

Verum focus, sentence mood, and contrast*

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Abstract

Verum focus is a phenomenon which results from accentuation of a specific component (finite verb, complementizer, relative or wh-element) in the left peripheral position of a clause. It invokes the effect of *emphasizing the expression of truth of a proposition* as Höhle (1988; 1992), who coined the term, characterized the phenomenon. In German, verum focus typically appears in the left periphery in main as well as in embedded clauses. The distribution of the accent at the surface is driven by rather sophisticated conditions which relate the syntactic surface position of the accent to its PF and LF effects in systematic ways.

The close connection of the phenomenon with the concepts of *truth*, *contrast*, and *sentential force* calls for a theory which inter-relates these notions. This leads to a perspective that connects verum focus to the part of the sentence that spells out the intention (not the intension) of the sentence meaning: *sentence mood*. The proposed line of reasoning intends to promote the view that verum focus can be derived from the systematic interaction of sentence mood with the regular properties of focus assignment. Since focus assignment relates *accent* and *contrast*, “*truth*” is achieved by verum focus, if the sentence mood function is fulfilled.

1 The phenomenon

Höhle (1988, 1992:112) labeled a focus phenomenon in German which is realized in the position of the finite verb or a complementizer in left peripheral

⁰This article is an extended and at the same time shortened version of Lohnstein (2016). The part containing the current state of research and the typologically distinct ways of marking verum focus has been truncated in favor of a more precise analysis of embedded verum focus phenomena.

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clausal position as *verum focus*. The phenomenon is based on the functional effect of an accent produced by the speaker; in emphasizing, the speaker wants to affirm the truth of his thought, cf. already Höhle (1982: 90) without using the term “*verum focus*”. In German – the language in which Höhle investigated this phenomenon –, *verum focus* is indicated through a pitch accent in the left periphery of main (1.i) - (1.iv) as well as embedded (1.v) - (1.vii) clauses. In the case of verb final structures, a *verum* effect can be observed if the finite verb bears the accent and is – at the same time – semantically rather light as for instance in the case of auxiliaries (1.viii) - (1.x):

- (1) i. Karl HAT den Hund gefüttert.
 Carl HAS the dog fed
 “Carl DID feed the dog.”
- ii. HAT Karl den Hund gefüttert?
 HAS Carl the dog fed
 “DID Carl feed the dog?”
- iii. Wer HAT den Hund gefüttert?
 who HAS the dog fed
 “Who DID feed the dog?”
- iv. FÜTter jetzt den Hund!
 FEED now the dog
 “FEED the dog right now!”
- v. (Aber Maria glaubt,) DASS Karl in Urlaub gefahren ist.
 (but Mary believes) THAT Carl in vacation driven is
 “(But Mary believes) that Carl DID go on vacation.”
- vi. (Jetzt will ich wissen,) WEN Karl eingeladen hat.
 (now want I know) WHO Carl invited has
 “Now, I want to know who Carl DID invite.”
- vii. (Das ist der Wagen,) DEN Karl gefahren hat.
 (this is the car) WHICH Carl driven has
 “This is the car which Carl DID drive.”
- viii. (Aber Maria glaubt,) dass Karl in Urlaub gefahren IST.
 (but Mary believes) that Carl in vacation driven IS
 “*But Mary believes that Carl DID go on vacation.*”
- ix. (Jetzt will ich wissen,) wen Karl eingeladen HAT.
 (now want I know) who Carl invited HAS
 “(Now I want to know) who DID Carl invite.”
- x. (Das ist der Wagen,) den Karl gefahren HAT.
 (this is the car) which Carl driven HAS
 “(This is the car) which Carl DID drive.”

The examples in (1.i) – (1.iv) carry different sentence moods. (1.i) is a declar-

ative, (1.ii) a y/n-interrogative, (1.iii) a wh-interrogative, and (1.iv) is an imperative. The embedded clauses in (1.v) – (1.vii) are a declarative complement clause in (1.v), a wh-complement clause in (1.vi) and a relative clause in (1.vii). The same kinds of clauses are given in (1.viii) – (1.x) with the focus on the auxiliaries in final position.

Höhle describes the function of the specific accent in (1.i) – (1.iv) as follows: An element VERUM – the so called F-verum focus – is assigned to the finite verb. This triggers the effect that this element is emphasized in case the finite verb carries this exact accent:

(2) Höhle’s (1992:114) characterization:

In the observed cases, the finite verb is associated with a semantic element VERUM such that accentuation of the verb emphasizes this element.
[Translation by HL]¹

For the data in (1.v) (C-verum focus), (1.vi) (W-verum focus), and (1.vii) (R-verum focus), the characterization in (2) does not prove to be right because the finite verb is not involved in the focus structure at all. Due to this circumstance, Höhle discusses several possibilities of theoretical reconstructions: especially the illocution type operator analysis and the verum predicate analysis, which will be discussed in more detail in Section 2.

A focus accent on the fronted finite verb does not always lead to a verum focus interpretation, but instead allows for contrastive readings on the verb’s lexical meaning (3.i) as well as on the inflectional categories – tense (3.ii), agr (3.iii), (verbal) mood (3.iv) – the finite verb bears (cf. Rooth 1992, Krifka 2008):

- (3) i. A: (Karl streichelt den Hund nicht.) Er FÜTtert ihn.
 A: (Carl pets the dog not) he FEEDS him
 A: “Carl doesn’t pet the dog. He FEEDS it.”
- ii. A: (Karl WIRD den Hund nicht füttern.) Er FÜTtert ihn.
 A: (Carl WILL the dog not feed) He FEEDS him
 A: “Carl WILL not feed the dog. He FEEDS it.”
- iii. A: (Karl fütterst den Hund.) B: Nein, er FÜTtert ihn.
 A: (Carl feed+(2.Sg) the dog) B: No, he FEEDS him
 A: “Carl feed the dog. No he FEEDS it.”
- iv. A: (Wenn Karl doch den Hund fütterte ...) B: Aber er FÜTtert
 A: (if Carl but the dog feed+(Subj.2)) B: But he FEEDS
 ihn doch.
 him but

¹“In den betrachteten Fällen ist dem Verb ein Bedeutungselement VERUM zugeordnet, so dass dieses Element durch die Betonung des Verbs hervorgehoben wird.”

A: “If only Carl would feed the dog! B: But, he FEEDS it.”

As demonstrated in (3.ii) – (3.iv), the inflectional categories can be focused by a pitch accent on the finite verb. But in none of the cases a verum effect occurs. These data suggest that verum focus is independent not only of the lexical content but also of those verbal inflectional categories.

It is rather difficult to localize the syntactic or semantic position of the underlying element VERUM in the respective structural components. One reason for this is that the element VERUM – as far as it exists at all – is phonetically silent and always appears with lexical elements which do not show verum properties when they are realized in other syntactic or semantic environments. However, it can be observed that VERUM is used not to emphasize truth at all. It rather is the case that it is an effective means to stop disputations about the verum focused issue. Consider the example in (4) after the election of president Yanukovych of Ukraine on February 25, 2010:

- (4) Die Wahl wurde korrekt durchgeführt.
 the election WAS correctly carried out

“The election WAS carried out correctly.”

Similar effects appear in questions and imperatives, too, as we will see in more detail in Section 4.

The present article is organized as follows. The next section presents Höhle’s (1988; 1992) treatment of the phenomenon and his attempts concerning an analysis seen from a grammatical perspective.

Attached to that, Section 3 concentrates on general properties of sentence moods, since they appear to play a crucial role in verum focus constructions. An essential property of main clauses is their relatedness to the discourse. Section 4, therefore, focuses on the connection between sentence moods of main clauses and the structure of the context of discourse. Moving on, the examination of embedded clauses and their distributional possibilities of realizing verum focus is addressed in Section 5. In order to get an adequate understanding of what the proper meaning of VERUM can be, Section 6 discusses some theories of truth from the philosophical tradition and argues that the concept of VERUM as a verum predicate is not appropriate. Finally, Section 7 introduces a compositional theory of verum focus which derives its general properties from the regular grammatical means referring solely to the constitution of sentence mood and the principles of focus assignment.

The line of reasoning to pursue an adequate understanding of what verum focus is, will follow the idea that verum focus not only depends on sentence

moods, but – in fact – IS sentence mood focus.

2 Höhle’s theoretical reconstructions

Höhle (1992) discusses two theoretical variants to capture the semantic properties of verum focus, where the second variant comes in two versions:

- (5) i. VERUM is an illocution type operator. (IT-analysis)
 - ii. VERUM is a truth-predicate ranging over propositions
- As such it can be realized
- a. segmentally or
 - b. non-segmentally.

The following sections present these analyses together with a critical review of their consequences.

2.1 Illocution type operator analysis

The analysis of verum focus as an illocution type operator (IT-operator) has the advantage to account for VERUM as an independently founded semantic element. But – as Höhle argues –, the IT-explanation fails due to mainly two reasons: First, although embedded clauses allow for verum focus, they surely do not contain an illocution type operator. Second, the IT-analysis fails – as Höhle argues – in terms of scope. An illocution type operator should have scope over all other operators – especially negation – in a clause. As can be seen from the examples in (6), only (6.i) is an adequate reaction, but its scopal relation is just inverse with respect to the condition just mentioned because NEG has scope over VERUM. However, (6.ii) is not adequate in a conversational sequence with respect to (6), although it has the expected scopal relation (cf. Höhle 1992:124f):

- (6) Ich hoffe, dass er ihr zuhört.
I hope that he her listens to
“I hope that he listens to her.”
- i. a. Aber Hanna denkt, er HÖRT ihr nicht zu.
but Hanna thinks he LISTEN TO her not V-PART
“But Hanna thinks he doesn’t listen to her.”
- b. Hanna denkt, dass es nicht zutrifft, dass er ihr zuhört.
Hanna thinks that it not proves right that he her listens to
“Hanna thinks that it does not prove right that he listens to her.”
Scope: Hanna thinks [...NEG ... [VERUM ...]]

- ii. a. # Aber Hanna denkt, DASS er ihr nicht zuhört.
 but Hanna thinks THAT he her not listens to
 “But Hanna thinks that he doesn’t listen to her.”
- b. # Hanna denkt, dass es zutrifft, dass er ihr nicht
 Hanna thinks that it proves right that he her not
 zuhört.
 listens to
 “Hanna thinks that it proves right that he doesn’t listen to her.”
 Scope: Hanna thinks [VERUM ... [...NEG ...]]

Due to these observations Höhle concludes that *verum* focus should not be analyzed as an IT-operator. Instead, he proposes an analysis which treats VERUM as a truth predicate. Later on, we will argue that the IT-analysis is basically correct if one carries out some slight modifications. But before turning to these issues, let us first look at Höhle’s second variant.

2.2 VERUM as a truth predicate

Because – for Höhle – the IT-operator analysis of *verum* focus fails, he suggests another approach which makes use of a *verum predicate*. Generally, two versions are available to make this proposal work:

- (7) a. a segmental localization of VERUM
- b. a non-segmental localization of VERUM

2.2.1 Segmental localization of VERUM

The segmental localization of VERUM assumes a syntactic position (in the left periphery of German clauses) which bears a syntactic feature [+VER]. Pursuing this line of reasoning, Höhle (1992:131f) assumes a functional projection ϕ with the following properties [Translation by HL]²:

²Höhle (1992:131f):

„[+ VER] in ϕ

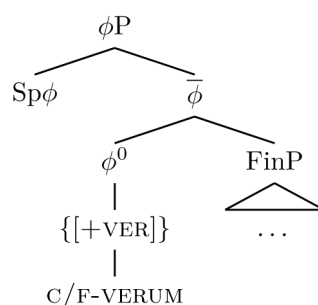
- i. An der Peripherie deutscher Sätze befindet sich eine funktionale Kategorie ϕ . ϕ nimmt immer eine Konstituente Π zu sich und baut eine X-Bar-Projektion auf.
- ii. ϕ kann mit (den Merkmalspezifikationen von) C-Wörtern unifiziert werden.
- iii. ϕ kann mit (den Merkmalspezifikationen von) finiten Verben, die eine Spur binden, unifiziert werden.
- iv. Die Head-Merkmale aller Projektionsstufen von ϕ sind durch die freien Head-Merkmale der Unifikation von ϕ mit der Belegung von ϕ (C-Wort, finites Verb) determiniert.
- v. Ein Merkmal M eines Ausdrucks a ist “frei” i. S. von (iv) g. d. w. a nicht eine Spur mit dem Merkmal M bindet.
- vi. ϕ kann die Merkmalspezifikation [+VER] tragen.“

(8) $[+VER]$ in ϕ

- i. In the left periphery of German clauses there is a functional projection ϕ . ϕ always combines with a constituent Π and projects an X-bar-structure.
- ii. ϕ is unifiable with feature specifications of complementizers.
- iii. ϕ is unifiable with feature specifications of finite verbs binding a trace.
- iv. The head features of all X-bar-levels of ϕ are unifiable with the free head features of ϕ if ϕ is either filled by a complementizer or by a finite verb.
- v. A feature M of an expression α is “free” in the sense of d., if α does not bind a trace bearing feature M.
- vi. It is possible for ϕ to have the feature specification $[+VER]$.

These assumptions lead to an X-bar-projection ϕP in which the feature $[+VER]$ can be assigned to the head position ϕ^0 , that is, $[+VER]$ is segmentally localized:

(9) Segmental localization of VERUM:



Looking at R/W-verum focus, Höhle (1992:134f.) suspects that the segmental analysis is insufficient because besides the realization of verum focus in the position ϕ^0 an accent in the position $Sp\phi$ delivers a verum focus, too. This can be seen in the examples in (10.ii) and (11.ii) with the respective contexts in (10.i) and (11.i):

- (10) i. Da stehen die Leute, die du NICHT getroffen hast.
 there stand the people who you NOT met have
 “There are the people who you have NOT met.”
 ii. Aber dort stehen die Leute, DIE du getroffen hast.
 but there stand the people WHO you met have
 “But there are the people who you DID have met.”
- (11) i. Du hast mir erzählt, wen du NICHT getroffen hast.
 you have me told who you NOT met have
 “You have told me who you have NOT met.”

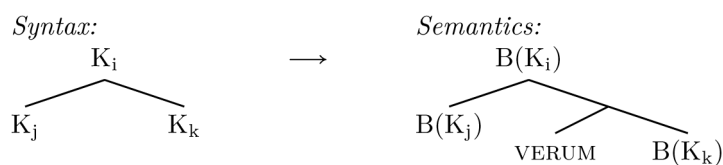
- ii. Jetzt möchte ich wissen, WEN du getroffen hast.
 now want I know WHO you met have
 “Now I want to know who you DID have met.”

Because of the empirical shortcomings with respect to these data, Höhle (cf. 1992:134f.) discusses a variant he calls the non-segmental localization of VERUM.

2.2.2 Non-segmental localization of VERUM

The following analysis proposes to replace a syntactic representation by a semantic one. Moreover, this idea involves the introduction of VERUM into the semantic structure in the course of the translation process of the syntactic structure into a semantic form. (12.i) delivers an explication of this translation, where K_j can be given by the elements in (12.ii) (cf. Höhle 1992:138):

- (12) i. Non-segmental localization of VERUM:



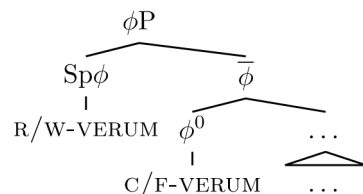
- ii. K_j can be:
- a finite verb,
 - a complementizer,
 - a relative pronoun,
 - a wh-pronoun in an embedded clause.

$B(K)$ stands for the *meaning* of K . VERUM is in a position that has scope over the propositional core $B(K_k)$, from which – for independent reasons – a constituent may be extracted. VERUM on the semantic level becomes a predicate over propositions as one may expect. Later on in this article, it will be shown that this analysis is not adequate either and that VERUM cannot be treated as a predicate over propositions

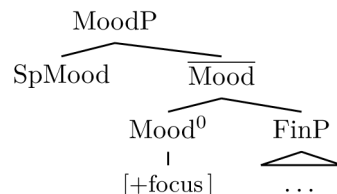
The main issue being presented in this contribution consists in a theory of the verum focus phenomenon which combines various aspects of Höhle’s analysis and relates it to the concept of sentence mood together with a theory of focus assignment. From the interaction of these two grammatical components the phenomenon of verum focus will be derived in a compositional manner. While Höhle’s account postulates the structure and the assumptions represented in (13.i), the approach presented here will merely consist of a mood phrase MoodP and the assignment of a focus feature $[+F]$ to the head M^0 of

MoodP as is illustrated in (13.ii):

(13) i. Höhle (1992):



ii. Lohnstein (2012):



Closing this section, we now move to the left peripheral positions of clausal structure and their interpretation with respect to intentional meaning.

3 Sentential force and sentence mood

This section outlines general properties of sentence moods in the languages of the world (cf. Stenius 1967, Lewis 1970, Bierwisch 1980, Zaefferer 1979, Searle & Vanderveken 1985, Altmann 1987, 1993, Brandt et al. 1992, Lohnstein 2000, Truckenbrodt 2006a,b), in particular, declaratives, interrogatives and imperatives which appear to exist in all languages of the world as Sadock & Zwicky (1985) have illustrated. Although the basic semantic concepts are relevant for the constitution of sentence moods in all languages, the theory is presented for German. This has some consequences for the syntactic operations and their interpretation, as the verb second property plays a crucial role. The semantic structures on the other hand remain unaffected and appear to be valid universally, as the conception of the level of logical form (LF) in generative grammar wants it to be.

Before characterizing sentence moods, let us return shortly to Höhle's idea in order to theoretically reconstruct the phenomenon. Three aspects appear to be of special relevance to Höhle's approach:

- (14) i. The IT-analysis provides an independent motivation for a sentential subcomponent which is responsible for verum focus.
- ii. The approach of a segmental localization provides an x-bar-structure with a head position in which the relevant $[+VER]$ -feature can be positioned.
- iii. The approach of a non-segmental localization is independent of the syntactic distribution, in that the semantic element VERUM enters the semantic structure throughout the translation process.

The following considerations maintain (14.i), but need to transfer the concept

of “illocution type operator” to the concept of “sentence mood”.³ Because verum focus is possible in embedded clauses which do not bear an illocution type operator, but rather a sentence mood, the transfer of this category appears to be necessary. Höhle’s scope argument concerning VERUM and NEG will be considered later on. To capture the syntactic regularities of verum focus assignment, (14.ii) has to be maintained, too. But a slight change has to be made because there is no need for a feature [+VERUM], as will become clear in due course. For the theory proposed here, (14.iii) is of no relevance at all. The relation between a proposition and its truth does not have to be reconstructed as a relation between a predicate and its argument. Rather, as Frege (2001:88) illustrated, it can be reconstructed as the relation between “sense” and “reference”. This means that a proposition is an intensional function from possible situations (worlds) into truth values. For this reason, a verum predicate appears to be superfluous.

Let us now look at Höhle’s second (scope) argument against the illocution type operator analysis more closely. On the basis of the data in (6) touching upon scope relations between VERUM and NEG, Höhle (1992:114) claims first that the thought expressed by the speaker is familiar, and second that if the thought is familiar, its negation need not be familiar as well. The second assumption appears to be problematic for the simple reason that the negation of a thought is recoverable by a primitive logical operation (namely negation) if the thought is known. However, a far more serious objection to Höhle’s explanation consists in the fact that there appears to be no difference in meaning with respect to the scope relations of (6.i-b) and (6.ii-b), repeated here as (15.i) and (15.ii) for convenience:

- (15) i. Hanna denkt, dass es nicht zutrifft, dass er ihr zuhört.
 Hanna thinks that it not proves right that he her listens to
 “Hanna thinks that it does not prove right that he listens to her.”
 Scope: Hanna thinks [... NEG ... [VERUM ...]]
- ii. # Hanna denkt, dass es zutrifft, dass er ihr nicht zuhört.
 Hanna thinks that it proves right that he her not listens
 “Hanna thinks that it proves right that he doesn’t listen to her.”

³An *illocution type operator* represents in a holistic manner the *pragmatic* properties of illocutionary interpretation. In contrast, a *sentence mood* is a *semantic* object representing a proposition (declarative), partition (interrogative), or a property (imperative) which are the precursors of illocutionary interpretation. Sentence moods can be derived compositionally from the grammatical means and their respective semantics, while illocution type operators like ASS (assert), ERO (erotetic), DIR (directive) represent the illocutionary interpretation without using any grammatical means.

Scope: Hanna thinks [VERUM ... [... NEG ...]]

This point becomes even clearer if we translate VERUM as “being true”, since this is the core meaning of the verum predicate:

- (16) i. It is true that he does not listen to her.

Scope: [VERUM ... [... NEG ...]]

- ii. It is not true that he listens to her.

Scope: [... NEG ... [VERUM ...]]

Obviously, there is no situation that (16.i) can describe which (16.ii) at the same time cannot (and vice versa), which indicates that the two scope relations are semantically equivalent. Since Höhle assumes verum focus to be a semantic focus, the difference in scope cannot account for the difference between (15.i) vs. (15.ii) (resp. (6.i) vs. (6.ii)). This fact is a direct consequence of the analysis of VERUM as a predicate over propositions, which we will thus abandon in the next sections.⁴

But how can one account for the difference between (6.i) vs. (6.ii) paraphrased as (15.i) vs. (15.ii)? Obviously, the major difference lies in the sentence type of the clauses involved. While (6.i) is a verb second clause with the finite verb fronted, (6.ii) is introduced by a complementizer and its verb is in the final position. There is a crucial difference between clauses of these two types in German. While fronting of the finite verb signals relevance for the discourse situation (which means that the clause can unfold illocutionary force), clauses with the verb in final position are related to elements in their grammatical environment (nouns in the case of relative clauses, matrix predicates

⁴An anonymous reviewer remarked further problems with the account proposed here. Indeed, these data appear to be problematic in further ways, since it is not clear how to account for them if the status of the negation of the thought as given in the background does not really matter. A possibility one can think of is the difference in the structural integration of (6.i) vs. (6.ii). While the clause in (6.ii) is fully integrated into the matrix structure, the V2-clause in (6.i) is relatively unintegrated (cf. Reis 1997: 138). This syntactic difference can lead to a kind of shielding preventing the negated thought from being accessible in the discourse situation.

Another reason for the difference between (6.i) and (6.ii), which Höhle (1992) discusses in footnote 7, can consist in the possibility of reconstructing the finite verb into a position the negation can take scope over (cf. also Bayer 2010), while this option is not available for the conjunction *dass* for obvious reasons. Hence, there is a syntactic difference between (6.i) and (6.ii).

A further way of accounting for the disparity can be related to the V2 property of (6.i). If V2 binds the proposition to the discourse situation, while (6.ii) does not, the asymmetry in suitability is derivable in terms of the theory proposed here. In the rest of the contribution, I will follow this way of thinking.

in the case of argument clauses) (Lohnstein 2000, 2007; Truckenbrodt 2006a). Therefore, the negation in (6.i) appears to be a rejection of the assertive claim *that he listens to her*. While this communicative act requires illocutionary force, it has to be realized as a verb second clause.⁵ For this reason, the reply in (6.i) appears to be appropriate. In contrast to that, the verb final clause in (6.ii) that is introduced by a complementizer is inappropriate because it lacks this discourse relating property in its sentence mood component. Seen this way, the argument Höhle proposes in terms of scope relations against an IT operator analysis turns out to be an argument exactly for this kind of analysis.

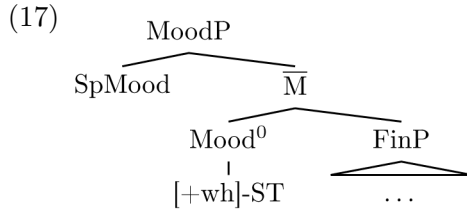
The IT operator analysis is too strong as we already mentioned earlier. But, as we will see immediately, a sentence mood analysis of verum focus has all required properties necessary for an exhaustive explanation of the phenomenon. All finite clauses (main and embedded) bear a sentence mood and can be marked with verum focus.

In German, sentence mood is a compositionally determinable category which results from the grammatical ingredients of verbal mood, $\bar{A}$ -movement of a [+wh]- or a [-wh]-phrase to a left peripheral $\bar{A}$ -position, verb fronting in the case of main clauses, and verb final structure in the case of embedded clauses. In terms of the syntax and the semantics of these regular grammatical means and their systematic interaction, the main properties of sentence moods in German can be derived in a compositional fashion (cf. Lohnstein 2000, 2007; Truckenbrodt 2006a,b).

Replacing the traditional CP-notation by a mood phrase MoodP, which selects a finiteness phrase FinP, a structural configuration results similar to Höhle's "segmental localization of verum"-approach in (9) in which MoodP replaces ϕ P and the landing sites for possible syntactic movement processes (or lexical insertions) are complemented:⁶

⁵See Lohnstein (2000, 2007, to appear) for the theoretical reconstruction of the relation between V2 and discourse anchoring. Discourse anchoring is the necessary prerequisite for the activation of illocutionary force. An independently motivated approach in the same vein is developed in Antomo (2013). See especially Antomo (2013:142) for an analysis of V2 as a marker for at-issueness.

⁶Concerning the semantic content, MoodP may be similar to what Rizzi (1997) labeled ForceP, but in contrast to Rizzi's (and his follow ups) proposal(s), which assume some version of a holistic force operator, the MoodP approach derives sentential force compositionally, which means that the ingredients of syntactic structure and their systematic interaction account for the intentional side of sentence meaning, namely sentential force or sentence mood.



Mood⁰ is the head of the mood phrase MoodP. SpMood is its specifier position, the landing site for $\bar{A}$ -movement. Mood⁰ is the position of complementizers in embedded clauses or the landing site for fronting the finite verb in main clauses via head movement. This position is lexically empty in the case of embedded wh-interrogatives and relative clauses. Note, that R/W-verum focus is possible only in these two sentence types because only in these cases the Mood⁰-positions are phonetically empty.

Turning to the distribution of elements in the left peripheral sentence positions, the following fillings are possible for the class of the epistemic verbal moods *indicative* or *conjunctive 2*:

(18)

	SpMood	Mood ⁰		Fin ⁰	
embedded clauses	—	dass	Karl gestern Äpfel gepflückt hat	hat	<i>C⁰-introduced</i>
	der	—	der gestern Äpfel gepflückt hat	hat	<i>relative</i>
	wer	—	wer gestern Äpfel gepflückt hat	hat	<i>wh-interrogative</i>
	↑	—	⋮	↑	
main clauses	—	hat	Karl gestern Äpfel gepflückt hat	hat	<i>y/n-interrogative</i>
	Gestern	hat	Karl gestern Äpfel gepflückt hat	hat	<i>declarative</i>
	Wann	hat	Karl wann Äpfel gepflückt hat	hat	<i>wh-interrogative</i>
	↑	↑	⋮	↑	

The position SpMood can be occupied by [+wh]- or [-wh]-phrases or nothing, while the M⁰-position has as possible contents a complementizer or a finite verb or it can be left empty. Not every combination is allowed, for instance there are no embedded constructions with a [+wh]-XP in SpMood and the finite verb in Mood⁰.

The factive verbal moods *imperative* and *conjunctive 1* behave differently with respect to the occupation of the position SpM, while the finite verb is distributed in the same way as in (18) – as far as embedded structures are possible at all. This is the case for conjunctive 1 – typically used for indirect speech –, but not for imperative verbal mood, since it is not embeddable. To make these considerations a bit more concrete, consider the main clause examples in (19):

(19) Imperative verbal mood:

- i. Fahr den Wagen in die Garage!
drive the car in the garage
“Drive the car into the garage!”
- ii. Den Wagen fahr in die Garage!
the car drive in the garage
“The car, drive it into the garage!”
- iii. *Was fahr in die Garage!
what drive in the garage
“What drive into the garage?”

(20) Conjunctive 1 verbal mood:

- i. Fahr-e er den Wagen in die Garage!
drive-Conj1 he the car in the garage
“He should drive the car into the garage!”
- ii. Den Wagen fahr-e er in die Garage!
the car drive-Conj 1 he in the garage
“The car, he should drive into the garage!”
- iii. *Was fahr-e er in die Garage!
what drive-Conj1 he in the garage
“What should he drive into the garage?”

The SpMood-position may be empty in (19.i) and (20.i), or filled with a [-wh]-XP (19.ii) and (20.ii), respectively. It is remarkable that the sentence moods of the imperative clauses in (19) as well as those of the subjunctive 1 clauses in (20) do not change if a [-wh]-phrase occupies the position SpMood. This differs crucially from the constructions in (18) where the occupation of the position SpMood by a [-wh]-phrase discriminates between y/n-interrogatives and declaratives.

For a [+wh]-XP in SpMood, short [+wh]-movement (19.iii) is ungrammatical in general, but it is allowed for long [+wh]-movement, as is witnessed by the following [+wh]-imperative:

- (21) [Mit welchem Auto]_i sag mir, t_i dass du nie wieder t_i fährst!
[with which car tell]_i me that, t_i that you never again drive
“With which car, tell me that you will never drive again!”

The sentence mood of the matrix clause is not interrogative, but remains imperative as convincingly argued by Reis & Rosengren (1992). This shows that SpMood can be occupied by a [+wh]-XP in principle (21), even if the verbal mood is imperative. But it needs to be restricted in cases like (19.iii). I cannot go into more details here, but it appears to be clear that the constitution of sentence moods is a combinatorial process interconnecting verbal moods with

$[\pm\text{wh}]$ -XPs and the position of finite verbs.

The following passage gives an explication of syntactic and semantic structure building and their relation to each other.

A thought – Frege’s notion of what is called a proposition today – induces a bipartitioned set of possible states of affairs. Frege identifies the grasping of a thought with a yes/no-question:

(22) Frege (1919/1956:293f.)⁷

“We expect to hear ‘yes’ or ‘no’. The answer ‘yes’ means the same as an indicative sentence, for in it the thought that was already completely contained in the interrogative sentence is laid down as true. [...] Consequently we may distinguish:

the apprehension of thought	–	thinking
the recognition of the truth of the thought	–	judgment
the manifestation of this judgment	–	assertion

We perform the first act when we form a sentence-question.”

Accordingly, a bipartition consists of one class of states of affairs described correctly by the proposition, and a second class, which contains the states of affairs described correctly by its negation:

- (23) i.

$\lambda s[p(s)]$	$\lambda s[\neg p(s)]$
-------------------	------------------------
- ii. a. $\lambda s[p(s)](@) = p(@) = \text{true}$ ⁸
b. $\lambda s[\neg p(s)](@) = \neg p(@) = \text{true} \rightarrow p(@) = \text{false}$

A judgment results if the bipartition is reduced to the class of situations the proposition describes correctly; as Frege put it: the affirmation of the truth of the thought (“die Anerkennung der Wahrheit des Gedankens”).

The syntactic correlate corresponding to the semantic operation of judging can be considered to be $\bar{A}$ -movement of a $[-\text{wh}]$ -XP to the SpMood-position

⁷Wir erwarten “ja” zu hören oder “nein”. Die Antwort “ja” besagt dasselbe wie ein Behauptungssatz; denn durch sie wird der Gedanke als wahr hingestellt, der im Fragesatz schon vollständig enthalten ist. [...]

Wir unterscheiden demnach:

das Fassen des Gedankens	–	das Denken
die Anerkennung der Wahrheit eines Gedankens	–	das Urteilen
die Kundgebung dieses Urteils	–	das Behaupten

Indem wir eine Satzfrage bilden, haben wir die erste Tat schon vollbracht.
(Frege 1919/1986: 35)

⁸@ signifies the current world. The expression $\lambda s[p(s)](@)$ indicates the application of the intensional function $\lambda s[p(s)]$ to the current world.

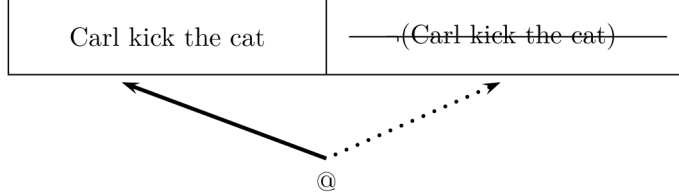
(cf. (18)). This leads to a declarative clause through the following semantic operations:

(24) Declarative clause: Carl kicked the cat.

Application of an intentional function to the actual situation (world) @ leads to a reduction of the bipartition to the class of situations the proposition characterizes correctly. Because the two classes are equivalence classes, the assignment of the situation under discussion to one class marks all elements in it equivalent to this situation, which, thereby, constitutes a representative of this class. The result of this operation leads to the denotation of a proposition as the set of those situations the proposition truly characterizes:

i. $\lambda s[\text{kick}(s, \text{Carl}, \iota x[\text{cat}(x)])](@) = \text{true}$

ii.



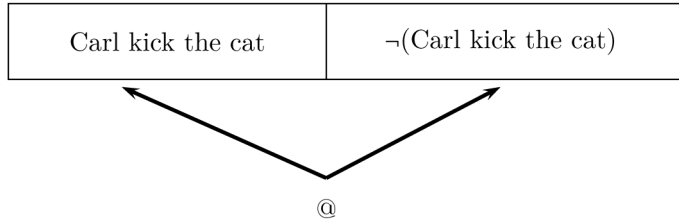
In the case of y/n-interrogatives, the position SpMood remains empty (cf. (18)). As a consequence, the bipartition remains unmodified, and a y/n-question results:

(25) y/n-interrogative: Did Carl kick the cat?

Bipartition remains unmodified:

i. $\lambda @ \lambda i[\text{kick}(@, \text{Carl}, \iota x[\text{cat}(x)])] = \text{kick}(i, \text{Carl}, \iota x[\text{cat}(x)])$

ii.



The semantic properties of $\bar{A}$ -moved wh-phrases (cf. (18)) lead to further differentiation of the bipartition by the sortal restrictions of the wh-phrase in the case of wh-interrogatives. Assuming that wh-phrases denote sets of entities (cf. Hamblin 1976), the Cartesian product of this set with the two cells in the propositionally induced bipartition allows for the construction of the complete space of possible answers, as proposed by the concept of an “index dependent proposition” by Groenendijk & Stokhof (1982, 1984) or Higginbotham (1986). This is exemplified in (26) starting with an index dependent proposition in

(26.i), using functional application for denotation sets in (26.ii), via the construction of the Boolean lattice in (26.iii) to the complete space of possible answers in (26.iv):

(26) wh-interrogative: Who kicked the cat?

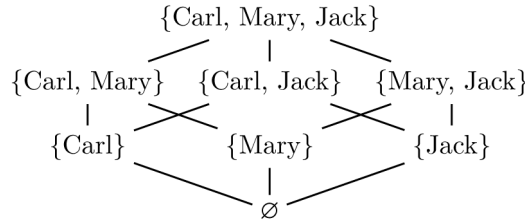
Bipartition undergoes differentiation (cf. Groenendijk & Stokhof 1982, Lohnstein 2007):

i. $\lambda @ \lambda i [\lambda x [\text{kick}(@, x, \iota x [\text{cat}(x)])] = \lambda x [\text{kick}(i, x, \iota x [\text{cat}(x)])]]$

ii.

$\lambda s [\lambda x [p(s)(x)] \left(\left\{ \begin{array}{c} \text{Carl,} \\ \text{Mary,} \\ \text{Jack} \end{array} \right\} \right)]$	$\lambda s [\lambda x [\neg p(s)(x)] \left(\left\{ \begin{array}{c} \text{Carl,} \\ \text{Mary,} \\ \text{Jack} \end{array} \right\} \right)]$
--	---

iii. Boolean lattice of possible answers:



iv. Space of possible answers:

$\left\{ \begin{array}{l} \text{Carl, Mary, Jack} \\ \text{Carl, Mary (not Jack)} \\ \text{Carl, Jack (not Mary)} \\ \text{Mary, Jack (not Carl)} \\ \text{Mary (not Jack, not Carl)} \\ \text{Carl (not Jack, not Mary)} \\ \text{Jack (not Mary, not Carl)} \\ \text{Nobody} \end{array} \right\} \text{ kicked the cat.}$

Summarizing the facts about the occupation of SpMood in German, we get the following correlations between the syntactic distributions of $[\pm \text{wh}]$ -phrases and the semantic objects they lead to:

(27)

SpM	M^0		<i>semantic object</i>	<i>sentence mood</i>
$\emptyset$		$\leadsto$	unmodified bipartition	(y/n-interrogative)
$[-\text{wh}]\text{-XP}$		$\leadsto$	reduced bipartition	(declarative)
$[\text{+wh}]\text{-XP}$		$\leadsto$	differentiated bipartition	(wh-interrogative)

The distribution of complementizers and finite verbs in the Mood⁰-position leads to the general distinction between clauses that are evaluated in correspondence to the context of discourse – roughly speaking: main clauses – and those which are evaluated with respect to their grammatical environment – the various types of argument and relative clauses, as well as embedded wh-interrogatives. The following table captures these properties:

(28)

SpM	M^0	$location\ of\ evaluation$
	Fin^0	$\leadsto$ context of discourse
	Conj, $\emptyset$	$\leadsto$ grammatical context

Thus, a picture emerges that extends Frege’s analysis of the assertion to a general view on sentence moods including indicative sentences as a special case: The filling of the SpMood-position determines a semantic object (cf. (27)), while the filling of the Mood⁰-position specifies the domain of evaluation for this very semantic object (cf. (28)).⁹ In the case of main clauses, one can think of this domain as the “table” in the sense of Farkas & Bruce (2010). If the finite verb is fronted in German, the clause is *put on the table*; otherwise the clause is related to some element or construction in the grammatical environment.

Turning next to the properties of verbal moods, it is perfectly plain that declarative and interrogative formation in German is possible with the verbal moods *indicative* or *conjunctive 2* only. It is not possible with the verbal moods *imperative* or *conjunctive 1*. The reason for this consists in the fact that the former determine the domain of evaluation for a proposition as “epistemic”, while the latter restrict the domain of evaluation as “factive” (cf. Lohnstein 2000, 2007). Because epistemic contents can be true or false, they can be questioned or asserted. These options are not available for clauses marked with imperative or conjunctive 1, which relate them to the factive domain, because facts do not allow for a true vs. false distinction. Facts – one can argue – constitute the structure of a model (of the world), the factive domain. Knowledge about this model constitutes the epistemic domain. Verbal moods systematically address these respective domains, similar to tenses which address specific temporal areas in relation to the time of speech. In terms of Searle’s (1969) classification of speech acts, it seems to hold that the epistemic moods have the word to world direction of fit, while the factive moods have the world to word direction of fit.

Thus, the factive moods block bipartitions, while – at the same time – they express the attempt to make the addressee do what the proposition expresses.

From these considerations the functions of sentence moods can – roughly – be characterized along the following lines:

(29) Functional characterization:

⁹A distinction between various kinds of semantic objects inside a clause is made by Blühorn (2012) and Blühorn & Lohnstein (2012) on the basis of work from Sweetser (1990).

<i>sentence mood:</i>		<i>function:</i>
declarative	↗	believe p
y/n-interrogative	↗	give a true answer (out of a 2-fold partition)
wh-interrogative	↗	give a true answer (out of a n-fold partition)
imperative	↗	make p a fact in @

We will see in the following that verum focus interrelates directly with these functions of sentence moods.

4 Verum focus in discourse situations

Moving on to the analysis of the realization of these sentence mood functions in discourse situations, it can be observed that verum focused clauses are – first of all – not appropriate as out-of-the-blue utterances. The propositions expressed by these clauses need to be “given” in some way in the discourse situation:

- (30) i. Situation: Peter returns from vacation and enters the room. No
aforementioned talk concerning the cat has taken place:
ii. Peter: # John DID kick the cat.

Without a controversial discussion (or known disputed positions) of the topic, verum focused clauses are inappropriate in a discourse. Even if those opposing propositions do not explicitly exist, it seems to be necessary to accommodate them together with some disputation about their acceptance.

Next, it is noticeable that utterances containing verum focused clauses are useful means to not tell the truth at all. Consider the example in (4) again repeated here as (31):

- (31) Die Wahl wurde korrekt durchgeführt.
the election WAS correctly carried out
“The elections WERE carried out correctly.”

Obviously, verum focus here is an effective means to not tell the truth at all, and to stop arguments and discussions to the contrary. There are only two alternatives on the part of the addressee having legal efficacy or force: first, he believes that everything was correct, or second, he does not. Yet (31) depicts the intention to minimize all opinions different from the speaker’s one about the election by verum focusing the sentence mood “declarative”. Thus, the verum focused “declarative” imposes a strong tendency on the addressee not to behave otherwise than believing the proposition expressed. Verum focus in this view is focus on the mood component with the effect that alternatives to the expressed mood function are obliterated in the situation of discourse.

Likewise, the function of y/n-interrogatives is to get a true answer out of the

binary space of possible answers (cf. Hamblin 1976, Karttunen 1977, Groenendijk & Stokhof 1982 among others). In this case, the speaker is not able to judge the truth or falsity of the proposition expressed. If the y/n-interrogative is provided with verum focus, the corresponding utterance is suitable to demand the addressees not to discuss the possibilities in the space of a 2-fold partition. It rather intends to extract the true answer from the addressee – which means again: fulfill the sentence mood of the y/n-interrogative (cf. (29)):

- (32) A: Karl hat die Katze getreten.
 Carl has the cat kicked
 “Carl kicked the cat.”
 B: Karl hat die Katze NICHT getreten.
 Carl has the cat NOT kicked
 “Carl did NOT kick the cat.”
 C: HAT er die Katze getreten?
 HAS he the cat kicked
 “DID he kick the cat?”

What C demands from A or B is the true answer by reducing the alternatives A and B propose to the function of the y/n-interrogative.

Similarly, the same mechanism appears to be at work in the case of wh-interrogatives with the special condition that wh-interrogatives have an n-fold differentiated space of possible answers, while the space of possible answers in the case of y/n-interrogatives is 2-fold only. In order for a verum focused wh-interrogative to be adequate in a discourse situation, their condition of use needs some attention:

- (33) A: Karl hat die Katze getreten.
 Carl has the cat kicked
 “Carl kicked the cat.”
 B: Nein, das war Fritz.
 no that was Fritz
 “No, Fritz did it.”
 C: Das kann nicht sein, Fritz war im Kino, Otto muss es gewesen
 that can not be Fritz was in the movies Otto must it been
 sein.
 be
 “That can not be the case, because Fritz was at the movies. So Otto
 must have done it.”
 D: Wer HAT die Katze (denn nun) getreten?
 who HAS the cat (then now) kicked
 “Who actually DID kick the cat?”

What D tries to evoke with the verum focused wh-question, is to boil down the alternatives to the function of the wh-interrogative, which means not to discuss the topic any further, but rather give a true answer out of the n-fold space, which means: fulfill the sentence mood of the wh-interrogative.

Moving on to imperatives, their prominent function is to make the addressee do what the proposition expresses. Note, that imperatives do not allow for the assignment of a truth value at all. What appears to be happening is – again – that the speaker using a verum focused imperative tries to diminish the alternatives of the addressee’s behavior to the function of the imperative clause. Consider the following setting in (34) together with the verum focused imperative given by speaker A:

(34) B walks around the room hesitating to take a chair.

A: Jetzt NIMM dir (endlich) einen Stuhl!
 now TAKE you (after all) a chair
 “TAKE a chair already!”

The verum focused imperative requires no *verbal* behavior on the part of the addressee, due to the properties of the imperative verbal mood which directs the proposition’s evaluation to the factive domain. It suffices that the addressee behaves in a way which is in line with what the verum focused imperative clause expresses. From these considerations together with the interpretation of focus as reduction of alternatives, it follows that verum focus on the imperative component tries to put an end to the addressee’s hesitation and wants him to fulfill the demanded act which is expressed by the imperative sentence mood, and this means again: fulfill the sentence mood of the verum focused clause.

As it appears, verum focus seems to be a suitable grammatical tool to reduce alternatives which belong to the class of (verbal) behavior characterized by the functions of the respective sentence moods. The diminution of alternatives in the discourse situation is a regular function of focus, as Krifka (2008) elaborated.

These observations suggest that in verum focus constructions the regular properties of sentence moods are strongly related to regular principles of focus interpretation. Seen from this point of view, verum focus is a result of the regular interaction of independently motivated properties of grammatical structure building.

5 Verum focus in embedded clauses

5.1 Verum focus in the left periphery

Beside F-verum focus on fronted finite verbs in German, a complementizer can carry the accent, or in the case of indirect wh-questions and respectively relative clauses, the phrase in the Spec-Position. In these embedded cases, only a pure true/false contrast seems to be possible.¹⁰ Consider the following examples:

- (35) i. Maria glaubt, DASS Paul das Buch gelesen hat.
 Mary believes THAT Paul the book read has
 “Mary believes THAT Paul read the book.”
 ii. Aber Clara glaubt, dass er das Buch NICHT gelesen hat.
 but Clara believes that he the book NOT read has
 “But Clara believes that he did NOT read the book.”
- (36) i. Du hast mir erzählt, WEN Du eingeladen hast.
 you have me told WHO you invited have
 “You have told me WHO you invited.”
 ii. Jetzt will ich wissen, wen du NICHT eingeladen hast.
 now want I know who you NOT invited have
 “Now, I want to know who you did NOT invite.”
- (37) i. Das sind die Bücher, DIE Paul gelesen hat.
 these are the books WHICH Paul read has
 “These are the books Paul HAS read.”
 ii. Und das sind die Bücher, die er NICHT gelesen hat.
 and these are the books which he NOT read has
 “And these are the books he has NOT read.”

Furthermore, R/W-verum focus is possible only if the head of the mood phrase is phonetically silent. This can be seen in the examples in (1.v) – (1.vii). Peculiarly, the non-embedded variants in (38.i) and (38.ii) which correspond to the embedded clauses in (1.vi) and (1.vii) do not show a verum effect, if the accent is assigned to the wh- or the d-pronoun while the finite verb is fronted:

- (38) i. WEN hat Karl eingeladen?
 WHO has Carl invited
 “WHO did Carl invite?”
 ii. DEN hat Karl eingeladen.
 THAT ONE has Carl invited
 “that one Carl DID invite.”

¹⁰Cf. also Sudhoff (2012).

Similarly, the R- and W-verum effects disappear in embedded clauses if the C-position is lexically filled as is possible in some German dialects, for instance Bavarian (39.i) and (39.ii), or in V/2-relative clauses (39.iii) (cf. Gärtner 2001). As far as these constructions are interpretable at all if they bear an accent on the element in the position SpMood, they surely do not show a verum effect:

- (39) i. (Ich weiß nicht,) WEN dass Karl eingeladen hat
 (i know not) WHO that Carl invited has
 “I don’t know who Carl DID invite.”
- ii. (Dort steht der Mann,) DER wo kommt.
 (there stands the man) WHO where comes
 “(There is the man) who DOES come.”
- iii. (Das Buch hat eine Seite,) DIE ist ganz schwarz.
 (the book has a page) WHICH is entirely black
 “(The book has a page) which IS entirely black.”

These data suggest that the accent inducing verum focus is situated in the head position of the left peripheral phrase only. If this position is phonetically empty, it seems to be the case that the accent shifts to the string adjacent specifier position in the same syntactic projection. Thus, R/W-verum focus appears to be a pure PF-phenomenon restricting verum focus exclusively to the head position of the mood projection. But this is not the whole story, since in the case of complex relative or [+wh]-phrases an accent shift to the next leftward position does not lead to a verum effect at all. Rather – as it appears – the accent has to be placed on the relative or [+wh]-pronoun inside the XP – a property which is unpredicted under the accent shift analysis:

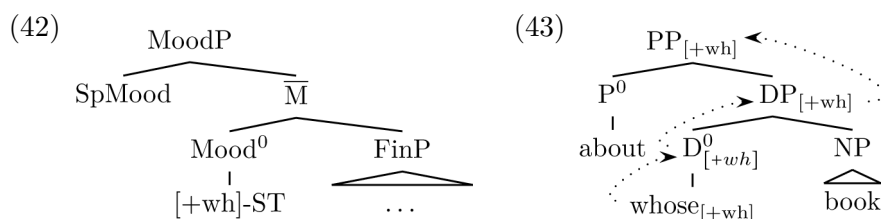
(40) relative XPs:

- A: Dort steht der Autor, dessen Buch du nicht gelesen hast.
 there stands the author whose book you not read have
 “There is the author whose book you did not read.”
- B: Und dort steht der Autor, ...
 and there stands the author
 “And there is the author ...”
- i. DESSen Buch ich gelesen habe. (verum focus)
 WHOSE book I read have
 “whose book I DID read.”
- ii. # dessen BUCH ich gelesen habe. (no verum effect)
 whose BOOK I read have
 “whose BOOK I have read.”

(41) [+wh]-XPs:

- A: Du hast mir erzählt, wessen Buch du nicht gelesen hast.
 you have me told whose book you not read have
 “You told me whose book you haven’t read.”
- B: Nun sag doch mal, ...
 Now tell but once ...
 “Now tell me ...”
- a. WESSEN Buch du gelesen hast. (verum focus)
 WHOSE book you read have
 “whose book you DID read.”
- b. # wessen BUCH du gelesen hast. (no verum effect)
 whose BOOK you read have
 “whose BOOK you have read.”

The examples in (40.-ii) and (41.-b) – although the accent is on the closest syllable left to M^0 – do not show any verum effects. Rather, it appears that in a relative clause the relative pronoun and in a [+wh]-interrogative clause the [+wh]-pronoun inside the respective maximal projections has to bear the accent. So, some kind of grammatical relation has to exist between the $Mood^0$ -position and the pronouns inside the XP which is positioned in SpMood. What seems to be at hand is some spec-head relation. But how is it established? It is plain from the beginning that [+wh]-features appear as sentence mood features in the $Mood^0$ -position (Katz & Postal 1964, Rizzi 1996, Brandt et al. 1992) of clauses (cf. (42)). We call this kind of feature a sentence type (ST) feature. However, [+wh]-features also appear in phrases, but need not necessarily be head features. This kind of feature, we call phrase (P) feature. They can percolate from other than head positions to the maximal projection, as – for instance – in the case of [+wh]-PPs (cf. (43), details aside):



ST- and P-feature agree in a spec-head-relation¹¹ and form a chain. The [+F] focus feature is assigned to the foot of the chain in $Mood^0$. Since $Mood^0$ contains no lexical content in the case of relative and embedded wh-interrogative sentences (cf. (28)), [+F] has to be interpreted on the head of the chain at the level of phonetic form PF, but logically its interpretation takes place in $Mood^0$ at the level of LF:

¹¹ A possible explication of this relation is given by Rizzi’s (1996:64) wh-criterion:

- “(Jack claims) that Carl HAS fed the dog.”
- ii. (Hans behauptet,) dass Riesenzwerg existIERen.
(Jack claims) that giant dwarfs EXIST
“(Jack claims) that giant dwarfs DO exist.”
 - iii. (Hans behauptet,) dass Karl ihm die Leviten LIEST.
(Jack claims) that Carl him the “Leviten” READS
“(Jack claims) that Carl DOES read him the riot act.”
 - iv. (Hans behauptet,) dass Karl den Hund FÜTtert.
(Jack claims) that Carl the dog FEEDS
“(Jack claims) that Carl FEEDS the dog.”

In all cases the finite verb is in final position. (45.i - 45.iii) show verum effects, but (45.iv) does not.

The crucial difference between positionally related verum focus in the left periphery and predicate related verum effects in final position seems to be that the former has an effect on the whole proposition, while the latter relate to the predicate only.¹² The following contrast structures illustrate the situation:

(46) contrast to left peripheral verum focus:

- i. (Aber Maria hat gesehen,) DASS Peter die Katze gefüttert hat.
(but Mary has seen) THAT Peter the cat fed has
“(But Mary has seen) that Peter DID feed the cat.”
- ii. { Peter has fed the cat | Peter has not fed the cat }

(47) contrast to right peripheral predicate focus:

- i. (Aber Maria hat gesehen,) dass Peter die Katze gefüttert HAT.
(but Mary has seen), that Peter the cat fed HAS
“(But Mary has seen) that Peter DID feed the cat.”
- ii. Peter { has fed | has not fed } the cat.

While in (46) whole propositions enter the set of contrastive alternatives, in (47) it is only the opposite poles of a complementary predicate. In (45.i) the finite verb is an auxiliary carrying light semantic content only. Because of the focus accent alternatives are evoked (cf. Krifka 2008). What candidates are possible? Because of their light semantics, the only alternative is their negation. With focus on the auxiliary, the affirmative part is selected from the alternative set, excluding the negated part. This appears to derive the verum effect in this construction, which is not a verum focus in the sense discussed, but the result of a contrastive focus on a complementary predicate. Exactly the same analysis captures the cases in (45.ii) and (45.iii). The full verb “exist” has as sole alternative to its abstract meaning “not exist” and

¹²Cf. also Stommel (2011) and Lohnstein & Stommel (2009).

focus on the affirmative part leads to a verum effect. Similarly, in idioms like “read him the riot act”, there are no alternatives except the negation of the whole idiom “don’t read him the riot act”. It is simply not possible to “mail him the riot act” or “sing him the riot act”. The accents on the finite verb in final position in (45.i) - (45.iii) cause verum *effects*, because it is not possible to construct alternatives other than their negation. Main verbs as in (45.iv), however, permit a variety of alternatives. Verb final focusing, therefore, does not lead to a verum focus interpretation in principle, but only in the marginal special case of abstract or semantically light verbs. Consequently, it should not be treated on a par with left peripheral verum focus.

Summarizing this section, the following can be concluded: Left peripheral verum focus in embedded verb final clauses in German is possible on the left peripheral head position only; a focus accent on a [+wh]- or relative phrase leads to verum focus if this head position is phonetically empty. In this case, the head of the chain bears the accent.

Verum effects on verbs in the final position are restricted to complementary predicates which do not have alternatives other than their negation, as witnessed by auxiliaries, abstract verbs and verbs in idiom chunks.

6 Deriving the intuition about “truth”

The conception of “truth” has been discussed throughout centuries in the philosophical tradition. Four theories seem to be rather prominent and worth examining in the context of verum focus.

The “redundancy theory of truth” was *inter alia* proposed by Frege: “The sense of the word TRUE does not provide a relevant contribution to the thought. If I claim ‘it is true that seawater is salty’, I claim the same as if I assert ‘seawater is salty’. [...] Therefore, one can suspect that the word ‘true’ does not have a sense. But then, a clause containing the word ‘true’ as a predicate would not have a sense. One can only say: the word ‘true’ has a sense which does not contribute anything to the sense of the clause in which it appears.” [Translation of Frege 1976:271¹³ by HL] This remark suggests that there is no difference respecting the meaning between a clause introduced by *It is true*

¹³“Das Wort WAHR liefert [...] durch seinen Sinn keinen wesentlichen Beitrag zum Gedanken. Wenn ich behaupte ‘es ist wahr, daß [sic] Meerwasser salzig ist’, so behaupte ich dasselbe, wie wenn ich behaupte ‘das Meerwasser ist salzig’. [...] Danach könnte man meinen, das Wort ‘wahr’ habe überhaupt keinen Sinn. Aber dann hätte auch ein Satz, in dem ‘wahr’ als Prädikat vorkäme, keinen Sinn. Man kann nur sagen: das Wort ‘wahr’ hat einen Sinn, der zum Sinne des ganzen Satzes, in dem es vorkommt, nichts beiträgt.”

that ... and the corresponding (declarative) clause itself. The predicate “to be true”, thus, does not contribute a relevant meaning component to the whole clause.

The “correspondence theory of truth” takes a proposition to be true iff the conditions expressed by the proposition correspond to the facts in (a model of) the world. The tradition of this theory reaches back to Aristoteles: “To claim that existing things do not exist, or that not-existing things exist is false. But to claim that the existing things exist, and the not-existing things do not exist is true. Therefore, someone who claims that something exists or does not exist, says the truth or the falsity.” [Translation of Aristoteles: *Metaphysik*, Book 4, Section 7, Paragraph 1011b, 26–29 by HL]¹⁴ Its use in modern logic and semantics can be traced back to Tarski’s (1944) prominent definition of “truth” as the fulfillment of a formula of the object language.

The missing link between objects of language and situations in the world leads to the “coherence theory of truth” (cf. Hempel (1935), Davidson (2000) among many others). This theory states that a proposition is true iff it is compatible with a set of other propositions given by some theory or the epistemic system of an individual, for instance. In terms of possible world semantics, the intersection of the set of worlds denoted by proposition p with the set of worlds denoted by the set P of propositions must not be empty:

$$(48) \llbracket P \rrbracket \cap \llbracket p \rrbracket \neq \emptyset$$

This definition is in a sense independent of the way the world actually is. Nevertheless, neither of these theories captures the effects induced by *verum focus*. As it appears, the only possibility of deriving them seems to be by way of the “consensus theory of truth”: “‘Truth’, we call the assertive claim we connect with constative speech acts. A statement is true if the assertive claim of the speech acts with which we use the clauses claiming that statement is justified.” [Translation of Habermas 1973:218¹⁵ by HL] According to this theory, a constative speech act holds to be true if its truth is accepted by the participants of a principally infinite and violence free discourse. *Verum focus* – under this perspective – appears to be a means to put an end to a discourse (often in an authoritarian fashion). Because the infinite discourse

¹⁴“Denn zu behaupten, das Seiende sei nicht oder das Nicht-Seiende sei, ist falsch. Aber zu behaupten, dass das Seiende sei und das Nicht-Seiende nicht sei, ist wahr. Es wird demnach der, der behauptet, dass etwas sei oder nicht sei, die Wahrheit sagen oder die Unwahrheit.”

¹⁵“Wahrheit nennen wir den Geltungsanspruch, den wir mit konstativen Sprechakten verbinden. Eine Aussage ist wahr, wenn der Geltungsanspruch der Sprechakte, mit denen wir unter Verwendung von Sätzen jene Aussage behaupten, berechtigt ist.”

Recapitulating all parts from the preceding sections, the following syntactic configuration together with the semantics of sentence moods allow for a compositional derivation of the verum focus phenomenon:

(50) Focus assignment:

Then, (49) has the interpretation: $\llbracket_{[+F]} f(mood) \rrbracket_A = \text{ALT}(f(mood))$,

Conflating sentence mood constitution and focus assignment, we attain the “sentence mood theory of verum focus”. In informal terms, it can be stated as follows:

The main syntactic, semantic and discourse pragmatic properties connected with the phenomenon called “verum focus” are derivable from the properties of sentence moods together with the regular function of focusing as reduction of alternatives given in the context of discourse.

(52) i. The syntactic distribution of the assignment of [+Focus] in the case of verum focus in German is restricted to the head position Mood⁰ of the functional category MoodP. The theory, thereby, answers the

question which element is the focus exponent in verum focus constructions.

- ii. The theory maintains the relevant advantages of Höhle’s IT-analysis, but omits their failure with respect to embedded sentences at the same time: embedded as well as main clauses bear a sentence mood.
- iii. The sentence mood analysis avoids the disadvantages of the verum predicate analysis because sentence moods are reconstructed as intensional functions which can be applied to actual states of affairs.
- iv. The theory assumes verum focus not to be a distinct focus phenomenon with ideosyncratic properties, but, instead, interprets the phenomenon as a regular focus construction. Its properties are derived by the regular means of sentence mood constitution together with the regular properties of focus assignment.

Proposing this theory does not mean that there are no other grammatical ways to get verum effects. As Gussenhoven (1984) has illustrated, it is often the case that semantically empty (or light) elements allow for verum effects if they bear an accent. So, for instance in German, semantically light verbs allow for verum effects, even if they are in the final position (cf. Section 5.2). The reason for this is based on the fact that focus assignment involves the construction of alternatives (cf. Krifka 2008). This need together with semantic lightness leads to a binary contrast between “affirmation” vs. “negation” as elements of the set of alternatives. The affirmative part of this contrast is one half of a complementary predicate’s denotation, as is illustrated by the examples in (45).

Modal particles, as analyzed for instance by Gutzmann (2010), can carry accents inducing verum effects, too. But these cases are different from verum focus on the mood component because lexical properties of modal particles account for these effects.

Hence, the phenomenon designated as *verum focus* – viewed under the perspective of this theory – should better be labeled as *sentence mood focus*.

8 Bibliography

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