A modified view of the German verbal complex

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Part 1: Problems for the head-complement construction of verbal complexes

Observable properties of head-complement constructions in general

Assume: head H selects complement C in construction K.

H is the *syntactic* head of K and C is its syntactic argument:

1. government H selects properties of C which are not present in H itself
2. agreement: H and C show certain identical properties
3. valence: K has the valence properties of H minus C
4. head properties K bears the head properties of H[2]
5. linearization: the linearization of a head (of a certain class) and its complements is fixed (in "base order") → head initial vs. head final

H is the *semantic* head of K and C is its semantic argument; i.e. $[\![K]\!] = [\![H]\!]([\![C]\!])$

Verbal complex constructions: an idealized view of observable properties

Assume: V' selects V'' in construction K

V' is the *syntactic* head of K and V'' is its syntactic argument.

1. government: (strictly local)
   a. V' governs the status of V'': 1. bare infinitive, 2. zu infinitive, 3. psp, (0. finite)
   b. If K is a perfective tense construction, the choice of the perfect auxiliary V' is dependent on V''.

   The observable syntactic (and semantic) selection is used to define the notion of a *hypotactic chain* (cf. Bech 1955/57). The highest verb bears index 1, every other verb bears the index of its governor plus one. The following notation is used: $V^{index}(status)$
2. agreement: no agreement phenomena between verbs in our context
   (but note: when two supina are coordinated, they agree in status)
3. valence: **mismatch 1** → argument raising
   In coherent constructions (and the 3.K) the valence of K is the addition of the valence of V' and that of V'' minus V''.
4. head properties: K bears certain head properties of V':
   The verb form and if V' is finite: subject-verb agreement properties (person, number)
5. linearization: **mismatch 2** → aux-flip (Oberfeldbildung), 'VC-split' (Zwischenstellung)
   In the Oberfeld and between Oberfeld and Unterfeld the linearization order is just the inverse of that found in the Unterfeld: $V^1 < V^2 \mid V^5 < V^4 < V^3$

V' is the *semantic* head of K and V'' is its semantic argument

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2 It is not directly observable that a non-lexical construction bears certain properties. However, in trying to make reference to local information only, theory necessitates that certain properties are present on non-lexical nodes. The postulation of such properties is restricted since the non-lexical constituents bearing certain properties are expected to behave in a parallel fashion to the lexical elements which (morphologically) realize those properties.

Problems for the idealized view

I. Irregular status government

A. 3. status governed but 1. status realized (substitute infinitive, IPP)

Modals

(1) Ich vermute, daß der Mann wird[1](0) haben[2](1) bremsen[4](1) wollen[3](1) / *gewollt[3](3).
I suppose that the man will have break want.

(1') Karl hätte[1](0) den Mann haben[2](1) sprechen[4](1) wollen[3](1) / gewollt[3](3).
Karl would-have the man have talk want

e.g. followed by context: but he was already gone (aber er war schon abgereist)

(2) Ich weiß nicht, ob ich das selber hätte[1](0) machen[3](1) können[2](1) / *gekonnt[2](3).
I know not if I that myself had made be-able-to

(3) daß er das Buch wird[1](0) haben[2](1) kopieren[5](1) lassen[4](1) müssen[3](1) / *gemußt[3](3)
that he the book will have copy let have-to.

Verba sentiendi

(4) daß Karl ihn hat[1](1) lachen[3](1) hören[2](1) / *gehört[2](3).
that Karl him has laugh hear

B. 3. status governed but 2. status realized (out of place „zu")

i. complementizer governing 2. status

(5) Er verstarb, **ohne** sich haben[1](1) entschuldigen[3](1) zu können[2](2).
He died without himself have excuse be-able-to

ii. verb governing 2. status

(6) Er **erklärte**, Karl haben[1](1) sehen[3](1) zu können[2](2).
He declared Karl have see be-able-to

iii. adjective governing 2. status

(7) Er war **froh**, Karl haben[1](1) sehen[3](1) zu können[2](2).
He was happy Karl have seen be-able-to

II. Irregular linearization

A. Non-verbal elements in the verbal complex

(8) Politische Beobachter in der Hauptstadt San José bezweifeln allerdings, daß "Pepe"
political observers in the capital doubt though that Pepe.

die Wiederaufnahme der Sozialprogramme wird **gänzlich** durchsetzen können.
the resumption of-the social program will completely put-through be-able-to
[SZ,9.2.94,S.11]

(9) Ich weiß nicht mehr, was ich eigentlich habe **damit** sagen wollen,
I know no longer what I anyway have therewith say want-to

und betrachte meinen Barmann. [Frisch, Gantenbein, S.57]
and look-at my bartender

(10) Karl wird[1](0) dem Mann haben[2](1) **auf die Beine** helfen[4](1) wollen[3](1).
Karl will the man have get-back-up-help want-to

(11) daß Karl dem Mann hat[1](0) **das Buch** geben[3](1) wollen[2](1).
that karl the man has the book give want

(11') daß Karl dem Mann wird[1](0) **das Buch** haben[2](1) geben[4](1) wollen[3](1).
that karl the man will the book have give want-to

Non-verbal elements, e.g. objects, adverbials, particles can occur in the Oberfeld or between the Ober- and Unterfeld. However they can never occur in-between verbs of the Unterfeld.

B. The VC-split construction ("Zwischenstellung")

1. The basic phenomenon

(12) Zu dem Zeitpunkt an dem ich mich entscheiden[3](1) **hätte[1](0)** müssen[2](1),
At the time at which I myself decide would-have have-to
war das Gesangsbuch wichtiger.
was the hymn-book more-important

(13) daß er das Examen bestehen[3](1) **wird[1](0) / hat[1](0)** können[2](1).
that he the exam pass will / has be-able-to

(14) daß ihm die Entscheidung nicht durchgehen[3](1) **hätte[1](0)** dürfen[2](1).
that him the decision not pass should-have be-allowed

(15) daß es so kommen[3](1) **hätte[1](0)** müssen[2](1).
that it so come should-have have-to

(16) daß er das Buch **wird[1](0) haben[2](1)** kopieren[5](1) lassen[4](1) müssen[3](1).
that he the book will have copy let have-to

(17) daß er das Buch **wird[1](0)** kopieren[5](1) **haben[2](1)** lassen[4](1) müssen[3](1).

(18) ? daß er das Buch **wird[1](0)** kopieren[5](1) lassen[4](1) **haben[2](1)** müssen[3](1).

(19) * daß er das Buch **wird[1](0)** kopieren[5](1) lassen[4](1) müssen[3](1) **haben[2](1)**.

(20) daß er das Buch kopieren[5](1) **wird[1](0) haben[2](1)** lassen[4](1) müssen[3](1).

(21) ? daß er das Buch kopieren[5](1) **wird[1](0)** lassen[4](1) **haben[2](1)** müssen[3](1).

(22) * daß er das Buch kopieren[5](1) **wird[1](0)** lassen[4](1) müssen[3](1) **haben[2](1)**.

(23) daß er das Buch kopieren[5](1) lassen[4](1) **wird[1](0) haben[2](1)** müssen[3](1).

(24) * daß er das Buch kopieren[5](1) lassen[4](1) **wird[1](0)** müssen[3](1) **haben[2](1)**.

(25) * daß er das Buch kopieren[5](1) lassen[4](1) müssen[3](1) **wird[1](0) haben[2](1)**.

For many speakers, the elements which can occur in the Oberfeld can also - without changing the interpretation - appear intermingled with the Unterfeld verbs .

2. The selection of the perfect auxiliary

(26) daß Karl wird[1](0) haben[2](1) kommen[4](1) müssen[3](1). aux-flip
that Karl will have come have-to

(27) daß Karl wird[1](0) **kommen[4](1) haben[2](1)** müssen[3](1). split-VC
that Karl will come have have-to

(28) daß Karl wird[1](0) **gekommen[4](3) sein[3](1)** müssen[2](1) standard
that Karl will come be have-to

Verbs in split-VC construction behave like aux-flip verbs in that no perfect-auxiliary or 3.status selection takes place. Note that the examples (26)-(28) show that the direction of government is not a relevant factor.

3. The semantic scope

(29a) Karl wird[1](0) haben[2](1) kommen[4](1) müssen[3](1). aux-flip
Karl will have come have-to

(29b) Karl wird[1](0) kommen[4](1) haben[2](1) müssen[3](1). split-VC
Karl will come have have-to

perf(have-to(come(k)))

(29c) Karl wird[1](0) gekommen[4](3) sein[3](0) müssen[2](0). standard
Karl will come be have-to

have-to(perf(come(k)))

Verbs are always interpreted with scope over the whole Unterfeld, while in the standard VC they are always interpreted in-situ.

4. Finiteness

(30a) daß Karl hat[1](0) kommen[3](1) müssen[2](1). aux-flip
that Karl has come have-to

(30b) daß Karl kommen[3](1) hat[1](0) müssen[2](1). split-VC
that Karl come has have-to

(30c) daß Karl gekommen[3](3) sein[2](1) muß[1](0). standard
that Karl come be have-to

Finiteness is always assigned to the highest element in selection chain regardless of whether that verb is constructing as split-VC, aux-flip-VC, or in a standard VC.

(31) * daß Karl gekommen[3](3) ist[1](0) müssen[2](1). standard
that Karl come is have-to

"Ist" (be) in (31) cannot be the highest verb since it functions as perfect auxiliary.

The same effect is shown in (32a) , (32b), and (30c) in which "muß" is fixed as finite verb and therefore has to be the highest element. Since only Oberfeld verbs can be split-verbs and the Oberfeld only contains the highest verbs, the result is that „haben" cannot occur in split-position.

(32a) * daß Karl haben(1) kommen[3](1) muß(0). attempted aux-flip
that Karl has come have-to

(32b) * daß Karl kommen[3](1) haben(1) muß(0). attempted split-VC
that Karl come has have-to

Note that perfect auxiliary selection (and status selection) is strictly local in a syntactic structure which can be deduced from the semantic scope relations:[3]:

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(30a')  * daß  Karl hat1(0) gekommen3(3) müssen2(1).                    aux-flip
          that Karl has     come         have-to

          perf( have-to( come(K)))
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C. VP topicalization and Aux-flip

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(33a)     Karl wird1(0) Anna finden3(1) wollen2(1).
          Karl will     Anna find       want

(33b)     Anna finden3(1) | wird1(0) Karl wollen3(1).
          Anna find         will     Karl want

(34a)     Karl wird1(0) Anna haben2(1) finden4(1) wollen3(1).
          Karl will     Anna have      find       want

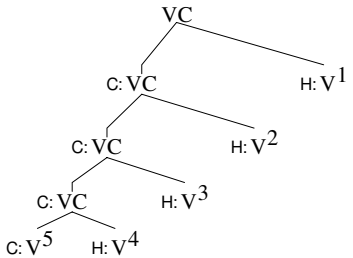
(34b)   * Anna finden4(1) | wird1(0) Karl haben2(1) wollen3(1).
          Anna find         will     Karl have      want
```

If aux-flip were just an alternative linearization within a uniform head-complement verbal complex (cf. Hinrichs&Nakazawa) one would not expect the occurrence of aux-flip to block vp-topicalization.

<u>Part 2:</u> The building blocks of a theory

H-verb constructions

The basic structure of the verbal complex is a purely left-branching head-complement structure with a strict head-last linearization:



Verbs filling a position in such a construction will be called head-verbs (H-verbs) and we will refer to the construction as H-verb construction (HVC). The full set of properties of head-complement constructions (HCC) hold for this construction, with one exception: argument raising.[4]

Some observable properties of HVCs:

- status government and perfect-aux selection from right to left
- semantic scope: argument is to the left of its functor

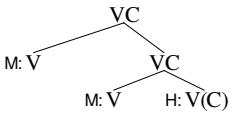
[3] Regarding VC construction, the observable syntactic and the semantic selection is normally in parallel, i.e. in the absence of observable syntactic selection, the semantic selection can be used as evidence for the structure. The only exception are the Stirnhornsatz examples of Reis (1979) in which the perfect auxiliary selection contradicts the semantic scope relations yielding two contradicting structures (cf. discussion at the end of the handout).

[4] Only a radical modifier solution would do away with this divergence from standard HCC properties.

M-verb constructions

Syntax

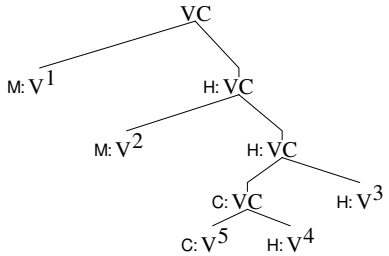
Apart from the basic HVC skeleton, there is a second type of construction for verbs. The strictly right-branching head-modifier construction is responsible for the local trees deviating from HCC behavior (e.g. aux-flip, split-VC).



The verbs constructing as such modifiers will be called M-verbs, the construction M-verb construction (MVC). M-verbs are adjoined to the left of a head. As modifiers they are exempt from the syntactic relations typical for HVC, in particular:

a) M-verbs do not govern status and the status of M-verbs is not governed.
b) M-verbs cannot be selected as perfect-auxiliaries.

A verbal complex with two M-verbs in the Oberfeld and three VC-verbs has the following shape:



Semantics

M-verbs contribute their semantics as operators which are always interpreted as having scope over the whole VC. For the split-VC construction this necessitates a mechanism which raises the operators to the top of the VC. This could be an explanation for the fact that not all speakers accepting aux-flip constructions accept the split-VC constructions as well.

The fact that M-verbs need a special operator semantics explains why only a very small set of verbs can construct as M-verbs: tense auxiliaries and modal verbs. In general, only verbs taking propositional arguments have a chance to be M-verbs.

Can we explain more than before?

The idea of this section is to go through the mismatches and irregularities discussed for the verbal HCC approach above, trying to see what now follows from the new setup.[5]

Government

Desideratum: M-verb constructions should not show HCC government phenomena.

I. Status government

a) M-verbs don't assign status

⇒ The next verb in the hypotactic chain is assigned the status originally intended for the M-verb.

1. status

(35) Der Mann wird^{1}(0) den Wagen haben^{2}(1) bremsen^{4}(1) **wollen^{3}(1).**
The man will the car have break want

(36) daß er das Buch hat^{1}(0) kopieren^{3}(1) **müssen^{2}(1).**
that he the book has copy have-to

Problem: Where does the highest 1.status come from? In (35) the 1. status could be assigned from verb-second "wird" (instead of the 3.status from M-verb "haben"). But in (36) the finite verb is in the Oberfeld, and we don't want M-verbs to assign status.

Solution: The cases in which 2. status is assigned over the head of an M-verb never occur with finite verbs. Therefore a possible solution is to assume that finitivization assigns the 1. status.

2. status

⇒ The irregular 2. status assignment cases - like examples (5), (6), and (7) - are now instances of regular status assignments.

b) The status of M-verbs is never governed

There are three cases to test:

i. Assignment attempted from outside (2. status)

(37) **ohne** den Mann **haben^{1}(1)** sprechen^{3}(1) zu wollen^{2}(1).
without the man have talk want

ii. Assignment attempted from verb-second[6] (3. status)

(38) Karl **hätte^{1}(0)** den Mann **haben^{2}(1)** sprechen^{4}(1) wollen^{3}(1).
Karl would-have the man have talk want

iii. Assignment attempted from Oberfeld (3. status)

(39) daß Karl wird^{1}(0) haben^{2}(1) **wollen^{3}(1)** sprechen^{5}(1) können^{4}(1).
that Karl will have want talk be-able-to

Problem: Where does the 1. status of M-verbs come from?

Possibilities:

a) 1. status is the default which surfaces when no status is assigned.
b) The ID-schema assigns the marker 1. status.
c) M-verbs (those which also bear the special operator semantics) are assigned 1. status in the lexicon. The H-verb use has a separate entry (possibly with ordinary semantics)

How about finiteness?

- As mentioned above finiteness is always assigned to the highest element in a hypotactic chain, regardless of whether that verb is constructing as M- or H-verb.
- This is just the way marking values are passed in HPSG.
- It is a common assumption in Montague semantics that complementizers do have a semantic contribution. (e.g. Chierchia&McConnel-Ginet: "Meaning and Grammar", pp. 242).
- We therefore change the head-marker schema so that the marker can have a semantic contribution. More precisely, we merge the semantic side of the head-adjunct ID into the head-marker ID and use the resulting head-marker ID for the old head-marker cases and the M-verbs.
- Finiteness is no longer treated as verb form, but as subtype of *marked*:
marked > comp, conj, fin.
vform > 1.status, 2.status, 3.status.

II. Perfect-auxiliary selection

⇒ M-verbs cannot be selected as perfect-auxiliary; explains examples (26)-(28).

Linearization

I. Ex-mismatch 2: Aux-flip

⇒ A uniform linearization can be assumed for MVC and HVC.

Obligatory and optional aux-flip

⇒ The difference between obligatory ("haben") and optional aux-flip ("sein", modals) follows from the setup.

- Obligatory flip is the result of a clash from H-"haben" assigning 3.status to a verb which does not have a psp form (modals). Therefore only M-"haben" is a possibility.
- Optional flip is the result of a verb which can construct as M- or as H-verb.

Digression: Which influence does the VC have on the possibility to flip the governing aux?

The traditional answer is that at least two verbs must be governed by a verb which is capable of flipping. The following examples show that this is not correct. (cf. Hinrichs&Nakazawa)

(40) … weil er nicht anders hat^{1}(0) können^{2}(1) / *gekonnt^{2}(3).
… because he not otherwise has be-able-to

(41) … weil er nicht anders *können^{2}(1) / gekonnt^{2}(3) hat^{1}(0).
… because he not otherwise be-able-to has

[den Besten&Edmondson 83, S.171] used in [Hinrichs&Nakazawa, S.4]

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[5] As already mentioned, the valence mismatch for H-verbs will remain since the HVC skeleton of the new analysis is identical to the old analysis, i.e. we will assume argument raising for H-verbs.

[6] Note that haben^{2} does not assign 3. status to wollen^{3} because - as discussed below - verb-second verbs are ambiguous between originating from M- or VC- position. The VC-option in this sentences is excluded because the auxiliary wollen does not have a regular psp verbform.

(42) William Bligh behandelte die Leute auf der Bounty besser,
William Bligh treated the people on the bounty better

als er hätte[1](0) müssen[2](1). [SZ 5/6.2.94, S.28]
than he would-have have-to

The the solution of Hinrichs&Nakazawa - to let the class of governed verbs determine whether flipping is possible - seems plausible: M-verbs are only able to modify certain verbal complexes.

II. Ex-irregular linearization

A. Non-verbal elements in the verbal complex

⇒ No problem, since the non-verbal elements can occur between M-verbs only. Also note that for M-verbs no (obligatory) argument raising specification is needed. Possible restrictions on intervening elements (e.g. non-ergative subjects) can be added in the same fashion as the aux-flip trigger verb condition.

B. The split-VC construction

⇒ The split-VC construction is a M-verb construction just like that of aux-flip. This explains the almost identical properties of the two constructions. But note: As mentioned above a mechanism which raises the operators to the top of the VC is needed for the two constructions to be parallel.

Assuming head-movement:Does a verb-second verb originate as M- or H-verb?

Status assignment with haben in verb-second: 1. instead of 3. status

Optional with certain governed verbs (verba sentiendi)

(44) Ich habe[1](0) Karl nie lachen[3](1) sehen[2](1) / gesehen[2](3).
I have Karl never laugh see

→ two possible base-positions: M and H

Obligatory with certain governed verbs (modals[7], causativum "lassen")

(45) Karl hat[1](0) lachen[3](1) dürfen[2](1) / *gedurft[2](3).
Karl has laugh be-allowed

→ two possible base-positions, but the H-position is excluded since the then governed modal has no psp form.

Non-parallel syntax and semantics: The Stirnhornsatz example

(46) Eine Pariserin namens Dimanche soll[1](0) sich ein gewaltiges Stirnhorn
A woman-from-Paris called Dimanche is-supposed-to himself an enormous bump

operativ entfernt[4](3) haben[3](1) lassen[2](1). [Der Spiegel, cf. Reis 79, p. 15]
by-operation remove have let.

supposedly (perfect (let (X, Y, remove (X, bump))))

(47) daß sie es sich entfernt[4](3) haben[3](1) lassen[2](1) soll[1](0). Stirnhornsatz
that she it herself remove have let is-supposed-to

supposedly (perfect (let (X, Y, remove (X, bump))))

(48) * daß sie es sich entfernen[4](1) gelassen[3](3) haben[2](1) soll[1](0). standard
that she it herself remove let have is-supposed-to

Syntactically (47) looks like an ordinary HVC. The perfect auxiliary "haben" syntactically governs the 3. status of "enfernen". However "lassen" (let) is interpreted inside of the perfect auxiliary "haben". The syntactic structure expected for such a reading would be (48), which astonishingly is ungrammatical.

The most plausible explanation seems to be that the Stirnhorn case is the result of the idiosyncratic properties of "lassen". "Lassen" semantically cannot have scope over tense-auxiliaries or modals and as a result can raise their semantic contribution to be interpreted above, thus preserving grammaticality. Note however that the perfect operator in the Stirnhornsatz cases is interpreted inside of the modal "soll". Were the Stirnhorn case a MVC construction, we would expect "haben" to have scope over the whole verbal complex as is evidenced in the following examples:

(49) daß sie es sich hat[1](0) entfernen[4](1) lassen[3](1) sollen[2](1). aux-flip
that she it herself has remove let is-supposed-to

(50) daß sie es sich entfernen[4](1) hat[1](1) lassen[2](1) sollen[2](1). split-VC
that she it herself remove has let is-supposed-to

both: perfect (supposedly (let (X, Y, remove (X, bump))))

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[7] For certain modals - those which can also construct without a verbal complement (i.e. wollen, mögen, können)- certain native speakers also allow the past participle in place of the infinitival form.