related in German (but not in French or English) – i.e. verb movement to C is triggered by V-feature checking. In embedded clauses the complementizer (either lexical or abstract as with wh-complementizers) is supposed to remove the V-features of C, so that in this case V-movement is not necessary. The feature that the SpecCP is filled with an (stronger: only one) appropriate element has to be explained by some other principles.

… to be discussed: what does the V2-effect show wrt. to verbal clusters and in particular wrt. PV-stranding?