

Verum focus*

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Abstract

This article aims to shed light on a phenomenon first described and coined as *verum focus* by Höhle (1988; 1992). He characterizes its semantic effect as *emphasizing the expression of truth of a proposition*. In German, the phenomenon typically appears in the left periphery in main as well as in embedded clauses. Höhle relates it to a linguistic object VERUM occurring in the syntactic/semantic structure of clauses.

After presenting several approaches which make crucial use of VERUM, the concept of *truth* and its linguistic realization in clausal structures will be discussed critically. This leads to a perspective that connects verum focus to the part of the sentence that spells out the intention of the sentence meaning; as for example if it is a question, a demand or a statement: sentence mood. This 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.

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 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. 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.a) - (1.d) as well as embedded (1.e) - (1.g) 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.h) - (1.j):

- (1) a. Karl HAT den Hund gefüttert.
Carl has the dog fed.
„Carl DID feed the dog.“
b. HAT Karl den Hund gefüttert?
Has Carl the dog fed?
„DID Carl feed the dog?“

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- c. Wer HAT den Hund gefüttert?
Who has the dog fed
„Who DID feed the dog?“
- d. FÜTter jetzt den Hund!
Feed now the dog
„FEED the dog right now!“
- e. (Aber Maria glaubt,) DASS Karl in Urlaub gefahren ist.
(But Mary believes) that Carl in holidays driven is.
„(But Mary believes) that Carl DID go on holidays.“
- f. (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.“
- g. (Das ist der Wagen,) DEN Karl gefahren hat.
(This is the car) which Carl driven has.
„This is the car which Carl DID drive.“
- h. (Aber Maria glaubt,) dass Karl in Urlaub gefahren IST.
(But Mary believes) that Carl in Holidays driven is.
„But Mary believes that Carl DID go on holidays.“
- i. (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.“
- j. (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.a) - (1.d) carry different sentence moods. (1.a) is a declarative, (1.b) a y/n-interrogative, (1.c) a wh-interrogative, and (1.d) is an imperative. The embedded clauses in (1.e) - (1.g) are a declarative complement clause in (1.e), a wh-complement clause in (1.f) and a relative clause in (1.g). The same kinds of clauses are given in (1.h) - (1.j) with the focus on the auxiliaries in final position.

Höhle describes the function of the specific accent in (1.a) - (1.d) 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 makes this element stand out. [Translation by HL]

For the data in (1.e) (C-verum focus), (1.f) (W-verum focus) und (1.g) (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.

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 they are effective means to stop disputations about the verum focused issue. Consider the example in (3) after the election of president Janukowitsch of Ukraine on February 25th, 2010:

- (3) Die Wahlen wurden korrekt durchgeführt.
 The elections were correctly carried out
 „The elections WERE carried out correctly.“

Similar effects appear in questions and imperatives, too, as we will see in more detail in paragraph 5.

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

Subsequently, section 3 provides a collection of several approaches using the VERUM-operator for the syntactic and semantic analysis in various typologically different languages. Usually, in these studies the element VERUM is assumed to be an invisible operator which is either always present or which is induced in case verum focusing takes place. Since sentence moods appear to play a crucial role in verum focus constructions, section 4 concentrates on general properties of sentence moods. Since an essential property of main clauses is their relatedness to the discourse, section 5 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 6. In order to get an adequate understanding of what the proper meaning of VERUM can be, section 7 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 8 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:

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

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

2.1 Illocution type operator analysis

The idea in reference to the analysis of verum focus as an illocution type operator (IT-operator) includes 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, since embedded clauses allow for verum focus, they surely do not contain an illocution type operator. Second, the IT-analysis fails – as Höhle argues – for reasons of scope. 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:

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

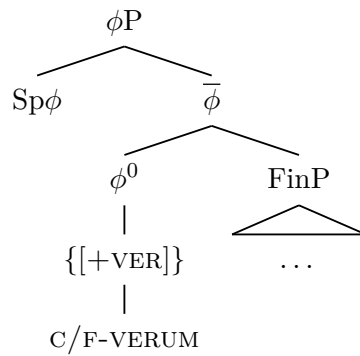
2.2.1 Segmental localization of verum

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:

- (6) [+VER] in ϕ
 - a. In the left periphery of German clauses there is a functional projection ϕ . ϕ always combines with a constituent Π and projects a X-bar-structure.
 - b. ϕ is unifiable with feature specifications of complementizers.
 - c. ϕ is unifiable with feature specifications of finite verbs binding a trace.
 - d. 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.
 - e. A feature M of an expression α is „free“ in the sense of d., if α does not bind a trace bearing feature M.
 - f. 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:

- (7) Segmental localization of VERUM:



Looking at R/W-verum focus, Höhle (1992:134f.) suspects that the segmental analysis is insufficient, because beside the realization of verum focus in the position ϕ^0 an accent in the position $\text{Sp}\phi$ delivers a verum focus, too. This can be seen in the examples in (8.b) and (9.b) with the respective contexts in (8.a) and (9.a):

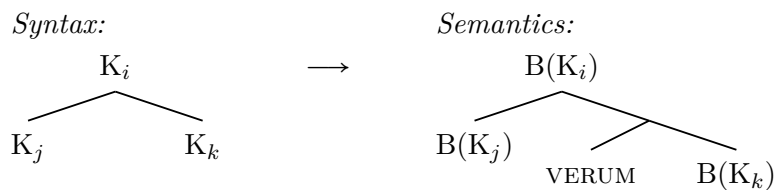
- (8) a. Da stehen die Leute, die du NICHT getroffen hast.
 There stand the people who you NOT met have
 „There are the people who you have NOT met.“
 b. Aber dort stehen die Leute, DIE du getroffen hast.
 But there stand the people WHO you met have
 „But there are the people who you DID have met.“
- (9) a. 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.“
 b. 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. (10.a) delivers an explication of this translation, where K_j can be given by the elements in (10.b) (cf. Höhle 1992:138):

- (10) a. Non-segmental localization of VERUM:



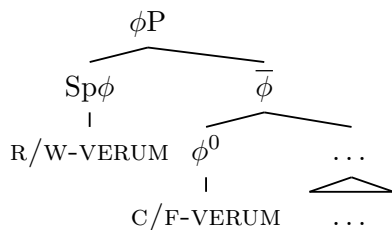
- b. K_j can be:
- i. a finite verb,
 - ii. a complementizer,

- iii. a relative pronoun,
- iv. a wh-pronoun in an embedded clause.

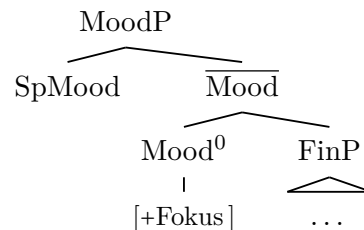
B(K) stands for the *meaning of K*. VERUM is in a position that has scope over the propositional core B(K_k), from which – for independent reasons – a constituent may be extracted. VERUM on the semantic level becomes a predicate over propositions as one may expect. Later on in this article, it will be 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 (11.a), the approach presented here will merely consist of a mood phrase MoodP and the assignment of a focus feature [+F] to the head M⁰ of MoodP as is illustrated in (11.b):

(11) a. Höhle (1992):



b. Lohnstein (2012):



Before turning to considerations concerning these points, the next section presents an overview of various approaches proposed in the literature which make crucial use of Höhle's VERUM-element.

3 Verum focus in linguistic research

Although Höhle (1988; 1992) coined the term *verum focus*, the phenomenon was observed much earlier, for instance as polarity focus in Halliday (1967:24) or Watters (1979). Watters (1979) in a study about Aghem, a Grassfields Bantu language spoken in Cameroon, distinguishes six types of focus, where especially two types relate directly to verum focus: „polar focus“ and „counter-assertive polar focus“. In his understanding, focus is – as proposed by Jackendoff (1972) – „that information in the sentence that the speaker believes, assumes or knows the hearer does not share with him or her“ (cf. Watters 1979:137). He observes that „polar focus“ and „counter-assertive polar focus“ are suitable for emphasizing the truth of a proposition, the hearer assumes to be false, or vice versa. Watters (1979:177) characterizes these two types of focus as follows [Watters' numbering]:

(12) (6) Types of focus:

- a. *Polar focus (PF)*: the truth value „true“ or „false“ which the speaker asserts or counter-asserts concerning a proposition. [...]

Example: *it is true/the case that Inah gave fufu to his friends* = *Inah did give fufu to his friends*.

- b. *Counter-assertive polar focus (CAPF)*: the truth value „true“ or „false“ which the speaker asserts, contradicting the hearer’s previous utterance concerning the truth value of the sentence [...].

Example: *it is too the case/true [contrary to your denial] that Inah gave fufu to his friends = Inah did too give fufu to his friends.*

In line with Watters observations, Dik et al. (1981) – under the perspective of Functional Grammar – characterizes *polar focus* as focusing on the truth value of the assertion: „If the predication is presented as an assertion, then the focus will fall on the truth value of the assertion, as in:

(13) (5) John went to the market

(14) (6) John DID GO to the market

(5) can be taken as a focus-neutral assertion of a certain fact. In (6) the focus is on the truth value of the predication as a whole. This construction could be used in a context in which the issue was whether or not it was the case that John went to the market, it is emphatically asserted that John went to the market.“ (Dik et al. 1981:44)

With similar terminology, Gussenhoven (1984:49) describes *polarity focus* as a sub-class of minimal focus. Polarity focus – as Gussenhoven assumes – looks for semantically empty small words it can go to, as for instance in example (107-B) [Gussenhoven’s numbering]. In this example, the focus is underlined and the nucleus is carried by the preposition ON. ON in this case, is called the nucleus carrier (NC) by Gussenhoven (in newer approaches it is called the „focus exponent“) which takes the underlined part as focus domain:

(15) (107) A (soccer fan): I want you to sprinkle my ashes all over the PITCH

B: Well, you know spectators aren’t really allowed ONTO the pitch

The focus on „ONto“ is assumed to be ambiguous, with one reading contrasting alternative prepositions and the other leading to the polarity effect.

In connecting finiteness and assertion, Klein (1998) discusses verum focus data and relates them to a linguistic level of logical description. On this level, the assertive component ASS of a declarative clause is associated with the finite part FIN of the finite verb. Promoting the concept of „topic time“ (the time at which the assertion holds), Klein uses verum focus data as evidence for the strict relatedness between finiteness and assertion.

Trying to analyze Ladd’s (1981) p-/¬p-ambiguity, Romero & Han (2002, 2004) use a conversational operator VERUM to derive this ambiguity. It appears in negative y/n-questions with preposed negation:

(16) Isn’t there a vegetarian restaurant around here?

In one reading the questioner asks for the confirmation of something he believes to be true. The other reading shows up in case the questioner assumed the truth of the proposition previously, but – by some evidence – has inferred that this proposition is actually false, and he wants to check this new inference (see Ladd 1981). As Ladd (1981:165f) demonstrates, „there is a genuine syntactic/semantic ambiguity here, involving a difference in scope of negation.“ Romero & Han (2004) try to explain this ambiguity by making the suggestion that verum focus is obligatorily realized in y/n-questions with preposed negation. Furthermore, they presume that verum focus

signals the presence of an epistemic implicature. Verum focus interacts with negation in terms of a scopal ambiguity as already proposed by Ladd. In order to deduce this ambiguity, they assume that VERUM is a conversational epistemic operator, rather than a purely epistemic operator. Therefore, the semantics of VERUM should not imply that the speaker is entirely certain about the truth of p , but rather that p should be added to the Common Ground. The semantics of VERUM can then be related to the semantics of the epistemic adverb *really*, which leads to the following formal definition (cf. Romero & Han 2004:627):

$$\begin{aligned}
 (17) \quad & \llbracket \text{VERUM}_i \rrbracket^{g,x/i} = \llbracket \text{really}_i \rrbracket^{g,x/i} = \\
 & = \lambda p_{\langle s,t \rangle} \lambda w. \forall w' \in \text{Epi}_x(w) [\text{ALL} w'' \in \text{Conv}_x(w') [p \in \text{CG}_{w''}]] = \\
 & = \text{FOR-SURE-CG}_x
 \end{aligned}$$

where $\text{Epi}_x(w)$ is the set of worlds that conform to x 's knowledge in w , $\text{Conv}_x(w')$ is the set of worlds where all conversational goals of x in w' are fulfilled, and $\text{CG}_{w''}$ is the Common Ground (in the sense of Stalnaker 1978) which contains all propositions the speakers in w'' assume to be true. Translated into English the formula expresses the intuition that the speaker is certain that proposition p should be added to the Common Ground.

Büring (2006) regards clauses with verum focus as the opposite of all-new-clauses. Since the proposition of verum focused clauses must be given in the discourse situation, the only new part of the clause is the assertive component. Because even this part is not new, Büring concludes that the focus on the finite verb serves the proposition as „context linking“. Context linking is to be understood in a similar way as Schwarzschild's (1999) notion of „givenness“. That means that at least one element of the alternatives denoted by the focused element is present in the context of discourse.

Gutzmann (2012) distinguishes two generally different approaches to verum focus, which he classifies into two theoretical conceptions:

(18) Focus Accent Thesis (FAT)

VERUM is a silent operator which can get focused. Focus on this covert element is assumed to be an ordinary focus (cf. Büring 2006; Zimmermann & Hole 2008)

(19) Lexical Operator Thesis (LOT)

VERUM is a conversational operator (cf. Gutzmann & Castroviejo Miró 2011; Romero & Han 2004). It is present if verum focus is realized otherwise it's not.

For FAT to be properly defined, VERUM has to be present in any clause without the need that verum focus has taken place. From LOT, it follows that VERUM has morphemic status in that it is an idiosyncratic lexicalized combination of an intonational structure together with a specific meaning.

Lai (2011) argues that verum focus on a proposition induces an update process of p in the situation of discourse. Rejecting accounts like Romero & Han's (2004) requesting additions to the common ground or Gutzmann's & Castroviejo Miró's (2011) approach which downdates the question under discussion (QUD) through a conventional implicature, she proposes that $\text{verum}(p)$ signals an update of p from the conversational background.

Using characterizations of contrastiveness from Rooth (1992) and Lang & Umbach (2002), Stom-

mel (2011) argues that the functional effect of verum focus can be boiled down to that of a contrastive focus. Generalizing about this function, she subsumes verum effects in the left periphery of a sentence, verum effects on modal particles and verum effects on light verbs in the right periphery under a single semantic notion.

Observing that some aspects of sentence meaning escape truth conditional characterization – as for instance in the case of (20) which does not allow for a paraphrase with *being true* (20), but rather with *being a fact* (20), Blühdorn (2012) and Blühdorn & Lohnstein (2012) distinguish different semantic objects (21.a). The core ideas of this distinction trace back to Sweetser (1990) and Lyons (1977), but already a bit earlier to Hare (1971):

- (20) Dass es nicht regnet, ist schlecht für die Landwirtschaft
 That it not rains is bad for the agriculture
 „That it does not rain, is bad for agriculture.“

- * That it is true, that it does not rain, is bad for agriculture.
 That it is a fact, that it does not rain, is bad for agriculture.

The different semantic objects in (21.a) correspond to the respective syntactic projections in the clausal structure in (21.b):

(21) a.	level	semantic	syntactic	Hare's terms
i.	factive	s-object	ν P	tropic
ii.	epistemic	e-object	FinP	phrastic
iii.	volitive	m-object	MoodP	neustic

b.

Lohnstein (2012) presents the „sentence mood theory of verum focus“, which has to be carefully scrutinized and will be addressed separately in section 8 (cf. also Lohnstein & Stommel 2009).

Typologically, there seem to be a variety of grammatical devices to mark verum focus in main clauses. As can be seen from the example in (22.a), German uses a pitch accent on the fronted finite verb, English realizes verum focus by (affirmative) do-support together with an accent on „do“ (22.b), Spanish inserts the particle „sí“ (22.c) from Gutzmann (2012:73), while Dutch needs the particle „wel“ as exemplified in (22.d) by Sudhoff (2012:109):

- (22) a. Karl HAT das Buch gelesen. (German)
 Carl has the book read.
 „Carl DID read the book.“
 b. Carl DID finish his book. (English)
 c. Carlos sí acabó su libro.
 Carl *si* finished his book.

- „Carl DID finish his book.“
 d. Ik heb het boek WEL gelezen. (Dutch)
 I have the book *wel* read.
 „I DID read the book.“

Looking at Norwegian, Hetland (1992a;b) observes that verum focus can be realized in the position C^0 , but also in I^0 or V^0 . These options – she claims – are not available in German or English. Furthermore, there appear to be constructional variants with focus accents on two distinct positions in a clause which lead to verum effects:

- (23) Jeg må tilstå AT jeg dessverre ikke HAR sluttet. (Norwegian)
 I must confess THAT I unfortunately not HAVE stopped
 „I have to confess that, unfortunately, I did not stop.“

In Bura, a Chadic language, focus is marked by various strategies. While focused subjects are obligatorily marked with the particle „án“, focused non-subjects are marked by another device. But in the case of verum focus the particle „ku“ is used (cf. Hartmann & Jacob & Zimmermann 2008:75):

- (24) a. A:
 Náha Pindár sá mbal. (Bura)
 yesterday Pindar drink beer
 „Yesterday P. drank beer.“
 b. B:
 A'á, Pindár (ku) sá mbal náha. (Bura)
 yes P. VERUM drink beer yesterday
 „Yes, Pindar DID drink beer yesterday.“

In South Marghi, another Chadic language, focus is marked by two different, but co-occurring devices: fronting of the focused constituent and the immediate follow up of the focus particle „ŋa“. Verum focus, however, is realized by another device: fronting of the finite verb. As can be seen from the examples in (25) (from Gutzmann 2012:76; Hartmann 2011) the SOV order in (25.a) changes over to VSO order in the verum focused reaction in (25.b-B):

- (25) a. A:
 Nagai shil o ki-da mai. (South Margi)
 2SG.S.NEG come to house-1SG.POSS NEG
 „You did not come to my house.“
 b. B:
 It's not true A shil-y o ki-ŋ-au. (South Margi)
 AUX come-1SG.S to house-2.SG.POSS-FV
 „I DID come to your house.“

Gutzmann & Hartmann (2012) try to dissociate „verum“ from „focus“. While FAT may be plausible for German or English – as the authors claim – this does not hold for typologically more diverse languages like Bura or South Margi, which give rise to the *lexical operator thesis* (LOT). While FAT assumes a verum operator to be present in every (finite) sentence, LOT takes VERUM as a conversational operator similar to the conception proposed by Romero & Han

(2004) or Gutzmann & Castroviejo Miró (2011). LOT claims that the accent inducing verum focus has a lexicalized intonational meaning. Verum focus, therefore, does not count as a regular focus at all, but is morphemic in nature. As Gutzmann & Hartmann (2012) and Hartmann (2013) point out for Chadic languages, LOT seems to be the more adequate thesis referring to the verum phenomenon than FAT.

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

4 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 already illustrated.

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:

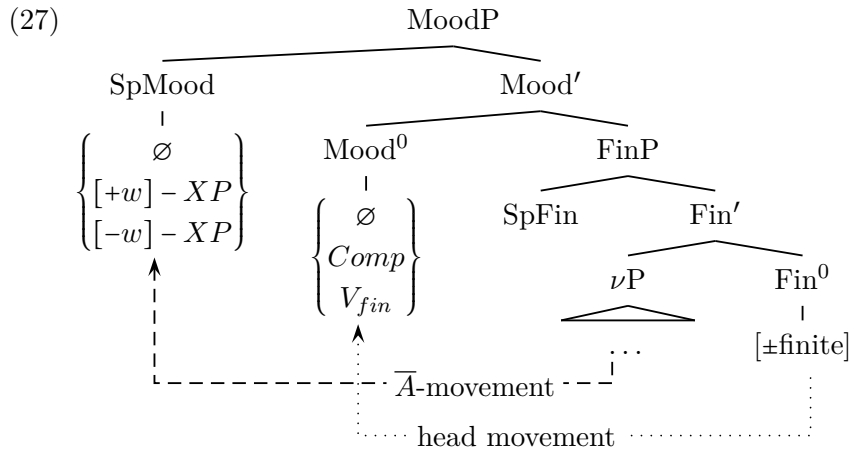
- (26) a. The IT-analysis provides an independent motivation for a sentential subcomponent which is responsible for verum focus.
- b. The approach of a segmental localization provides an x-bar-structure with a head position in which the relevant [+VER]-feature can be positioned.
- c. The approach of 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 (26.a), but need to transfer the concept of „illocution type operator“ to the concept of „sentence mood“. 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.

To capture the syntactic regularities of verum focus assignment, (26.b) has to be maintained too. But a slight change has to be made, because there is no need for a feature [+VER], as will be touched upon in due course (26.c) 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, but rather – as Frege (2001:88) illustrated – 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.

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 (7) in which MoodP replaces ϕ P and the landing sites for possible syntactic movement processes (or lexical insertions) are complemented:¹

¹Concerning 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



Mood⁰ is the head of the mood phrase MoodP. SpMood is its specifier position, the landing site for $\overline{A}$ -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-position is phonetically empty.

The following passage gives an explication of the 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:

(28) Frege (1919/1956:293f.)

„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:

- (29) a.

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

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

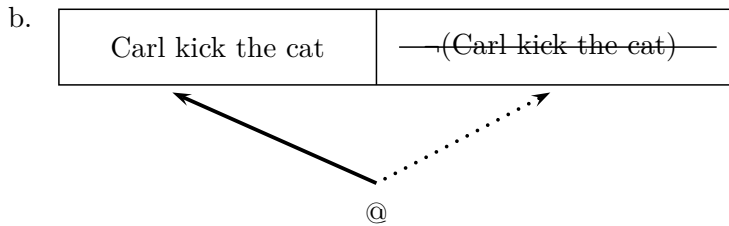
their systematic interaction account for the intentional side of sentence meaning, namely sentential force or sentence mood.

The syntactic correlate corresponding to the semantic operation of judging can be considered to be $\bar{A}$ -movement of an $[-wh]$ -XP to the SpMood-position. This leads to a declarative clause through the following semantic operations:

(30) Declarative clause: Carl kicked the cat.

Application of an intensional function to the actual situation (world) @ leads to a reduction of the bipartition to the class of situations the proposition characterizes correctly. The result of this operation leads to the denotation of a proposition as the set of situations the proposition characterizes to be true:

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

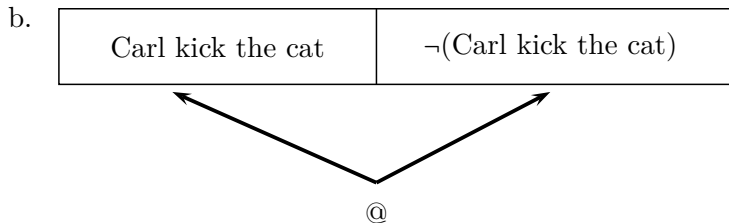


In the case of y/n-interrogatives, the position SpMood remains empty. As a consequence, the bipartition remains unmodified, and a y/n-question results:

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

Bipartition remains unmodified:

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

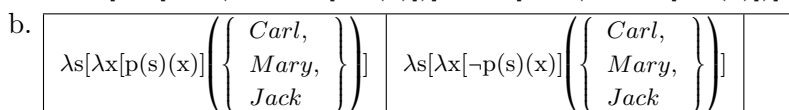


The semantic properties of $\bar{A}$ -moved wh-phrases lead to further differentiation of the bipartition by the sortal restrictions of the wh-phrase in the case of wh-interrogatives. Assuming that wh-phrases denote sets of entities (cf. Hamblin 1974), the cartesian product of this set with the two cells 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) or Higginbotham (1986). Starting with an index dependent proposition in (32.a), using functional application for denotation sets in (32.b), via the construction of the boolean lattice in (32.c) to the complete space of possible answers in (32.d):

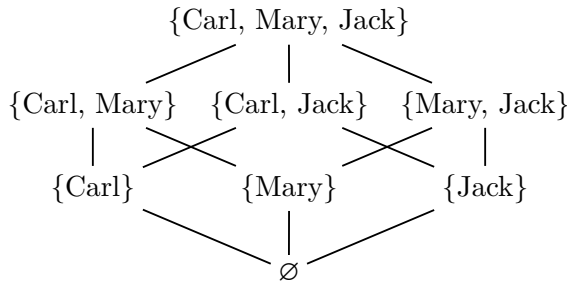
(32) wh-interrogative: Who kicked the cat?

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

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



c. Boolean lattice of possible answers:



d. Space of possible answers:

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

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:

(33)	SpM	M^0	$\textit{semantic object}$	$\textit{sentence mood}$
	$\emptyset$		$\curvearrowright$ unmodified bipartition	(y/n-interrogative)
	$[-\text{wh}]\text{-XP}$		$\curvearrowright$ reduced bipartition	(declarative)
	$[\text{+wh}]\text{-XP}$		$\curvearrowright$ 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:

(34)	SpM	M^0	$\textit{location of evaluation}$
		Fin ⁰	$\curvearrowright$ context of discourse
		Conj,	$\curvearrowright$ grammatical context
		$\emptyset$	

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. (33)), while the filling of the Mood⁰-position specifies the domain of evaluation for this very semantic object (cf. (34)). 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.

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

(35) Functional characterization:

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

We will see in the course on what follows that verum focus interrelates directly with these functions of sentence moods.

5 Verum focus in discourse situations

Moving on to the analysis of the realisation 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:

- (36) a. Situation: Peter returns from holidays and enters the room. No telephone call concerning the cat has taken place:
 b. Peter: # John DID kick the cat.

Without a controverse 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 accomodate them together with some disputation about their acceptance.

Next, it is noticeable that utterances containing verum focused clauses are useful means not to tell the truth at all. Consider the example in (3) again repeated here as (37):

- (37) Die Wahlen wurden korrekt durchgeführt.
 The elections were correctly carried out
 „The elections WERE carried out correctly.“

Obviously, verum focus here is an effective means to not tell the truth at all, but rather to stop arguments and discussions to the contrary. There are only two alternatives on the side of the addressee referring to performing the election: first, he believes that it was correct, or second, he does not. Yet (37) 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 on 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 (cf. ch. 8, this volume).

Likewise, the function of y/n-interrogatives is to get a true answer out of the binary space of possible answers. (cf. Hamblin 1974, 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 several 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. (35)):

- (38) 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 from A or B 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 two-fold only. In order for a verum focused wh-interrogative to be adequate in a discourse situation, several positions concerning the target of the verum focused question need to receive some attention:

- (39) 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 sein.
 That can not be, Fritz was in cinema, Otto must it been be
 „That can not be the case, because Fritz was in the cinema. 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 function of the wh-interrogative.

Moving on with 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 behaviour to the function of the imperative clause. Consider the following setting in (40) together with the verum focused imperative given by speaker A:

- (40) B walks throughout the room hesitating to take a chair.

- A: Jetzt NIMM dir (endlich) einen Stuhl!
 Now TAKE you (after all) a chair.
 „TAKE a chair after all!“

The verum focused imperative requires no *verbal* behaviour on the side 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 an alternative to 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 function 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) behaviour 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.

6 Verum focus in embedded clauses

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. Consider the following examples:

- (41) a. Maria glaubt, DASS Paul das Buch gelesen hat.
 Mary believes THAT Paul the book read has
 „Mary believes THAT Paul read the book.“
 b. 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.“
- (42) a. Du hast mir erzählt, WEN Du eingeladen hast.
 You have me told WHO you invited have
 „You have told me WHO you invited.“
 b. 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.“
- (43) a. Das sind die Bücher, DIE Paul gelesen hat.
 These are the books, WHICH Paul read has
 „These are the books Paul HAS read.“
 b. 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.e) – (1.g). Peculiarly, the non-embedded variants in (44.a) and (44.b) which correspond to the embedded clauses in (1.f) and (1.g) do not show a verum effect, if the accent is assigned to the *wh*- or the relative pronoun while the finite verb is fronted:

- (44) a. WEN hat Karl eingeladen?
 WHO has Carl invited
 „WHO did Carl invite?“
 b. DEN hat Karl eingeladen.
 THAT ONE has Carl invited
 „that one Carl DID invite.“

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 (45.a) and (45.b), or in V/2-relative clauses (45.c) (cf. Gärtner 2001):

- (45) a. (Ich weiß nicht,) WEN dass Karl eingeladen hat
 I know not WHO that Carl invited has
 „I don't know who Carl DID have invited“
 b. (Dort steht der Mann,) DER wo kommt.
 (There stands the man) WHO where comes
 „(There is the man) who DOES come.“
 c. (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.

7 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 1976:271 by HL] This remark suggests that there is no difference respecting the meaning between a clause introduced by *It is true 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] Its use in modern logic and semantics can be traced back to Tarski’s (1944) prominent definition of „truth“ as the fulfilment of a formula of the object language.

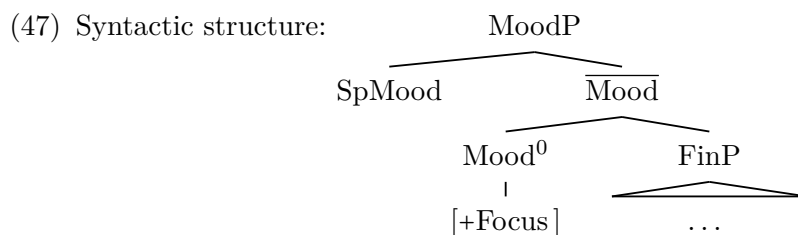
The missing link between objects of language and situations in the world lead to the „coherence theory of truth“ (cf. Hempel (1935), Davidson (2000) among many others). This theory states that a proposition is true iff it is compatible with a set of other propositions given by some theory or the epistemic 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:

$$(46) \llbracket P \rrbracket \cap \llbracket p \rrbracket \neq \emptyset$$

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 1973:218 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 together with the various argumental positions is reduced to the function of the expressed sentence mood by *verum focusing*, the intuition of truth results as a consequence in the closing statement in the discourse situation.

8 The sentence mood theory of *verum focus*

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:



The $[+Focus]$ -feature has its usual interpretation in the sense of Krifka (2008) as inducing alternatives (to the functions of the respective sentence moods, cf. (35), leading to an alternative set

along the following line:

(48) Focus assignment:

Let *mood* be a sentence mood with structure (47) and $f(\textit{mood})$ it's function from (35), and let $\llbracket \cdot \rrbracket_A$ be the alternative meaning.

Then, (47) has the interpretation: $\llbracket \llbracket +\text{Focus} \rrbracket f(\textit{mood}) \rrbracket_A = \text{ALT}(f(\textit{mood}))$,

where ALT is the function mapping $f(\textit{mood})$ onto the set of alternatives to $f(\textit{mood})$.

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:

(49) Sentence mood theory of verum focus:

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.

This theory brings together the various aspects mentioned in this contribution:

- (50)
- a. The syntactic distribution of the assignment of $[+F]$ in the case of verum focus in German is restricted to the head position of the functional category Mood⁰. The theory, thereby, answers the question which element is the focus exponent in verum focus constructions.
 - b. The theory maintains the relevant advantages of Höhles 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.
 - c. 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.
 - d. 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. 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 (cf. also chs. 14, 16, this volume).

Modal particles, as analysed 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 (cf. also ch. 17, this volume).

Hence, the phenomenon designated as *verum focus* – viewed under the perspective of this theory

– should better be labeled as *focus on sentence mood*.

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