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NOTES ON PARENTHETICAL CONSTRUCTIONS

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ABSTRACT. Predicates in verb-first integrated parentheticals (VIPs) have an implicit propositional argument that is linked to the proposition denoted by the host clause. This paper investigates the interpretation of the implicit argument. Two alternatives are discussed: the propositional argument is either (i) linked to a pronominal expression that is dropped in sentence-initial position (canonical licensing) or (ii) not linked to a syntactic element but coreferent with the proposition denoted by the host clause (non-canonical licensing). We argue that both (i) and (ii) are necessary to account for all different kinds of VIPs discussed in this paper. Nevertheless, non-canonical licensing (i.e. option (ii)) turns out to be more essential to the interpretation of the implicit propositional argument in VIPs. Topic-drop, on the other hand, is only relevant for the analysis of parenthetical constructions that are questions.

1. INTRODUCTION

In recent linguistic discussions parenthetical constructions have become the focus of attention again. In particular, so-called verb-first integrated parentheticals (VIPs) like (1) deserve renewed attention. Above all, this is due to Reis (1995a,b), who convincingly argues against an extraction analysis of prefinite VIPs as is illustrated in example (1.b) (i.e. long topicalization of *Maria*). Among other things, Reis shows that VIPs in prefinite position display all relevant syntactic and semantic properties of postfinite VIPs, and she offers a uniform analysis of VIPs, which treats all instances of *glaubt er* in (1.a) as VIPs. Hence, there is no need to assume extraction from verb-second clauses at all.[1]

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[1] Advocates of an extraction analysis are among others Tappe (1981), Grewendorf (1988), and Staudacher (1990). To my knowledge, Mrotzek (1991) was the first to

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(1) a. Maria (glaubt er) möchte (glaubt er) das Theorem
Maria (believes he) wants-to (believes he) the theorem
(glaubt er) beweisen (glaubt er)
(believes he) prove (believes he)
'He believes (that) Maria wants to prove the theorem'
b. [Maria$_1$ glaubt er [t'$_1$ möchte t$_1$ das Theorem beweisen]]
Maria believes he wants-to the theorem prove

All VIPs in (1.a) are prosodically integrated into their host clause and the proposition expressed by the host is always linked to the implicit (second) propositional argument of the VIP-predicate *glauben*. All positions in (1.a) are niches for (various kinds of) parentheticals in German: (i) Parenthetical constructions are licensed in prefinite position beween the sentence-initial element (in the so-called Vorfeld) and the COMP-position (Linke Satzklammer); (ii) they can be inserted into the middle field; (iii) and they can follow their host clause in final position. Reis' analysis of VIPs raises at least two new interesting questions[2]:

1. How is the second (propositional) argument of *glauben* licensed?
2. How are parentheticals integrated into (the linear string of) their host?

In this paper we confine ourselves to the first question. We believe, however, that the answer to this question will also shed some light on the problem of integration.[3] Reis (1995a:65f) discusses two different possibilities of linking the implicit argument of the VIP-predicate: the implicit (propositional) argument of the VIP-predicate may either (a) be linked to a pronoun that has been dropped in sentence-initial position or (b) it may be non-canonically licensed. In the latter case, it is not linked to a (phonologically empty) syntactic element at all. Both options are illustrated in (2).

(2) a. [$\emptyset_2$ [glaubt$_1$ [er t$_2$ t$_1$]]]
b. [glaubt$_1$ [er t$_1$]]

refute some of their arguments for extraction from verb-second clauses, see also Pittner (1994).

[2]Note that these questions are partly independent of the treatment of prefinite VIPs.

[3]See, for instance, Richter (1997:140f) for an attempt to integrate VIPs into a linearization grammar. See also Kathol (1995 and 1997) for a slightly different approach to linearization. VIPs in prefinite position are of course the most interesting challenge to every theory of integration and linearization.

According to (2.b) VIPs are genuine V1-structures. An analysis that assumes structure (2.a), on the other hand, predicts that VIPs are V2-structures with an obligatorily dropped pronoun in sentence-initial position. This correlates with the observation that in German sentence-initial subjects and objects can be dropped as long as a prominent discourse referent is available (cf. e.g. Gärtner&Steinbach (1997:24)). Topic drop is possible with subjects (cf. (3)) and objects (cf. (4)), no matter whether they denote individuals or propositions (cf. (5)).

(3) A: Kommst du morgen? (Will you come tomorrow?)
B: [∅ hab [leider keine Zeit]]
(I) have unfortunately no time

(4) A: Wo sind denn die Weingläser? (Where are the wine glasses?)
B: [∅ hab [ich schon auf den Tisch gestellt]]
(Them) have I already on the table put

(5) A: Peter glaubt, daß die SPD auch in Berlin einbricht
'Peter believes that the SPD will also lose in Berlin'
B: [∅ glaub [ich auch]]
(That) believe I too

Before we can discuss the (dis-)advantages of both options in detail, we must take a closer look at the relevant data. As usual, things turn out to be more complex than expected. Especially the selectional properties of predicates in VIPs are not easy to detect. German has at least three different kinds of VIPs:

(i) VIPs with verbs like *glauben* can be hosted by declarative clauses;
(ii) these VIPs can also be hosted by interrogative clauses; and
(iii) VIPs with verbs like *fragen* can only be hosted by interrogative clauses.

Moreover, the last two kinds - i.e. the parenthetical constructions with interrogative host clauses - differ from each other in another respect: only the second kind of parenthetical constructions (i.e. class (ii)) are true questions. Interrogative *glauben*-VIPs are similar to was-parentheticals, which will be introduced in section 3. Interrogative *fragen*-VIPs (i.e. (iii)), on the other hand, are like declarative *glauben*-VIPs (i.e. (i)) assertions.

In the following presentation *glauben*[4] (believe) and *fragen* (ask) are discussed as typical representatives of the two different kinds of VIP

[4]Verbs of saying also belong to this class although they are not completely identical to verbs of thinking and believing. We will point out these differences in footnotes if necessary. *Glauben* is an illustrative example because it does not select interrogative

predicates: *glauben*-VIPs can be inserted into declarative and interrogative hosts (i.e. class (i) and (ii)) whereas *fragen*-VIPs can only be hosted by interrogative clauses (i.e. (iii)).

In this paper we argue that we need both topic-drop and non-canonical licensing (i.e. 2.a and b) to account for all three kinds of VIPs. The present investigation mainly deals with VIPs, but we also discuss V2-complement clauses, was-w-constructions, was-parenthetical, and *so*- and *wie*-parentheticals because they all have a lot in common with VIPs. It is, however, not at all clear how the correlations between these different constructions are to be analysed and to which basic syntactic and semantic properties they can be reduced. These problems partly result from the fact that this study necessarily ranges between syntax, semantics and pragmatics. Moreover, many important issues can only be discussed in passing. Although we might add some more pieces to the puzzle of integration and interpretation of parentheticals, non-canonical argument-linking, and embedded V2-complement clauses, many pieces will still be missing in the end.

This paper is organized as follows: The next section gives an overview of the selectional properties of VIP-predicates. In section 3 we turn to the problem of *glauben*-VIPs that are hosted by an interrogative clause. In this context we also discuss was-w-constructions and was-parentheticals. We propose a uniform analysis of *glauben*-VIPs in interrogative hosts and was-parentheticals, which relies on both topic-drop (2.a) and non-canonical licensing (2.b). In section 4 we discuss *glauben*-VIPs hosted by declarative clauses. We argue that a topic-drop analysis is not possible in this case. Hence, the propositional argument of *glauben* is not syntactically linked to a pronoun that is dropped in sentence-initial position. Therefore, the free argument variable must be linked in a non-canonical way in semantics. In section 5 we show that this analysis of *glauben*-VIPs inserted into declaratives can also be applied to *fragen*-VIPs. The last section summarizes the main findings of this paper.

2. Selectional properties of VIP-predicates

The class of VIP-predicates includes verbs of saying, thinking, and believing and verbs of asking. Besides *glauben* and *fragen*, typical verbs are *meinen* (think), *denken* (think), or *sagen* (say) and *wissen wollen* (want to know). VIP-predicates in general have the following lexical properties:

(wh- and *ob*-) complement clauses. In addition, the reported speech reading is not possible in parenthetical constructions with *glauben* (cf. fn 7 and 11)

(6) *Lexical properties of VIP-predicates (Reis 1995a: 61)*
VIP-Predicates
(i) always select a propositional argument, which is
- lexically specified as a finite sentential argument in structural object position,[5]
- also realizable by a V2-clause (in the declarative case);
(ii) do not include
- preference predicates[6],
- factive and implicative predicates,
- negative/negated predicates;
(iii) include (nonnegative/unnegated)
- verbs of saying (taking declarative as well as interrogative complements)
- epistemic and attitudinal verbs (always declarative complements)

The host clause of VIP-predicates like *glauben* need not be declarative. VIP-predicates can also be inserted into interrogative hosts, as can be seen in the next example.

(7) Was glaubt er, möchte Maria beweisen?
What believes he wants-to Maria prove
'What does he believe that Maria wants to prove?'

At first glance, this is surprising because *glauben* does not select an interrogative complement clause:[7]

(8) *Er glaubt, was möchte Maria beweisen
He believes what wants-to Maria prove

[5]The propositional argument can also be linked to a NP that denote a proposition (in the declarative case) or a set of propositions (in the interrogative case).

[6]For a detailed study of the syntactic, semantic, and pragmatic properties of preference predicates see Frank (1999).

[7]Verbs of saying may select interrogative clauses in addition to declarative ones (cf. (5.iii)). However, in this case, the embedded interrogative does not denote a question but, according to Ginzburg (1995&1997), a fact that resolves the question denoted by the interrogative clause. Hence, embedded questions can be coerced to denote facts (cf. also Groenendijk&Stokhof (1984) for the interpretation of embedded interrogatives). The following discussion will show that parenthetical constructions like (7) are always true questions no matter whether the VIP-predicate is *sagen* or *glauben*. The latter is, however, the more illustrative example because it does not select an interrogative clause at all (see also fn 11 below).

The matrix-predicate *glauben* selects either a nominal expression denoting a proposition (cf. (9)) or a complement clause. In the second case the complement is either a (declarative) V2-clause (10.a), or a *daß*-complement clause (10.b).[8]

(9) a. Er glaubt die Geschichte/das
He believes the story/this
b. Was glaubt er?
What believes he (i.e. What does he believe?)

(10) a. Er glaubt, Maria möchte das Theorem beweisen
He believes Maria wants-to prove the theorem
'He believes Maria wants to prove the theorem'
b. Er glaubt, daß Maria das Theorem beweisen möchte
He believes that Maria the theorem prove wants-to
'He believes that Maria wants to prove the theorem'

German has a second class of VIP-predicates, which differ from verbs of saying, thinking, and believing. (11) illustrates that these predicates are only grammatical in VIPs hosted by an interrogative clause. *Fragen* (ask) is the most prominent representative.

(11) a. Was fragt er, möchte Maria beweisen
What asks he wants-to Maria prove
'What, he asks, does Maria want to prove'
b. *Das Theorem fragt er, möchte Maria beweisen
The theorem asks he wants-to Maria prove

In this case, the selectional properties of *fragen* in VIPs and matrix clauses are identical. (12) and (13) illustrate that *fragen* only subcategorizes for interrogative complement clauses.

[8]Note that V2- and *daß*-complements are not always interchangeable. There are some subtle but crucial differences between V2- and *daß*-complement clauses, that will be discussed in section 4.

(12) Er fragt, was Maria beweisen möchte
He asks what Maria prove wants-to
'He asks what Maria wants to prove'

Both, V2- and *daß*-complement clauses are ungrammatical with *fragen*.

(13) a. *Er fragt, Maria möchte das Theorem beweisen
He asks Maria wants-to the theorem prove
b. *Er fragt, daß Maria das Theorem beweisen möchte
He asks that Maria the theorem prove wants-to

Fragen does not only select wh-interrogatives but also polar questions (cf. (14.a)), and we expect *fragen*-VIPs to be grammatical with polar interrogatives. This is illustrated in (14).[9]

(14) a. Er fragt, ob Maria das Theorem beweisen möchte
He asks whether Maria the theorem prove wants-to
'He is asking whether Maria wants to prove the theorem'
b. Möchte Maria, fragt er, das Theorem beweisen
wants-to Maria asks he the theorem prove

We already saw that *glauben*-VIPs can be inserted into host clauses that are wh-interrogatives. In addition, they can also be hosted by polar interrogatives as is illustrated in (15).

(15) Möchte Maria ?glaubt er/glaubst du das Theorem beweisen?
wants-to Maria believes he/believe you the theorem prove

Finally note that VIPs can not only be inserted into V2- and V1-clauses but also into sentences with V-final pattern.[10] Well-formed hosts are adjunct clauses introduced by the adverbial complementizers *obwohl* (although) in (16.a) and *weil* (because) in (16.b) as well as relative clauses in (16.c). We would like to note in passing that Wechsler (1991) and

[9]Matrix polar interrogatives have verb-first order whereas embedded polar interrogatives have verb-final order. In the latter case the initial position is occupied by the complementizer *ob* (whether, if). Note, however, that *ob*-clauses can sometimes also be true main clauses. VIPs can also be inserted into *ob*-main clauses (cf. Reis 1996):

(i) Ob sie wohl morgen (fragt er) das Theorem beweisen wird?
Whether she PARTICLE tomorrow (asks he) the theorem prove will

[10]Richter (1997), for instance, proposes a lexical rule for the derivation of VIP-verbs. The output of this rule is a 'VIP-verb' that selects a V2-clause (via its MOD-value). The examples in (14.b), (15) and (16) show that this is rule is too restrictive.

Gärtner (1998) argued that adverbial complementizers like *although* and *because* are assertional. We come back to this issue in section 4.

(16) a. Die Party wird stattfinden, obwohl es ihre Eltern, meint
The party will take place although it her parents thinks
Peter, verboten haben
Peter not permitted have

b. Die Party wird ausfallen, weil ihre Eltern, glaube
The party will be cancelled because her parents believe
ich, überraschend zurückgekommen sind
I surprisingly returned are

c. Peter liest jetzt das Buch, das du ihm, glaube ich,
Peter reads now the book that you him believe I
geschenkt hast
given have

We conclude that VIPs can be inserted into V1-, V2-, and V-final-clauses. Hence, we do not find any restrictions on the categorial status of the host clause. Interestingly, we find a 'subcategorization mismatch' between some matrix predicates and the corresponding VIP-predicates concerning the sentence type. *Glauben*-VIPs can be inserted into declarative and interrogative host clauses although *glauben* does not select interrogative complement clauses. Verbs like *fragen*, on the other hand, obey the same selectional restrictions irrespective of whether they are matrix- or VIP-predicates. This is illustrated in table 1 and 2 below.

(17) *Table 1: Selectional restrictions of* glauben

	declarative	interrogative
Complement clause	+	-
Host clause	+	+

(18) *Table 2: Selectional restrictions of* fragen

	declarative	interrogative
Complement clause	-	+
Host clause	-	+

Table 1 and 2 illustrate the three different kinds of VIPs we mentioned in (i) - (iii) in section 1. We argue in the following sections that *fragen*-VIPs and *glauben*-VIPs that are hosted by declaratives belong to the same class whereas *glauben*-VIPs that hosted by interrogatives must be analysed separately. The latter seem to be the most interesting examples. Therefore, we first investigate interrogative parenthetical constructions. Before we turn to the problem of argument linking in interrogative VIPs a closer examination of interrogative parentheticals and related constructions is necessary.

3. *Glauben* AND INTERROGATIVE HOSTS

At first glance, the problematic examples for every linking-theory are (7) and (15) above. The VIP is inserted into an interrogative host although its predicate does not select an interrogative complement. However, interrogative parenthetical constructions containing *glauben* differ from interrogative parentheticals containing *fragen* in one crucial respect. Only the former are true matrix questions whereas the latter are embedded questions.[11]

In example (19) the speaker wants to elicit from the hearer for which x Hans believes that Martin wants to prove x. *A* in (19) is one possible answer to this question. The complement clause *möchte das zweite Theorem beweisen* contains the focus of the sentence, that corresponds to the wh-word of the question *Q* in (19). The semantic representation of the question is given in the second line.

(19) Q: Welches Theorem glaubt Hans möchte Martin beweisen?
⇒ $\lambda p \exists x$ [theorem(x) $\wedge$ p = H. believes that M. wants to prove x]
A: Martin glaubt Hans, möchte das [$_F$ ZWEIte] Theorem beweisen

[11] Verbs of saying permit a second interpretation in interrogative parenthetical constructions, which can be described as an indirect speech report. Sentence (i) is ambiguous: the first interpretation is a true question inquiring about the entity (Peter said) Maria wants to prove (i.e. the parenthetical reading); under the second interpretation the speaker reports that Peter said *was möchte Maria beweisen* (cf. also Mrotzek (1991:49f & 97) and Reis (1995b:72f)).

(i) Was sagt Peter, möchte Maria beweisen
What says Peter wants-to Maria prove

We ignore this second reading (reported speech) in the following discussion because it is not available to all VIP-predicates. Reading (i), on the other hand, is available with all 'declarative' VIP-predicates (i.e. predicates that select declarative complements) if they are inserted into interrogative hosts.

This does not hold for parenthetical constructions containing *fragen*, which are always indirect questions. We already saw that *fragen* does not select declarative complement clauses. Therefore, an appropriate answer does not exist. As opposed to interrogative *glauben*-VIPs, *fragen*-VIPs cannot be embedded in matrix clauses with question predicates like *wissen wollen* (want to know) or *sich fragen* (wonder) because they are not true questions:

(20) a. Und deshalb möchte ich nun wissen ...
And therefore wants-to I now know ...
b. welches Theorem, glaubt Hans, möchte Martin beweisen
which theorem believes Hans wants-to Martin prove
c. *welches Theorem, fragt Hans, möchte Martin beweisen
which theorem asks Hans wants-to Martin prove

Note that the VIP determines the sentence mood of the whole parenthetical construction. We will see that *glauben*-VIPs that are inserted into interrogative hosts are interrogative sentences, whereas *glauben*-VIPs that are inserted into declarative hosts and *fragen*-VIPs are both declarative sentences. The VIP seems to take scope over its host clause. Sentential adverbials support this asymmetry (cf. fn 18).

The difference between *glauben* and *fragen* parentheticals is also confirmed by the following observation (cf. Höhle 1996 and Reis 1996). Only verbs like *glauben* are grammatical in so-called was-w-constructions like (20.a) and in was-parentheticals like (20.b).[12]

(21) a. Was glaubt Hans, welches Theorem Martin beweisen
What believes Hans which theorem Martin prove
möchte?
wants-to
'Which theorem does he believe Martin wants to prove?'

[12]Like VIPs, was-parentheticals are (prosodically) integrated and can be inserted into prefinite and postfinite position (cf. also Reis 1996), but unlike VIPs, they can also occur in sentence-initial position (see example (16.b) above).

(i) (Was glaubst du) wer (was glaubst du) hat (was glaubst du) das
(What believe you) who (what believe you) has (what believe you) the
Buch (was glaubst du) gelesen (was glaubst du)?
book (what believe you) read (what believe you)

Note that the host of was-parentheticals is an independent sentence whereas the second clause in was-w-constructions is an embedded V-final complement clause.

b. Was glaubt Hans, welches Theorem möchte Martin
What believes Hans which theorem wants-to Martin
beweisen?
prove
'Which theorem does Martin want to prove does he think?'

In contrast to *glauben* the question predicate *fragen* is ungrammatical in both constructions:

(22) a. *Was fragt Hans, welches Theorem Martin beweisen
What asks Hans which theorem Martin prove
möchte?
wants-to

b. *Was fragt Hans, welches Theorem möchte Martin
What asks Hans which theorem wants-to Martin
beweisen?
prove

Let us take a closer look at the was-w-construction first. The sentence-initial wh-expression in was-w-constructions can be analysed either as a scope-marker (direct dependency approach) or as a true wh-expression (indirect dependency approach) (cf. Stechow (1996), Dayal (1994,1996), and Beck&Berman (1996) among others). The direct dependency approach assumes that the embedded wh-expression replaces the scope marker *was* at LF. Therefore, it has to move to the sentence-initial position occupied by the scope marker. The indirect dependency approach, on the other hand, proposes that the wh-expression *was* in sentence-initial position is a true wh-word that has semantic content. Hence, was-w-constructions are questions that quantify over propositional variables. The complement of the matrix predicate is coindexed with the sentence-initial wh-expression. Semantically, the complement clause is a restriction on the quantification over propositional variables.

Was-parentheticals differ in several respects from was-w-constructions. Therefore, Dayal (1996) modifies the indirect dependency approach of

Dayal (1994) and proposes two different syntactic structures for was-w-constructions and was-parentheticals.[13] In was-w-constructions the wh-expression *was* is base-generated in sentence-initial position and coindexed with complement-clause. In was-parentheticals, the sentence-initial wh-expression is base-generated in the complement-position and coindexed with the host clause which is adjoined to CP. This difference is illustrated in (23):

(23) was-w: $[_{CP1}$ was$_1$ glaubt$_2$ H. $[_{CP2}$ welches T. ... $]_1$ t$_2]$
was-P: $[_{CP1}$ $[_{CP1}$ was$_1$ glaubt$_2$ H. t$_1$ t$_2]$ $[_{CP2}$ welches T. ... $]_1]$

We do not want to discuss the arguments for and against LF-movement of the embedded wh-expression in was-w-constructions (for a discussion cf. e.g. Stechow 1996). Instead we focus on was-parentheticals because they are closely related to VIPs. VIPs and was-parentheticals are integrated parentheticals that occur with wh- and polar questions. Semantically, the host clause is a restriction on the existential quantification over propositional variables. Was-w-constructions are ungrammatical with polar questions (cf. example (24) below). In addition, the same predicates are licensed in was-parentheticals and interrogative VIPs denoting questions and both parenthetical constructions can adequately be paraphrased by each other.

An approach that relies on LF-movement doesn't seem to be very promising for was-parentheticals. For the direct dependency approach to work we would have to assume that parenthetical constructions have (i) a phonologically empty complement clause in syntax that is coreferent to the host clause, which is (ii) obligatorily dropped (because this approach relies on the assumption that wh-movement of the embedded wh-word into the matrix - or in this case: parenthetical - clause takes place at LF). Assumption (i) is very unlikely; at least we don't have any evidence for a syntactically active implicit complement clause in parenthetical constructions. We already mentioned in section 1 that 'topics' can only be dropped in sentence-initial position. Hence, (ii) is not possible in German because the sentence-initial position of the was-parenthetical is occupied by *was*.

[13]Although was-parentheticals share several 'parenthetical properties' with was-w-constructions they differ in as many aspects from the latter. This is one reason why Dayal (1996) proposes two different structures for was-w-constructions and was-parentheticals - cf. also Reis (1996:266f) for a discussion of the problems that are likely to arise from a unified approach to was-w-constructions and was-parentheticals. In the next section we come back to some similarities between was-w-constructions and was-parentheticals.

Besides, the complement of the VIP-predicate and the (coreferent) host differ in their internal syntactic structure. The host clause has V2 order whereas an interrogative complement clause of *glauben* would have V-final order. Therefore, some operation of 'PF-deletion' of the complement clause is also not licensed. Furthermore, we already mentioned that was-parentheticals as opposed to was-w-constructions are grammatical with polar-questions (cf. Höhle 1996:41).

(24) a. Möchte Martin, was glaubt Hans, das Theorem
Wants-to Martin what believes Hans the theorem
beweisen?
prove

b. *Was glaubt Hans, ob Martin das Theorem
What believes Hans whether Martin the theorem
beweisen möchte?
prove wants-to

The direct dependency approach would predict sentence (24.a) to be ungrammatical because there is no overt wh-phrase that can undergo long wh-movement at LF to replace the scope marker (cf. Beck&Berman 1996:80f and Stechow 1996:10).[14] We can conclude that there are good reasons to assume that was-parentheticals are indirect dependency constructions.

Now, the crucial question is how to analyse was-parentheticals? We already mentioned that was-parentheticals differ in structure from was-w-constructions. Following Dayal (1996) the sentence-initial wh-word of the former is base-generated in the complement position of *glauben* and moves to CP-Spec as is illustrated in (25.a). The trace of this wh-word is coindexed with the interrogative host clause. The semantic representations of the parenthetical and the interrogative host are given in (25.b and c). The wh-word *was* is used to ask for a proposition. Therefore, the existential quantifier binds a propositional variable in (25.b). T_i is a variable ("a mnemonic for Topic", Dayal (1996:112)) of the same type as the interrogative host, which forms the covert restriction of the wh-word *was*. It is coindexed with the host clause. Semantically the host clause is itself a question, i.e. a set of propositions or a property of propositions, and can therefore serve as the overt restriction of *was* (cf. also Stechow

[14] "On the direct dependency approach, [the ungrammaticality of sentence b] would follow directly from the assumption that *ob* is not a wh-phrase ... on the direct dependency approach there is no lack of independent reasons why *ob*-clauses cannot participate in wh-scope marking constructions" (Beck&Berman 1996:80).

1996). Functional application yields the resulting semantic representation in (25.c).[15]

(25) $[_{CP}$ Was$_1$ glaubt Hans $[_{DP}$ t$_1]_i$] $[_{CP}$ welches Theorem möchte Martin beweisen$]_i$

a. Was-parenthetical: $\lambda T \lambda p \exists q$ [T(q) $\wedge$ [p = believe(Hans,q)]]

b. Host: $\lambda p' \exists x$ [theorem(x) $\wedge$ [p' = will-prove(Martin,x)]]

c. $\Longrightarrow \lambda p \exists q$ [$\exists x$ [theorem(x) $\wedge$ [q = will-prove(Martin,x)] $\wedge$ [p = believe(Hans,q)]]

Dayal's theory predicts that the interpretation of the propositional argument of the VIP-predicate *glauben* consists of two different parts. On the one hand, we have a wh-word base-generated in the complement position of the parenthetical. We already mentioned that *glauben* selects a propositional argument and the wh-word *was* can be used to ask for propositions (cf. (26)).

(26) Was$_1$ glaubt Hans t$_1$?

On the other hand, the interrogative host-clause is coindexed with the trace of *was* and serves as a restriction on the existential quantification over the propositional argument q of the parenthetical predicate *glauben*.[16] The set of possible answers is basically determined by the wh-word *was* contained in the parenthesis. Possible answers are propositions because *was* determines quantification over propositions in (25.a)). These propositions are further restricted by the interrogative host (25.b). Hence, the host clause determines the set of possible questions in cooporation with *was*. The background of the corresponding answer is {Hans believes that Martin wants to prove x theorem} and the focus is a member of the following set {the first, the second, my, his, ... }.

This analysis of was-parentheticals can also be applied to *glauben*-VIP that are integrated into an interrogative host. The only difference between

[15] See also Stechow (1996:12f) for some comments on Dayal (1994,1996).

[16] Note that some principle must ensure the coindexation of the host clause and the trace in complement position. Under Dayal's analysis the host clause is adjoined to CP and it is coindexed in syntax with the trace in complement position. But this syntactic analysis can only derive sentence-initial was-parentheticals. It cannot derive was-parentheticals inserted in different pre- and postfinite position. Hence, the host clause cannot simply be adjoined to the parenthetical. Besides, we do not assume that host and trace must be coindexed in syntax. We come back to this issue at the end of the next section.

these two parenthetical constructions is the missing wh-word in sentence-initial position in the corresponding VIP:

(27) Welches Theorem [(was) glaubt Hans] möchte Martin
Which theorem (what) believes Hans wants-to Martin
beweisen?
prove

We can derive the correct syntactic and semantic representation of the VIP-construction in (27) if we assume that *was* can be dropped in sentence-initial position everything else being equal. Consequently, VIPs yield the same interpretation as the corresponding was-parenthetical. The semantic representation given in (19) above can be adequately derived if we assume 'topic-drop' of the sentence-initial wh-word[17] as well as coindexation of the host clause with the covert semantic restriction of the wh-word, which can be understood as an operation of non-canonical linking because the proposition of the host clause is linked to the semantic variable introduced by the wh-word *was*. The syntactically independent host clause is semantically linked to the implicit variable T, which is part of the meaning of *was*, which introduces an existential quantification over propositions in interrogative *glauben*-VIPs and was-parentheticals.

Let us summarize the core points of our analysis so far: interrogative *glauben*-VIPs hosted by an interrogative clause CP_{INT} can be derived in the same way as was-parentheticals if we assume that the wh-word can be dropped (i.e. (2.a)) as well as non-canonical argument linking (i.e. (2.b)). This is illustrated in (28).

(28) $[\ \mathrm{was}_1\ \mathrm{glaubt}_2\ [\ \mathrm{er}\ \mathrm{t}_1^i\ \mathrm{t}_2\ ]] \wedge \mathrm{CP}^i_{INT} \rightarrow [\ \emptyset_1\ \mathrm{glaubt}_2\ [\ \mathrm{er}\ \mathrm{t}_1^i\ \mathrm{t}_2\ ]] \wedge \mathrm{CP}^i_{INT}$

The V1-pattern follows directly from this analysis. *Glauben*-VIPs hosted by an interrogative clause are V2-clauses with the sentence-initial element being dropped. In addition, we can explain why *glauben*-VIPs can be inserted into interrogative clauses although *glauben* does not select an interrogative complement clause. The interrogative host serves as the restriction on the proposition that is determined by *was*. Hence, the interrogative host can be perfectly integrated into the semantic representation of the parenthetical as long as a (possibly dropped) wh-word

[17] Strictly speaking this operation should not be called topic-drop because *was* is not a 'topic'. It might be licensed by the structural simiarity between was-parentheticals and declarative VIPs, which will be discussed in the next subsection.

occupies the position of the complement of the verb (which is linked to the second propositional argument). Furthermore, we correctly predict not only wh-interrogatives but also polar interrogatives to be grammatical in was-parentheticals and *glauben*-VIPs. And finally, this analysis also explains the fact that *so*-parentheticals are ungrammatical with interrogative hosts. In (29) the sentence-initial position is occupied by *so*. Therefore, 'wh-drop' in sentence-initial position is not possible. Moreover, a wh-word obligatorily moves to the sentence-initial position in German. But wh-movement is blocked in this case and sentence (29) is therefore ungrammatical.[18]

(29) *Welches Theorem so glaubt Hans möchte Martin beweisen
Which theorem so believes Hans wants-to Martin prove

So far we have told only half of the story. In the next section we turn to declarative host clauses. We are mainly interested in the question whether the analysis proposed for interrogative *glauben*-VIPs in this section can

[18]The picture is more complex with *wie*-parentheticals like (i)

(i) Martin hat, wie Hans glaubt, das Theorem bewiesen
Martin has as Hans believes the theorem proven

The parenthetical in (i) can be interpreted in two different ways: either (I) the host clause confirms Hans' belief that Martin has proven the theorem (i.e. Hans believes that Martin has proven the theorem and this is actually true) or (II) the *wie*-parenthetical is interpreted in the same way as the corresponding VIP.

This difference between *wie*-parentheticals and VIPs is also illustrated in example (ii). The VIP *glaubt Hans* has scope over the adverb *tatsächlich*. Hence, the adverb is part of the propositional complement of *glauben*. The corresponding interpretation can be described as *Hans believes that Martin really proved the theorem*. As opposed to this, the salient interpretation of the *wie*-parenthetical is the interpretation corresponding to reading (I) above. The adverb is part of the assertion of the speaker who is confirming Hans' belief (expressed by the *wie*-parenthetical).

(ii) Martin hat tatsächlich, glaubt Hans/wie Hans glaubt, das Theorem
Martin has really believes Hans/as Hans believes the theorem
bewiesen
proven

The decisive point is that *was*-parentheticals only yield interpretation (I) when they are inserted into interrogative hosts. This is in line with our analysis which predicts that the 'VIP-interpretation' should not be available in this case. The *wie*-parenthetical in (iii.a) presupposes that the pollsters believe that the SPD will also lose in Berlin. The speaker asks the hearer whether *she* shares the pollsters' belief, i.e. whether she also thinks that the SPD will lose the election in Berlin. In (iii.b) the speaker asks for the pollsters' opinion, which is the parenthetical reading.

also be applied to *glauben*-VIPs inserted into declarative hosts. In order to decide on this, we have to take a closer look on the restrictions on parenthetical constructions with declarative host clauses.

4. *Glauben* AND DECLARATIVE HOSTS

Three possibilities arise if we try to apply the analysis proposed in the previous chapter to the second kind of *glauben*-VIPs (i.e VIPs that are hosted by declarative clauses): (i) the analysis of declarative *glauben*-VIPs is similar to the one of interrogative *glauben*-VIPs and involves both topic-drop and non-canonical licensing, or we can we do either (ii) without topic-drop or (iii) without non-canonical licensing. In this section we argue that VIPs hosted by declaratives do not permit topic-drop. The implicit argument must be non-canonically licensed.

Let us assume for the sake of argument that the analysis of interrogative parentheticals can be applied to declarative parentheticals as well. In addition, we may assume that instead of the wh-word *was* a pronominal element (e.g. the demonstrative pronoun *das*) is base generated in the complement position of *glauben*.[19].

(iii) a. Wird die SPD, wie die Meinfungsforscher glauben, auch in Berlin einbrechen?
Will the SPD as the pollsters believe also in Berlin lose

b. Wird die SPD, (was) glauben die Meinungsforscher, auch in Berlin einbrechen?
Will the SPD (what) believe the pollsters also in Berlin lose

This can also be seen in wh-questions. In this case, the VIP-interpretation (II) is not available either:

(iv) Welche Partei wird in Berlin, wie die Meinfungsforscher glauben, einbrechen?
Which party will in Berlin as the pollsters believe lose

Finally, we want to point out that *wie*-parentheticals do not have V1 or V2 but V-final order.

[19]Another possibility might be anaphoric *so*, cf. (i.a). Note, however, that *das* cannot always be replaced by *so*. In (i.b and c) only *das* can be used as an object of a verb that selects a propositional argument. In (i.d) *so* is used together with *das*. Again, only *das* is interpreted as the propositional argument of *sagen* or *glauben* - cf. also Reis (1995a:61f).

(i) a. Das/so glaubt Peter
That/so believes Peter

(30) Maria möchte, das glaubt er, das Theorem beweisen
Maria wants-to this believes he the theorem prove

Like *was* the demonstrative pronoun *das* moves to the sentence-initial position, where it can be dropped, and it is coindexed with the proposition denoted by the declarative host clause CP_{DEC} as illustrated in (31):

(31) $[\ \mathrm{das}_1\ \mathrm{glaubt}_2\ [\ \mathrm{er}\ \mathrm{t}_1^i\ \mathrm{t}_2\ ]] \wedge \mathrm{CP}^i_{DEC} \rightarrow [\ \emptyset\ \mathrm{glaubt}_2\ [\ \mathrm{er}\ \mathrm{t}_1^i\ \mathrm{t}_2\ ]] \wedge \mathrm{CP}^i_{DEC}$

This would allow a unified analysis of interrogative and declarative hosts containig a VIP with *glauben*. The wh-word *was* is used with interrogative hosts, the pronoun *das* with declarative hosts.

(32) a. Maria möchte, (das/*was) glaubt er, das Theorem beweisen
b. Wer möchte, (was/*das) glaubt er, das Theorem beweisen?

Unfortunately, this analysis faces a number of problems. Note first that the host clause does not serve as a restriction on the pronoun *das*. The demonstrative pronoun is coreferent with the host clause. Hence, there is no implicit 'topic' (the variable T_i) in declaratives and the host clause is not 'linked' to some variable in the semantic representation of the parenthetical but coreferent with the propositional argument of the VIP-predicate. This difference in interpretation might be related to a lexical difference between wh-words and demonstrative pronouns. It seems to be a lexical property of the wh-word *was*, which is quantificational as opposed to the demonstrative pronoun *das* (cf. also Stechow 1996:12). Nevertheless, the host clauses are linked to different semantic elements in interrogative and declarative *glauben*-VIPs.

Second, *so*- and *was*-parentheticals pose a more serious problem. In contrast to interrogatives, they are grammatical in declaratives (see also fn 18 and 19 above):

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b. Peter glaubt/behauptet/meint das/*so (auch)
Peter believes/claims/thinks that/so (too)

c. Das/*so finde ich nicht
That/so think I not

d. So sagte/glaubte Peter das
So says/believes Peter that

Note furthermore that the object pronoun *es* is usually ungrammatical in sentence-initial position (cf. Gärtner&Steinbach (1997) for more details). Therefore, the demonstrative pronoun *das* is the best candidate for a 'topic drop' analysis.

(33) Martin möchte so glaubt H./wie H. glaubt das Theorem
Martin wants-to so believes H./as H. believes the theorem
beweisen
prove

Topic-drop is impossible on the assumption that *so* as well as *wie* occupy the sentence-initial position of the parenthetical in (33). Remember that topic-drop is only licensed in the sentence-initial position. Hence, the parentheticals in (33) do not support topic-drop of a pronominal element. Non-canonical argument linking seems to be necessary at least for *so*- and *was*-parentheticals.

Third, there is a more fundamental problem for an analysis of declarative *glauben*-VIPs that is based on topic-drop: the host clause of VIPs must not be a 'topic'. Remember that topic-drop is licensed if (i) the dropped element occupies the sentence initial-position and (ii) the context provides a prominent discourse referent, the topic. Condition (i) is trivially fulfilled because the sentence-initial position of VIPs is not occupied by any other constituent while it is in *so*- and *wie*-parentheticals. On the other hand, it is not easy to decide whether VIPs also fulfill condition (ii). In VIPs, the prominent discourse referent must be the proposition denoted by the host clause, which is coreferent with the dropped pronoun *das*, that is linked to the propositional argument of *glauben*. We will show immediately that the propositional argument denoted by the host clause cannot serve as a (discourse) topic in VIPs and related constructions because it is always asserted. The propositional argument in VIPs must be [- presuppositional].[20]

We already saw that *glauben* selects V2- (34.a) and *daß*-complements (35.a).[21] Moreover, *glauben* occurs in declarative (34.b) and interrogative VIPs (34.c). We already saw that the latter is closely related to was-parentheticals, which are illstrated in (34.d).

[20]See Gärtner (1996) for the notion [- presuppositional]. He shows that V2-relative clauses show similar presuppositional effects. Some of his data are given below. In the following presentation we use the feature [- presuppositional] without any theoretical implications.

[21]Note that in some German dialects long extraction from *daß*-complement clauses is grammatical.

(i) Was glaubt er, daß Maria beweisen möchte?
What believes he that Maria prove wants-to
What does he believe that Maria wants to prove?'

(34) a. Er glaubt, Maria möchte das Theorem beweisen
He believes Maria wants-to the theorem prove
'He believes Maria wants to prove the theorem'
b. Maria glaubt er, möchte das Theorem beweisen
Maria believes he wants-to the theorem prove
'He believes that Maria wants to prove the theorem'
c. Was glaubt er, möchte Maria beweisen?
What believes he wants-to Maria prove
'What does he believe that Maria wants to prove?'
d. Was glaubt er, was möchte Maria beweisen?
What believes he what wants-to Maria prove
'What does he believe that Maria wants to prove?'

(35) Er glaubt, daß Maria das Theorem beweisen möchte
He believes that Maria the theorem prove wants-to
'He believes that Maria wants to prove the theorem'

The arrangement of the examples in two groups is not accidental. It is a well-known fact that V2-complement-clauses must be [- presuppositional] whereas *daß*-complement clauses need not be so. V2-clauses introduce new information. Hence, only V2-complements are sensitive to presuppositionality. Therefore, we expect to find contexts in which only *daß*-complement clauses are grammatical. The crucial examples are (a) negation, (b) negative predicates, (c) dative objects, and (d) expletive pronouns. V2-adverbial clauses and V2-relative clauses provide further evidence. We will see that *glauben*-VIPs and was-parentheticals have the same properties as V2-complement clauses.

(a) *Negation*: Consider negation first. The example in (36.a) illustrates that V2-clauses cannot be interpreted in the scope of negation. Integrated parenthetical like (36.b and c) and was-parentheticals like (36.d) behave the same way whereas *daß*-complement clauses are perfectly grammatical (37) (cf. also Höhle 1996 and Reis 1996).

(36) a. *Er glaubt nicht, Maria möchte das Theorem beweisen
He believes not Maria wants-to the theorem prove
b. *Maria glaubt er nicht, möchte das Theorem beweisen
Maria believes he not wants-to the theorem prove
c. *Was glaubt er nicht, möchte Maria beweisen?
What believes he not wants-to Maria prove
d. *Was glaubt er nicht, was möchte Maria beweisen?
What believes he not what wants-to Maria prove

(37) Er glaubt nicht, daß Maria das Theorem beweisen möchte
He believes not that Maria the theorem prove wants-to
'He doesn't believe that Maria wants to prove the theorem'

Gärtner (1998) points out that adverbial clauses that permit V2 are subject to the same restriction. As opposed to the V-final adjunct clause in (38.b), the V2-adjunct clause in (38.a) cannot be interpreted in the scope of negation. Only sentence (38.b) is ambiguous. Sentence (38.a), on the other hand, can only mean that she did not go to Frankfurt and the reason for this is that she is ill.

(38) a. Sie fuhr nicht nach Frankfurt [weil sie ist krank]
She went not to Frankfurt because she is ill
'She didn't go to Frankfurt because she is ill'
b. Sie fuhr nicht nach Frankfurt [weil sie krank ist]

Vogel (1998:23f) gives a pragmatic explanation for this difference which is based on the assumption that V2-complement clauses are [- presuppositional]. The V2-complement is ungrammatical in (36.a) because sentential negation presupposes that the proposition denoted by the complement clause has previously been introduced into the discourse. This contradicts the assertional character of V2-complement clauses. Interestingly, VIPs and was-parentheticals are ungrammatical, too. Their implicit propositional argument seems to be [- presuppositional] as well.

(b) *Negative predicates*: V2-complement clauses and integrated parentheticals are ungrammatical with negative predicates like *bezweifeln* (doubt). *Daß*-complement clauses, on the other hand, are grammatical. Negative predicates seem to trigger the same presupposition as sentence negation in (36) and (37).

(39) a. *Er bezweifelt, Maria möchte das Theorem beweisen
He doubts Maria wants-to the theorem prove
b. *Maria bezweifelt er, möchte das Theorem beweisen
Maria doubts he wants-to the theorem prove
c. *Was bezweifelt er, möchte Maria beweisen?
What doubts he wants-to Maria prove
d. *Was bezweifelt er, was möchte Maria beweisen?
What doubts he what wants-to Maria prove

(40) Er bezweifelt, daß Maria das Theorem beweisen möchte
He doubts that Maria the theorem prove wants-to
'He doubts that Maria wants to prove the theorem'

(c) *Dative objects*: Vogel (1998:24) argues that the dative object (i.e. *dem Lehrer* (the teacher) in (41)) triggers the presupposition that *the teacher told him before that Maria wants to prove the theorem.*[22] Hence, the proposition denoted by the complement is [+ presuppositional] and V2-complements are excluded. Again, integrated parentheticals are also ungrammatical whereas *daß*-complements are perfectly grammatical (cf. (42)).

(41) a. *Er glaubt dem Lehrer, Maria möchte das Theorem
He believes the teacher Maria wants-to the theorem
beweisen
prove

b. *Maria glaubt er dem Lehrer, möchte das Theorem
Maria believes he the teacher wants-to the theorem
beweisen
prove

c. *Was glaubt er dem Lehrer, möchte Maria beweisen?
What believes he the teacher wants-to Maria prove

d. *Was glaubt er dem Lehrer, was möchte Maria
What believes he the teacher what wants-to Maria
beweisen?
prove

(42) Er glaubt dem Lehrer, daß Maria das Theorem beweisen
He believes the teacher that Maria the theorem prove
möchte
wants-to
'He believes the teacher that Maria wants to prove the theorem'

(d) *Expletive pronouns*: Reis (1997) argues that V2-complement clauses are 'relativ unintegriert' whereas *daß*-complement clauses are absolutely integrated. Among other things, V2-complement clauses cannot appear in the sentence-initial position and they do not permit an expletive *es* in

[22]Note that dative objects do not always trigger presuppositions as can be seen in (i). This depends on the semantic interpretation of the dative object. In example (41) the dative object is the source of his belief. In contrast to this, the dative object in (i) is the goal of his speech (cf. also Gärtner (1998)):

(i) Er sagt dem Lehrer, Maria möchte das Theorem beweisen
He says the teacher Maria wants-to the theorem prove

the middlefield. Both restrictions seem to be connected with the fact that V2-complement clauses must be [- presuppositional].

(43) a. *Er glaubt es, Maria möchte das Theorem beweisen
He believes it Maria wants-to the theorem prove
b. *Maria glaubt er es, möchte das Theorem beweisen
Maria believes he it wants-to the theorem prove
c. *Was glaubt er es, möchte Maria beweisen?
What believes he it wants-to Maria prove
d. *Was glaubt er es, was möchte Maria beweisen?
What believes he it what wants-to Maria prove

(44) a. Er glaubt es, daß Maria das Theorem beweisen möchte
He believes it that Maria the theorem prove wants-to

We can conclude that in all examples VIPs and was-parentheticals obey the same restrictions as V2-complement clauses. The (implicit) propositional complement must be [- presuppositional] in all three cases.[23] *Daß*-complement clauses, on the other hand, need not be [- presuppositional].

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[23]In this connection it is worth mentioning that was-w-constructions have exactly the same properties as V2-complements and integrated parentheticals w.r.t. negation, negative predicates and dative objects (cf. Beck&Berman 1996 and Höhle 1996):.

(i) a. Was glaubt er, was Maria beweisen möchte
What believes he what Maria prove wants-to
'What does he believe that Maria wants to prove?'
b. ?/*Was glaubt er nicht, was Maria beweisen möchte
What believes he not what Maria prove wants-to
c. *Was bezweifelt er, was Maria beweisen möchte
What doubts he what Maria prove wants-to
d. *Was glaubt er dem Lehrer, was Maria beweisen möchte
What believes he the teacher what Maria prove wants-to

We already mentioned that was-w-constructions share some 'parenthetical properties' with was-parentheticals but we also find many differences between these two constructions. It is therefore not clear whether these two constructions can be directly related to each other (cf. section 3 above).

Beck&Berman (1996) try to derive the ungrammaticality of (i.b) in syntax: the negation is a barrier at LF and blocks movement of the embedded wh-phrase (cf. also Beck (1995)). It is, however, not clear whether this theory of LF-movement also excludes negative predicates and dative objects. Furthermore, Steinbach (1998) gives a few examples which show that negation is not always a barrier for movement or reconstruction at LF. To interpret examples like (i) - an example for reconstruction into the scope of negation at LF - we need some salient (pragmatic) restriction - in this case the lower limit of all possible answers.

Therefore, they are grammatical with negation, negative predicates, dative objects, and expletives. These differences are summarized in table 3:

(45) *Table 3: V2-complements, parentheticals, and daß-complements*

	V-2-comp.	VIP	was-p	daß-comp.
Negation	-	-	-	+
Negative Predicate	-	-	-	+
Dative Object	-	-	-	+
Expletives	-	-	-	+

(V-2-comp. stands for V-2-complement, was-p for was-parenthetical, and daß-comp. for daß-complement clause)

Table 3 illustrates that the propositional argument of VIP-predicates, was-parentheticals, and V2-complement structures must be specified as [- presuppositional]. This is further confirmed by the following examples. V2-clauses that are discourse linked in its entirety seem to be degraded. This is illustrated by the brief dialog in (46). Verum-focus on the finite verb in the COMP-position ('Linke Satzklammer') results in deaccenting the rest of the clause in (46). The degraded status of the V2-complement clause in (46.b) might follow form the assumption that deaccented constituents are considered to be discours linked (i.e. topics) - see also Gärtner 1998.

(46) a. Und glauben ihr ihre Eltern, daß sie bei ihrer Freundin übernachtet?
'Do her parents believe her that she spend the night at her friend's place?'

b. ??Ja, die GLAUBEN, sie übernachtet bei ihrer
Yes they believe she spend-the-night with her
Feundin
friend

(ii) Wie hoch hat die Eintracht dieses Jahr noch nicht verloren?
By how many goals has the Eintracht this year not yet lost

Besides, the LF-movement approach does not explain why V2-complements, VIPs and was-parentheticals obey the same restrictions. But this coincidence might be accidental. Therefore, we do not want to claim that all four constructions must be explained in the same way. For further discussion of the connection between was-w-constructions and was-parentheticals we refer the reader to Reis (1996:276f)

c. Ja, sie GLAUBEN, daß sie bei ihrer Freundin
Yes they believe that she with her friend
übernachtet
spend-the-night

Finally, Gärtner (1998) gives further independent evidence for the different assertinal properties of V2- and V-final clauses. Beside V-final relative clauses German has also V2-relative clauses. Example (47) shows, that only the former can occur in the scope of the focus particle *nur* (only).

(47) a. Ich kenne nur Leute, die CHOMskys Bücher lesen
I know only people that Chomsky's books read
b. *Ich kenne nur Leute, die lesen CHOMskys Bücher

The focus particle in (47) presupposes that 'the speaker knows people who read Chomsky's books' and asserts that 'the speaker do not know people who read other people's books (cf. Horn 1969, Krifka 1991). Hence, the proposition of the relative clause is presupposed and the V2-pattern is ungrammatical. The focus particle *sogar* (even) is different in this respect. *Sogar* asserts the proposition that *nur* presupposes and presupposes that it is more likely 'that someone other than Chomsky is an x such that the speaker knows people who read x's books' (Gärtner 1998:22). Therefore, the relative clause contains one element (the focussed DP *Chomsky's*) that is not presupposed and the V2-relative clause is expected to be grammatical. This is confirmed by the following example:

(48) Ich kenne sogar Leute, die lesen CHOMskys Bücher
I know even people that read Chomsky's books

So far we saw that the propositional argument of *glauben* obeys the same restrictions in VIPs and was-parentheticals as well as in V2-complement constructions. In all three cases the propositional complement of *glauben* is [- presuppositional]. But this contradicts an analysis that assumes topic drop because topics require a prominent discourse referent. Topics are necessarily [+ presuppositional].[24] Moreover, we already saw that *so*- and *wie*-parentheticals are grammatical with declarative host clauses although they do not license topic-drop. In this case the sentence-initial

[24]Negation, negative predicates, and dative objects are grammatical if the parenthetical contains a demonstrative pronoun. Note, however, that the parentheticals in (i) and (ii) are not integrated. There seems to be a strong correlation between non-canonical argument licensing and integration.

position is not available for topic-drop and we must also assume non-canonical argument licensing.[25]

We conclude that the interpretation of the implicit argument of integrated parentheticals cannot be explained on the basis of a topic-drop analysis. Therefore, we assume non-canonical argument licensing for the interpretation of the second argument (variable) of the VIP-predicate.

The predicate of integrated parentheticals has a propositional argument (i.e. its second argument) that is not linked to a syntactic constituent. The corresponding semantic representation contains a free variable in the position of the second argument. Steinbach (1998a&1998b) argues that free argument variables can either be bound by some operator (argument saturation) or deleted (argument reduction) if the verb permits argument reduction. These operations are semantic in nature and apply to free semantic variables (i.e. argument variables that are not linked to a syntactic expression). If they are applied to the first semantic argument of a verb, we can derive the passive interpretation (existential quantification over the first argument variable), the middle interpretation (generic

(i) a. Martin hat gestern, das glaubt Hans (übrigens) nicht, das zweite Theorem bewiesen
Martin has yesterday that believes Hans (by the way) not the second theorem proven

b. Martin hat gestern, das bedauert Hans, das zweite Theorem bewiesen
Martin has yesterday that regrets Hans the second theorem proven

c. Martin hat gestern, das glaubt Hans der Zeitung, das zweite Theorem bewiesen
Martin has yesterday that believes Hans the newspaper-DATIV the second theorem proven

(ii) a. Martin ist, das wird der Lehrer nicht glauben, tatsächlich krank
Martin is that will the teacher not believe really ill

b. Martin ist, der Lehrer wird das (aber) nicht glauben, tatsächlich krank

[25] Alternatively, we could postulate a VIP-specific deletion operation, that deletes the sentence-initial pronoun in VIPs. In this case we do not have to stipulate that VIPs are V1-clauses. However, this operation is highly idiosyncratic because it does only apply to VIPs. Moreover, we argued that the deletion of *was* in interrogative *glauben*-VIPs is licensed by the analogy between was-parentheticals and declarative VIPs, which are V1-clauses. Moreover, non-canonical argument licensing is independently needed in interrogative *glauben*-VIPs, where the host clause is semantically linked to the variable *T*. Besides, it is needed anyway in quite different constructions (cf. below and also Reis (1995a) for some examples).

quantification over the first argument variable), or the anticausative interpretation (deletion of the first argument variable)[26]. There is no need to stipulate empty (pronominal) elements in syntax to which the semantic role of the predicate is 'assigned'.

We assume that a third semantic operation is necessary to derive the interpretation of the implicit argument in declarative VIPs. A free argument variable cannot only be saturated or reduced but also be linked to another semantic entity that is (i) included in the same focus-background-structure[27], (ii) not assigned a theta-role,[28] and (iii) of the same logical type as the free argument variable. Condition (ii) and (iii) follow from standard assumptions on argument linking (cf. e.g. the theta criterion): an argument must not receive more than one theta-roles (i.e. condition (ii)) and it must obey the (s-) selectional restrictions of the predicate (i.e. condition (iii)).

We already saw that integrated parentheticals form a single focus-background structure together with their host (i.e. condition (i)). Furthermore, the host clause does not (and must not) receive a semantic role by another predicate (i.e. condition (ii)) and it is of the same logical type as the free argument variable (i.e. condition (iii)). Both, the host clause and the implicit argument denote propositions. All three conditions are fullfilled and the free argument variable can be linked to the proposition denoted by the host.

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[26]As opposed to argument saturation, argument reduction is much more restrictive and seems to be lexically restricted.

[27]Possibly, this condition must be weakened if non-integrated parentheticals also have implicit propositional arguments. One might argue that the parenthetical and its host form one processing unit and that the free argument variable must be linked wihin this domain.

[28]This condition might exclude examples like (i) where the *daß*-complement receives two theta-roles. The first one is assigned by the matrix predicate *meinen* and the second one is assigned by the VIP-predicate *glauben*.

(i) Hans meint, daß Martin, glaubt Maria, das Theorem bewiesen hat
Hans thinks that Martin believes Maria the theorem proven has

Note that multiply embedded complement structures (ii) and VIPs in the matrix clause (iii) are grammatical.

(ii) Hans meint, daß Maria glaubt, daß Martin das Theorem bewiesen hat
Hans thinks that Maria believes that Martin the theorem proven has

(iii) Hans, glaubt Maria, meint, daß Martin das Theorem bewiesen hat
Hans believes Maria thinks that Martin the theorem proven has

If this line of argumentation is correct, VIPs are genuine V1-clauses.[29] The second argument of the VIP-predicate is not present in syntax but only linked to the proposition denoted by the host clause in semantics. We conclude that the implicit argument of a VIP-predicate is interpreted in a non-canonical way according to hypothesis B above. However, we saw in the last section that 'topic-drop' or more correctly 'wh-drop' is also needed to derive *glauben*-VIPs that are hosted by interrogative clauses. The omission of the sentence-initial wh-word might be licensed by the analogy between was-parentheticals and declarative VIPs. The set of propositions denoted by the host clause is again non-canonically linked to the second argument position. In this case it is, however, not linked to the second argument variable but to the variable T, which is the implicit restriction on the existential quantification introduced by the wh-word *was*.

The implicit argument of VIP-predicates like *glauben* is specified as [-presuppositional]. This might be due to non-canonical argument licensing. We illustrated that both V2-complements and the implicit argument of integrated parentheticals are [- presuppositional]. In addition, Reis (1997) shows that V2-complement-clauses differ from *daß*-complement clauses in another respect. V2-complement clauses are only partially integrated whereas *daß*-complement clauses are absolutely integrated. Therefore, it is not implausible to assume that V2-complement clauses are also non-canonically licensed. We leave this issue open for further research.

The assumption that the implicit argument of the VIP-predicate must be [- presuppositional] is also in line with our analysis of *glauben*-VIPs in interrogatives. To see this point, reconsider our analysis of these construction (repeated here as (49)).

(49) $\lambda p \exists q\ [\exists x\ [\text{theorem(x)} \wedge [\text{q} = \text{will-prove(m,x)}] \wedge [\text{p} = \text{believe(h,q)}]]$

As can be seen in (49) the propositional argument of *glauben* (i.e. $q =$ *will-prove(Martin,x)*) contains an element that is not presupposed (i.e. x). Hence, the condition that the implicit argument of *glauben* is [- presuppositional] in VIPs and was-parentheticals is fullfilled.

With the restriction that the implicit argument of VIPs is [- presuppositional] we can also derive that VIPs can be hosted by V2- and V-final adverbial clauses. We mentioned in section 2 that the adverbial complementizers *weil* and *obwohl* may introduce assertions (i.e. are [- presuppositional]). Therefore, they can host VIPs (cf. example (16.a and b)

[29] cf. Reis 1995a for further arguments for the V1-status of (declarative) VIPs.

above). Furthermore, we illustrated that *weil*-adverbial clauses can be interpreted in the scope of negation (cf. example (33)). In this case, they are presuppositional and the V2-pattern is ungrammatical. Our analysis predicts that *weil*-adverbial clauses hosting a VIP cannot be interpreted in the scope of negation. As far as we see this is confirmed by the data. The adverbial clause is only ambiguous in sentence (50.a) but not in (50.b), which can only mean that the reason for Maria's not going to Frankfurt was her illness.

(50) a. Sie fuhr nicht nach Frankfurt, weil sie krank ist
She went not to Frankfurt because she ill is
b. Sie fuhr nicht nach F., weil sie, glaubt er, krank ist
She went not to F. because she believes he ill is

Besides adverbial clauses, VIPs can also be inserted into relative clauses. We already saw that relative clauses can be assertional, i.e. [- presuppositional].[30] Therefore, relative clauses can serve as hosts for VIPs.

5. *glauben* AND *fragen*

So far we distinguished two different classes of VIPs. (i) We argued that was-parentheticals and *glauben*-VIPs hosted by interrogatives belong to the same class. Both are true questions that are analysed as indirect dependency configurations. Therefore a wh-word base-generated in the complement position is either overtly or covertly present. In the latter case, it is dropped in sentence-initial position. The host clause is linked in a non-canonical way to the wh-word (i.e. the variable T)and serves as a restriction on the existential quantification over propositions. Was-parentheticals and interrogative *glauben*-VIPs are genuine V2-clauses. (ii) *Glauben*-VIPs hosted by declaratives belong to a different class. In this case topic-drop of a demonstrative pronoun is not available for independent reasons. Hence, the second argument variable of *glauben* is not linked to syntax. The host clause is linked in a non-canonical way to the second argument. The proposition denoted by the host is coindexed with

[30] In German, V-final relative clauses like (i.a) can be replaced by corresponding V2-relative clauses like (i.b) only if they are [- presuppositional] (cf. also example (47) above and especially Gärtner 1998).

(i) a. Ich kenne einen Linguisten, der jedes Theorem beweist
b. Ich kenne einen Linguisten, der beweist jedes Theorem
I know a linguist that proves every theorem

the free (second) argument variable of the VIP-predicate. Declarative *glauben*-VIPs are genuine V1-clauses.

Non-canonical argument-linking is involved in both classes. 'Wh-drop', on the other hand, only applies to VIPs of the first class. In this section we finally argue that *fragen*-VIPs belong to the second class.

We already saw in section 2 that *fragen*-VIPs can only be inserted into interrogative hosts. In this respect *fragen* in VIPs corresponds to *fragen* in matrix clauses. In addition, parenthetical constructions containing *fragen*-VIPs are not questions (cf. section 3). The host (or more exactly the set of propositions denoted by the host) does not serve as a restriction on an implicit wh-word. Instead, it is linked to the second argument of *fragen* which must be a question. Moreover, was-parentheticals are ungrammatical with question predicates like *fragen*. Therefore, *fragen*-VIPs should be analysed in the same way as declarative *glauben*-VIPs. They can only be inserted into interrogative hosts because they only select interrogative complements.[31]. They are ungrammatical in was-parentheticals or interrogative VIPs because the host clause cannot be interpreted as a restriction on the wh-word. The corresponding sentences would yield an ungrammatical semantic representation (cf. (51)) because *fragen* would take a propositional complement (i.e. q).

(51) $^*\lambda p \exists q\, [\exists x\, [\text{theorem(x)} \wedge [\text{q} = \text{will-prove(Martin,x)}] \wedge [\text{p} = \text{ask(Hans,q)}]]$

This contradicts the fact that *fragen* only selects interrogative complements, i.e. sets of propositions. Hence, there is no grammatical answer corresponding to a the question in (51).

As opposed to *fragen*-VIPs, *glauben*-VIPs can be inserted into declarative hosts because they subcategorizes for a declarative complement clause. Furthermore, they can be inserted into interrogative hosts because the host is interpreted as the overt restriction to the (dropped) wh-word in sentence-initial position of the VIP. Therefore, *glauben* always selects a declarative complement even if it is inserted into an interrogative parenthetical construction. We conclude that in all three cases the selectional properties of the VIP-predicate are identical with the selectional properties of the matrix-predicate. The selectional restrictions of *glauben* need

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[31] The answer to the question *was fragte Hans?* (what did Hans ask?) that asks for the second argument of *fragen* contains a (embedded) question, which is its focus.

(i) Hans fragt, [welches Theorem Martin beweisen möchte]$_F$

Semantically, the focus of the answer in (i) is a set of propositions.

not be changed (or extended) in VIPs. *Glauben* always selects the same clause type, no matter whether it is a VIP- or a matrix-predicate.[32]

6. Conclusion

In this paper we argued that two different kinds of VIPs must be distinguished. Our analysis of *glauben*-VIPs hosted by interrogative clauses is based on Dayal's (1996) analysis of was-parentheticals. Interrogative hosts containing *glauben*-VIPs as well as was-parentheticals are true questions. The host clause serves as a restriction on the wh-word. The only difference between these two constructions is the wh-word *was* that is dropped in sentence-initial position in VIPs. Hence, *glauben*-VIPs hosted by an interrogative clause are (underlying) V2-structures.

Glauben-VIPs that are hosted by declarative clauses and *fragen*-VIPs belong to the second class. We argued that a topic-drop-analysis is not available. The propositional argument is not linked to syntax and the corresponding semantic representation contains a free argument variable, which is linked to the host clause because (i) integrated parentheticals form a single focus-background structure together with their host, (ii), the host clause does not receive another thematic role, and (iii) the implicit argument and the host clause are of the same logical type. This analysis of the interpretation of the second (propositional) argument of verbs like *glauben* might be extended to V2-complement clauses in general. This issue requires, however, further investigation.

Although the host clause is always linked to the propositional argument of the VIP-predicate it yields quite different interpretations. In was-parentheticals as well as in the corresponding *glauben*-VIPs the set of propositions denoted by the (interrogative) host restricts the proposition that is asked for. In declarative *glauben*-VIPs and in *fragen*-VIPs, on the other hand, the host clause is linked to the second argument of the VIP-predicate, which is either a proposition (*glauben*) or a set of propositions (*fragen*). This difference in interpretation follows from the fact, that the second argument position in *was*-parentheticals and interrogative *glauben*-VIPs is occupied by a wh-word. Therefore, the host clause can only be linked to the (covert) restriction on the existential quantification over

[32] We mentioned in fn 5 that verbs like *sagen* select declarative as well as interrogative complements. The latter are coerced to facts that resolve the question denoted by the host clause. This is, however, only possible in embedded questions. *Sagen* does not permit this interpretation if it is inserted into a VIP. Coercion might be limited to embedded interrogative clauses whereas unembedded interrogative clauses always denote true questions.

propositional variables. The semantic properties of the implicit (second) argument of the VIP-predicate and the host clause are summarized in the following table. All three classes are related to each other.

The interpretation of the implicit argument in VIPs

	implicit argument	*linked to syntax?*	*host clause*	*interpretation of the host*
declarative glauben-*VIPs*	**proposition**	**no**	proposition	**second argument**
interrogative glauben-*VIPs*	**proposition**	yes (to *was*)	**set of propositions**	restriction on *was*
fragen-*VIPs*	set of propositions	**no**	**set of propositions**	**second argument**

Note finally that the selectional properties of VIP-predicates need not be changed. VIP-predicates are always subject to the same selectional restrictions as the corresponding matrix predicates.

We hope that this paper will improve the understanding of some properties of integrated parentheticals although we know that we have to continue to investigate the connections between VIPs, V2-complement clauses and relatated constructions

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