

# Sentential proforms and argument conditionals<sup>\*</sup>

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The paper is about the relationship between German argument *wenn*-clauses and their proforms as in *Lea bedauert es, wenn Mia Klavier spielt* 'Lea regrets it if Mia plays the piano'. Confirming and complementing Fabricius-Hansen's (1980) view that these clauses are proper adverbials and simultaneously provide a propositional argument for a matrix predicate, the paper regards argument *wenn*-clauses as left- or right TP-adjuncts that m-command a sentential proform. It shows that the proform can also be *pro* if it represents an obligatory propositional argument. This *pro* is locally m-bound by the argument *wenn*-clause and itself locally m-binds an argument *dass*-clause. The latter is a right vP-adjunct and can be deleted if it is coreferential with the argument *wenn*-clause, if both are alike with respect to their information structural status, if they are identical with respect to their C', and if they are adjacent.

## 1. Introduction

The paper is about constructions where the propositional argument of the matrix predicate is realized by a sentential proform and by a conditional clause, (1a) and (2a). The conditional clauses appear to be complement clauses like the *dass*-clauses in (1b) and (2b).

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- (1) a. *Wir bedauern es, wenn die Schwimmer nicht bereit sind,*  
we regret it if the swimmers not willing are  
*die konzeptionellen Dinge mitzutragen.*  
the conceptual issues to share  
(DWDS BZ 2005)  
'We regret it if the swimmers are not willing to share the  
conceptual issues.'
- b. *Wir bedauern es, dass die Schwimmer nicht bereit sind,*  
*die konzeptionellen Dinge mitzutragen.*  
'We regret it that the swimmers are not willing to share the  
conceptual issues.'
- (2) a. *Er habe sich jedenfalls darüber gewundert, wenn seine*  
he has anyway pro-about been surprised if his  
*Landsleute über ihr Wochenende in Ost-Berlin*  
fellow countrymen about their weekend in East-Berlin  
*erzählt hätten.*  
talked had  
(DWDS TS 2004)  
'He was surprised if his fellow countrymen were talking  
about their weekend in East Berlin.'
- b. *Er habe sich jedenfalls darüber gewundert, dass seine*  
*Landsleute über ihr Wochenende in Ost-Berlin erzählt*  
*hätten.*  
'He was surprised that his fellow countrymen were talking  
about their weekend in East Berlin.'

We call *wenn*-clauses that express the propositional argument of a matrix predicate *argument conditionals*. Constructions with argument conditionals constitute a cross-linguistic phenomenon. They exist, for instance, in English (cf. the "irrealis clauses" discussed in Carstairs 1973, Williams 1974, Pullum 1987, Pesetsky 1991, Hinterwimmer 2010), in Spanish (cf. Quer 2002: 242), in Hungarian, in Slavic and even in Creole languages (cf. Schwabe, Jędrzejowski & Kellner 2012). This paper concentrates on German constructions with argument conditionals and especially on the syntactic status of the proform the conditionals co-occur with. Depending on the matrix predicate, the proform is either *es* as in (1) or a propositional proform as in (2). The latter we call ProPP. What is puzzling is the syntactic status of the proforms. Do they differ from identical proforms co-occurring with

*dass*-clauses that are embedded by factive predicates in all-focus contexts as suggested by Sudhoff (2003)? Or are they on a par with them as claimed by Breindl (1989) with respect to ProPPs? These questions cannot be answered without discussing the syntactic status of the clause the proforms relate to. Is their associated *wenn*-clause a complement clause which is introduced by a non-canonical complementizer as Boettcher & Sitta (1972: 117f.), Schmid (1987) and Breindl (1989: 255ff.) have suggested at least for extraposed *wenn*-clauses? Or does it rather have a double function: as a conditional clause that simultaneously provides the propositional argument for the matrix predicate as argued for by Fabricius-Hansen (1980), Kaiaty (2010) and this paper? What is the function of the proform? Does it refer to the *wenn*-clause token? Or is it rather related to an abstract object in terms of Asher (1993)? And finally, what are the semantic properties of the statements it relates to and how are these properties mirrored by the meaning of the matrix predicate? Obviously, not all verbs allowing *dass*-clauses accept a *wenn*-form:

- (3) a. *Frank glaubt es<sub>j/\*i</sub>, wenn Maria krank ist<sub>i</sub>.*  
 Frank believes it if Maria ill is  
 b. *Frank glaubt es<sub>i</sub>, dass Maria krank ist<sub>i</sub>.*  
 Frank believes it that Maria ill is

The issues concerning the semantic properties of the matrix predicates licensing argument *wenn*-clauses are discussed in Schwabe (2015) and Schwabe & Fittler (2014). Here, we will concentrate on the syntactic status of the proforms and their associated clauses.

## 2. Syntactic remarks on proforms and argument *wenn*-clauses

### 2.1 Construction types

Depending on the matrix predicate, argument conditionals can relate to direct and propositional objects as in (1) and (2) and to subjects as in (4a).

- (4) a. *Es ist schon bedenklich, wenn man in so einer Situation*  
 it is MP alarming if one in such a situation  
*einen Security-Mann braucht.*  
 a security man needs

'It's really alarming if one needs a security man in such a situation.'

(DWDS Zeit 2010)

Argument conditionals can be post-sentential as shown in the examples so far, but they also occur in the prefield as in (5a). In the middle-field, they occur, admittedly, quite seldom – cf. (5b).

- (5) a. *Wenn Unbeteiligte betroffen waren, bedauere ich das*  
if innocent bystander affected, were regret I this  
*ausdrücklich ...*  
explicitly  
(DWDS BZ 2005)
- b. *Zweifellos bedauere ich es, wenn Unbeteiligte*  
undeniably regret I it if innocent bystanders  
*betroffen waren, ausdrücklich.*  
affected were explicitly

Like the *es*-proform of post-sentential *dass*-clauses, the *es*-proform of a post-sentential *wenn*-clause can be missing even if the sentential argument is obligatory, (6a, b) and (7a, b).<sup>2</sup>

- (6) a. *Ein liebenswürdiger tapsiger Bär, dem keiner*  
a lovable lumbering bear who.DAT no one  
*übel nahm, wenn er seine Gegner verdrosch.*  
held against if he his opponents beat up  
'A lovable lumbering bear, whom no one held it against  
when he beat up his opponents.'  
(IDS zta 1999)
- b. *Ein liebenswürdiger tapsiger Bär, dem es keiner übel*  
*nahm, dass er seine Gegner verdrosch.*
- (7) a. *Mich stört einfach, wenn es schmutzig ist.*  
me annoys simply if it dirty is  
(DWDS BZ 1996)

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<sup>2</sup> Note that Eisenberg (1989: 365) claims that argument *wenn*-clauses must necessarily have a proform. Fabricius-Hansen (1980:161) regards the occurrence of a proforms as "the normal case". But a closer look into the corpora makes clear that constructions with missing proforms are quite normal.

'It annoys me if it is dirty.'

- b. *Mich stört einfach, dass es schmutzig ist.*

The proform, however, may not be missing if the sentential argument is obligatory and the *wenn*-clause is pre-sentential – cf. (8a, b).

- (8) a. *Wenn Unbeteiligte betroffen waren, bedauere ich das*  
if innocent bystander affected were, regret I this  
*ausdrücklich ...*  
explicitly  
(DWDS BZ 2005)
- b. \**Wenn Unbeteiligte betroffen waren, bedauere ich*  
if innocent bystander affected were, regret I  
*ausdrücklich ...*  
explicitly

Obligatory prepositional proforms of post-sentential *wenn*-clauses need not be represented either, (9a). If, however, the *wenn*-clause is pre-sentential, the proform must be expressed.

- (9) a. *Immer wieder ertappe ich mich, wenn ich "cool" sage ...*  
again and again find I myself if I "cool" say  
'Again and again, I find myself saying "cool".  
(IDS rhz 2003)
- b. \**Wenn ich "cool" sage, ertappe ich mich.*  
If I "cool" say find I myself

German argument conditionals can be introduced by the conjunction *wenn* as shown so far, but there are alternatives. The conditional can be introduced by the conjunction *falls* 'in case' as in (10a) - see also Onea (2015: 97ff.). This conjunction can only be used in a conditional which is singularly hypothetical – cf. Zifonun et al. (1997: 2280). Or, the argument conditional can be a V1-conditional as in (10b). In this paper, we will only concentrate on argument *wenn*-clauses.

- (10) a. *Auf diese Weise will man rechtzeitig bemerken,*  
In this way wants one in time notice

*falls* erneut irgendetwas auf die Flügel prallt.

in case again something on the wings blazes down

(DWDS BZ 2005)

'In this way, one wants to notice in time if something blazes down on the wings again.'

- b. *Inter möchte nur als erster Verein informiert werden,*  
Inter wants only as first club informed to be  
*sollte Hertha den Kroaten innerhalb des Vertragszeit-*  
*raums*  
should Hertha the Croat within the agreement period  
*verkaufen wollen, um mitbieten zu können.*  
sell want in order compete to can  
'Inter wants to be the first club to be informed if Hertha  
will sell the Croat within the agreement period in order to  
be able to compete.'  
(DWDS BZ 1995)

## 2.2 *Adverbial approach or complement approach*

The observation that argument conditionals can be substituted by *dass*-clauses has led authors to the assumption that they are complement clauses or that they are hybrids in that they have a double function, being both a complement and an adverbial. Schmid (1987) and, although partially, Onea (2015) regard argument *wenn*-clauses as complement clauses with an irrealis meaning. However, Eisenberg (1989: 365f.), Zifonun et al. (1997: 1097, 1458ff., 2287), and Pasch et al. (2003: 383) assume them to be complement clauses with an adverbial function. They advocate what we call the *complement approach*. It is useful to note that post-sentential argument *wenn*-clauses are preferably discussed in the literature. As we will see below, it is reasonable to keep pre- and post-sentential argument *wenn*-clauses apart.

### 2.2.1 *Pre-sentential argument wenn-clauses*

Breindl (1989: 260) suggests that pre-sentential *wenn*-clauses are adverbials that render the specification of the propositional argument of the matrix predicate. The complement itself is expressed by an anaphoric proform.

Let's first have a look at some arguments that prove that pre-sentential argument *wenn*-clauses are adverbials and the proforms they relate to are proforms.

*i.* As already shown by Fabricius-Hansen (1980: 161), an *es*-proform is obligatory if the *wenn*-clause is in the prefield, (8), (11) and (12). However, it must not be there if there is a *dass*-clause, (13) and (14) as well as (5a).

- (11) a. *Wenn Maria krank ist, bedauert es Frank.*  
           if Maria ill is regrets it Frank  
           'If Maria is ill, Frank regrets it.'  
       b. \**Wenn Maria krank ist, bedauert Frank.*
- (12) a. *Wenn es regnet, ist es misslich.*  
           if it is raining is it unfortunate  
           'If it is raining, it is unfortunate.'  
       b. \**Wenn es regnet, ist misslich.*
- (13) a. \**Dass Maria krank ist, bedauert es Frank.*  
           that Maria ill is regrets it Frank  
           'If Maria is ill, Frank regrets it.'  
       b. *Dass Maria krank ist, bedauert Frank.*
- (14) a. \**Dass es regnet, ist es misslich.*  
           that it is raining is it unfortunate  
       b. *Dass es regnet, ist misslich.*

These data reveal that there is a syntactic difference between adverbial argument *wenn*-clauses and complement *dass*-clauses. This difference provides a piece of evidence for the *adverbial approach*. As we will see in the next section, the *dass*-clause is in an external or internal argument position. Therefore this place is blocked for a proform. The argument *wenn*-clause, on the other hand, is an adverbial, thus it does not get in the way of the proform in the argument position.

As to obligatory prepositional argument clauses, they also must be represented by a prepositional proform if the argument *wenn*-clause is pre-posed, (9b) and (15b). As shown in (16a, b), a pre-posed *dass*-clause must be in its PP-shell.

- (15) a. *Wenn ich "cool" sage, ertappe ich mich immer dabei.*  
           if I "cool" say find I myself always ProPP  
       b. \**Wenn ich "cool" sage, ertappe ich mich immer.*

- (16) a. [PP *Dabei, dass ich "cool" sage*]  
 ProPP that I cool say  
*ertappe ich mich immer* t<sub>PP</sub>.  
 find I myself always
- b. \*[CP *Dass ich "cool" sage*] *ertappe ich mich immer* [PP *da-*  
*bei* t<sub>CP</sub>].

If the internal argument is optional as is the case with respect to *schreiben* 'write' in (17a), the *es*-proform is optional too. If it is missing, the subject could write everything but the content of the *wenn*-clause. If, on the other hand, the internal argument is expressed by the *es*-proform as in (17b), it relates to the most salient statement, which can be the one denoted by the *wenn*-clause.

- (17) a. *Wenn Maria kommt, schreibt mir Frank.*  
 if Maria comes writes me Frank  
 'If Maria is coming, Frank will write it to me.'
- b. *Wenn Maria kommt, schreibt es mir Frank.*  
 if Maria comes writes it me Frank

*ii.* Let's turn to the next argument against the complement and in favor of the adverbial approach. A complement *dass*-clause can be adjoined to a demonstrative like *das* as in (18a) as well as to a ProPP like *darüber* as in (18b). The latter has the morpheme *da* as the pronominal. The demonstrative can be either the subject or the direct object. The PP is a prepositional object.

- (18) a. [DP [DP *das*] *dass Lea krank ist*]<sub>i</sub>, *bedauert Max* t<sub>i</sub>.  
 this that Lea ill is regrets Max
- b. [PP [PP *darüber*] *dass Lea kommt*]<sub>i</sub>, *ärgert sich Max* t<sub>i</sub>.  
 ProPP that Maria comes annoys REFL.ACC Max

An argument *wenn*-clause, however, cannot be a DP- or ProPP-adjunct as exemplified by (19a, b).

- (19) a. \*[DP [DP *Das*] *wenn Lea kommt*] *hat Max bedauert.*  
 that if Lea comes has Max regretted

- b. \*<sub>[PP [PP *Darüber*] *wenn Lea kommt*] *hat sich Max geärgert*.</sub>  
       ProPP   if    Lea comes   has REFL Max annoyed

*Dass*-clauses as part of a DP- or ProPP-shell cannot escape this shell when moving to the left – see also (16b). This explains why they can only be preposed within this DP- or PP-shell, (20a, b) and (18a, b).

- (20) a. \*<sub>[*dass Lea krank ist*]<sub>i</sub>, *bedauert [das t<sub>i</sub>] Max*.</sub>  
           that Lea ill    is    regrets this Max  
       b. \*<sub>[*dass Lea kommt*]<sub>i</sub>, *ärgert sich    Max [darüber t<sub>i</sub>]*.</sub>  
           that Lea comes annoys REFL.ACC Max ProPP

Argument *wenn*-clauses, however, can easily move to the prefield alone – cf. (11a), (12a) and (15a) as well as Breindl (1989: 259f.).

This can be seen as a further piece of evidence for the non-complement function of the *wenn*-clause.

Let us note: There is strong agreement on the hybrid character of pre- and post-sentential *wenn*-clauses. As we have just seen, the syntactic status of pre-sentential *wenn*-clauses as adverbials is not very controversial.<sup>3</sup> The views on the syntactic status of post-sentential *wenn*-clauses, however, diverge greatly.

### 2.2.2 Post-sentential argument *wenn*-clauses

Hartung (1986: 93f. and 131f.) as well as Breindl (1989: 257f.) and Onea (2015: 80) do not regard post-sentential argument *wenn*-clauses as adverbials but as complements. They argue that an argument *wenn*-clause in this position can be replaced by a *dass*-clause, which is a canonical complement clause. As Breindl (p. 257) notes, the ProPP is a place holder for the *wenn*-clause. A place holder is regarded as a syntactic device to mark the syntactic position of a complement. Unlike a proform, it does not refer – cf. Axel & Holler & Trompelt, Frey, Truckenbrodt, Sudhoff, and Zimmermann (all this volume). The present paper here will argue that also post-sentential argument *wenn*-clauses are adverbials and that they are referred to by a cataphoric proform. This view is shared by Fabricius-Hansen (1980: 185) and Sudhoff (2003: 40).

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<sup>3</sup> Since pre-sentential *wenn*-clauses behave like inner-sentential ones, we can neglect the latter here – cf. i. *Frank hat es, wenn Lea krank war, bedauert* and ii. \**Frank hat es, dass Lea krank ist, bedauert*.

*i.* Regarding Hartung's idea that argument *wenn*-clauses are complements and the *es* is a place holder, it is obvious that *es*-place holders that represent obligatory sentential arguments cannot be substituted by a *wenn*-clause, (21a, b) and (22a, b).

- (21) a. *Max hat es bedauert, wenn Lea krank ist.*  
Max has it regretted if Lea ill was  
b. \**Max hat, wenn Lea krank ist, bedauert.*
- (22) a. *Es wird durchsickern, wenn Lea den Jackpot hat*  
It will leak if Lea the jackpot has  
b. \**Wenn Lea den Jackpot hat, wird durchsickern.*

*Dass*-clauses, however, which are canonical complements, can replace a place holder, as shown in (23a, b) and (24a, b).

- (23) a. *Max hat es bedauert, dass Lea krank war.*  
Max has it regretted that Lea ill was  
b. *Max hat, dass Lea krank war, bedauert.*  
Max has that Lea ill was regretted
- (24) a. *Es ist durchgesickert, dass Lea den Jackpot hat.*  
it is leaked that Lea the jackpot has  
b. *Dass Lea den Jackpot hat, ist durchgesickert.*

Contrary to Breindl's (1989) suggestion that ProPPs relating to *wenn*-clauses are place holders, an argument *wenn*-clause cannot replace a ProPP either, (25b). It also cannot be adjoined

- (25) a. *Max hat sich damit auseinandergesetzt, wenn Lea krank*  
Max has REFL ProPP dealt with if Lea ill  
*war.*  
was  
b. \**Max hat sich, wenn Lea krank war, auseinandergesetzt.*

As for complement *dass*-clauses, they cannot replace a ProPP either, (26a, b). They must adjoin to its ProPP as shown in (27) and (18a, b). This,

as we have seen with respect to (19b), is excluded for argument *wenn*-clauses.

- (26) a. *Max hat sich damit auseinandergesetzt,*  
 Max has REFL.ACC ProPP dealt with  
*dass Lea krank ist.*  
 that Lea ill is
- b. \**Max hat sich dass Lea krank ist, auseinandergesetzt.*

- (27) *Max hat sich damit, dass Lea krank ist, auseinandergesetzt.*

ii. The fact that the argument *wenn*-clause, which provides the propositional argument of the matrix predicate, can co-occur with a *dass*-clause, which also provides this argument, gives us an additional argument for the adverbial status of the *wenn*-clause. This is shown in (28b) and (29b), which are paraphrases of (28a) and (29a) – cf. Williams (1974), Fabricius-Hansen (1980), Pullum (1987), Rothstein (1991), Pesetsky (1991), and Hinterwimmer (2010). In these cases, the argument *wenn*-clause is a genuine adverbial. Why is this not always the case?

- (28) a.  $[Max\ bedauert\ es_{\sigma}]_{\tau},\ wenn\ [Lea\ krank\ ist]_{\sigma}.$   
 Max regrets it if Lea ill is  
 'Max regrets it if Lea is ill.'
- b.  $[M\ bedauert\ [dass\ Lea\ krank\ ist]_{\sigma}]_{\tau}\ wenn\ [Lea\ krank\ ist]_{\sigma}$   
 M regrets that Lea ill is if Lea ill is  
 'Max regrets it that Lea is ill if she is ill.'  
 $[Lea\ is\ ill]_{\sigma} \Rightarrow Max\ regrets\ that\ \sigma$
- (29) a. *Max hat sich darüber gefreut, wenn Lea sang.*  
 Max has REFL.ACC ProPP enjoyed when Lea sang  
 'Max has enjoyed it if Lea was singing.'
- b. *Max hat sich darüber, dass Lea sang, gefreut,*  
 Max has REFL.ACC ProPP that Lea sang enjoyed  
*wenn Lea sang.*  
 if Lea sang

A paraphrase like (28b) and (29b) is only possible if the matrix predicate is potentially factive – cf. Fabricius Hansen (1980: 180f.).<sup>4</sup> It is not appropriate if the matrix predicate is a preference verb such as, for instance *vorziehen* 'prefer', (30a, b).<sup>5</sup>

- (30) a. [Max zieht es<sub>σ</sub> vor]<sub>τ</sub>, wenn [Lea schläft]<sub>σ</sub>.  
 Max prefers it if Lea sleeps  
 'Max prefers it if Lea sleeps.'  
 b. #Max zieht es vor, dass Lea schläft, wenn Lea schläft.  
 Max prefers it that Lea sleeps if Lea sleeps

iii. Example (31a) shows that an adverbial *wenn*-clause can contain the propositional argument of the matrix predicate – cf. also Fabricius-Hansen (1980: 183ff.). As shown in (31b), the embedding predicate *erfahren* 'hear' hardly belongs to the propositional argument of the matrix predicate *bedauern* 'regret'. The *wenn*-clause of (31a) is an ordinary adverbial, an adverbial which contains the argument expression of the matrix predicate. Again, if such cases exist, why should one consider argument *wenn*-clauses to be complement clauses?

- (31) a. Max bedauert es<sub>σ</sub>, [wenn er erfährt, [dass Lea krank ist]<sub>σ</sub>].  
 Max regrets it when he finds out that Lea ill is  
 'Max regrets it, if he realizes that Lea ill is.'  
 b. ???M bedauert es<sub>τ</sub> [wenn er erfährt [dass Lea krank ist]<sub>σ</sub>]<sub>τ</sub>.

iv. A further argument supporting the adverbial status of argument *wenn*-clauses is motivated by an example in Breindl (1989: 255ff.). She argues that the post-sentential *wenn*-clause in (32a) can only be a complement because there is already a pre-sentential adverbial *wenn*-clause. But (32b) illustrates that both, the pre-sentential as well as the post-sentential *wenn*-clause can be conjoined. This could not be the case if the second one were a complement clause. According to Gibbard (1981), (32a) and (32b) are equivalent,

<sup>4</sup> Potentially factive predicates are predicates that are not factive without a proform, but are factive with one – cf. Section 3.1 and Section 4.

<sup>5</sup> Regarding the semantic properties of matrix predicates that determine the selection of argument *wenn*-clauses see Schwabe (2015).

- (32) a. *Und wenn er von den Frauen nicht gleich als Homo tituliert*  
 and if he by the women not immediately as gay called  
*wird, kann er froh sein,*  
 is can he glad be  
*wenn man ihn nur als Eisblock ... bezeichnet*  
 if they him only as block of ice call  
 (Breindl p. 257, Ex. 5-200)  
 'And if the women do not immediately call him a gay, he  
 can be glad if they only call him a block of ice.'
- b. *Und wenn er von ihnen nicht gleich als Homo sondern nur  
 als Eisblock bezeichnet wird, kann er froh sein.*  
 'And if they do not call him a gay and if they only call him  
 a block of ice, he can be glad.'

v. Preference predicates like *vorziehen* 'prefer' provide an additional argument in favor of the adverbial approach. Besides V2-complements, they license *wh*-movement out of the embedded *dass*-clause, (33a). However this is strictly forbidden with respect to argument *wenn*-clauses, (33b). If they were real complements like *dass*-clauses, *wh*-extraction should be possible.

- (33) a. *Wohin<sub>i</sub> zieht Hans vor, dass Maria zieht t<sub>i</sub>?*  
 where prefers Hans that Maria moves to  
 'Where does Hans prefer that Maria will move to?'
- b. \**Wohin<sub>i</sub> zieht Hans vor, wenn Maria zieht t<sub>i</sub>?*  
 where prefers Hans if Maria moves

### 2.2.3 Question-answer pairs and argument *wenn*-clauses

According to Onea (2015), the behavior of *wenn*-clauses in answers to *wh*-questions presents a challenge for the adverbial approach. He regards question-answer pairs like (34), where the *wenn*-clause seems to be asked for by the complement-clause proform *was*, as evidence for his idea that in this context the *wenn*-clause is a complement clause. He suggests that the truth value of the *wenn*-clause is undecided.

- (34) Q: *Was würde Frank bedauern?*  
 what would Frank regret  
 'What would Frank regret?'

A: *Wenn Maria krank sein würde.*  
if Maria ill be would

In the following, we will show that Onea's argument does not falsify the adverbial approach.

German complement *dass*-clauses are always questioned by the interrogative proform *was*, (35).

(35) Q: *Was bedauert Frank?*  
'What does Frank regret?'  
A: *(Frank bedauert) dass Maria krank ist.*  
Frank regrets that Maria ill is  
'(Frank regrets) that Maria is ill.'

This proform *was* is seen here as a variable  $p$  that represents the propositional argument of the matrix predicate. It is presupposed that there exists at least one proposition in the indicated context that makes the predicate *regret\_frank* ( $p$ ) true. The variable is bound by a lambda operator by virtue of the interrogative force; see  $\lambda p. \text{regret\_frank}(p)$ . An answer like (35A) is regarded as a pair consisting of the question  $\lambda p. \text{regret\_frank}(p)$  and the specification of  $p$ , which is here *maria\_is\_ill*. The syntactic structure of this pair is a matrix clause with an embedded complement clause. The matrix clause can be omitted because it is given by the *wh*-question. The truth of the matrix clause *regret\_frank(maria\_is\_ill)* is claimed by virtue of the answer's assertive force. If the embedded proposition is selected by a factive predicate as in (35Q, A) and (36Q, A) below, it is true with respect to the indicated interpretation context.

In (35Q, A) indicative verbal mood indicates the real context. Thus, the matrix clause (35A) is claimed to be true in the real context. The matrix clause implies a proposition that represents the fact of Maria's being ill if the matrix clause is true.

As for (36Q, A), conjunctive verbal mood indicates that the matrix proposition is interpreted in an unreal context. Since the matrix predicate is factive, its embedded proposition represents a 'fact' in this unreal context.

(36) Q: *Was würde Frank bedauern?*  
what would Frank regret  
'What would Frank regret?'

A: (*Frank würde bedauern*) *dass Maria krank ist.*  
 Frank would regret that Maria ill is  
 '(Frank would regret) that Maria is ill.'

Question-answer pairs like (36Q, A) seem to be quite rare. But they are possible if facts are established in this unreal context.

If, however, the answer to (36Q) appears in the form of a *wenn*-clause as in (34Q, A), it looks much more familiar. However this does not mean that the *wenn*-clause in such a construction is necessarily a complement clause as suggested by Onea (2015). As shown in (37) and as will be shown in more detail in Section 3, the *wenn*-clause is a conditional even in constructions like (34Q, A). It is the protasis  $\sigma$  of an implication that takes the matrix clause  $\tau(\sigma)$  with the embedded  $\sigma$  as its consequence; see  $\sigma \Rightarrow \tau(\sigma)$ . The propositional variable  $p$  of the matrix predicate in the consequence is specified by the *wenn*-clause. The consequence can be omitted because it is given by the question.

(37) Q: *Was würde Frank bedauern?*  
 A: (*Frank würde es bedauern*) *wenn Maria krank sein würde.*  
 Frank would it regret if Maria ill be would  
 '(Frank would regret it) if Maria were ill.'

As we have already seen with respect to (36A, Q), the conjunctive mood of the matrix predicate indicates an unreal context. In this context, the *wenn*-clause denotes a necessary condition for the consequence  $\tau(\sigma)$  to be true. Thus, the difference between (36A) and (37A) is that in (36A) the fact that specifies  $p$  of the matrix predicate is given in the unreal context whereas in (37A) the condition is focused under which the consequence with the embedded  $\sigma$  is true in the unreal context.

An argument *wenn*-clause serving as an answer to a question with indicative mood seems to be inappropriate.

(38) Q: *Was bedauert Frank?*  
 A: *?(Frank bedauert es,) wenn Maria krank ist.*  
 Frank regrets it if Maria ill is  
 '?If Maria is ill.'

Onea (2015: 95) explains this seeming inappropriateness by the inconsistency of the factive predicate 'regret' with the undecided truth value of the

complement clause. Within the adverbial approach, the reason for the inappropriate answer (38A) is that the assertive force and indicative mood of the matrix predicate indicate that the matrix clause is true in the real context and that its embedded proposition is true too. Thus, the conditional is superfluous since it addresses a condition that is already realised by the consequence.

### 2.3 Proforms of pre- and post-sentential *wenn*-clauses

If pre- and post-sentential argument conditionals are not complements but adverbials, the proforms they relate to can be neither place holders for a complement clause (Breindl 1989, Onea 2015) nor expletives (Pullum 1987) nor copies of a rightward moved complement clause (Pesetsky 1991). We have already argued against this view above: the proform cannot be replaced by a *wenn*-clause, (21a, b), (22a, b) and (25a, b). This should be possible if it were a place holder or expletive.

A further argument against the expletive or copy status of the proforms is provided by French, which possesses the expletive *il* and the demonstrative *ce*. It is only the demonstrative *ce* which can occur in constructions with argument conditionals, (39a) and Thompson (2012). Something similar to this also applies to German. There, the *es*-proform can be substituted by its strong variant, the *das*-proform, (39b).

- (39) a. *Ce/\*il serait tragique si elle était partie.*  
'It would be tragic if she left.'  
(Thompson 2012)
- b. ... *aber das/es ist auch nicht tragisch, wenn*  
... but this is also not tragic if  
*die Betroffenen wissen, wo es langgeht.*  
the persons concerned know the score  
(DWDS BZ 1999)  
'... But it is also not tragic if the persons concerned know  
the score.'

Data like those in (39a, b) indicate that the *es* is a referential proform which is located in an argument position. This claim is also supported by constructions like (31a), where the proform relates to a proposition which is embedded in the *wenn*-clause. Here, the proform cannot in any way stand for the *wenn*-clause.

As we have already seen with respect to (6a), (7a) and (9a), constructions with post-sentential argument *wenn*-clauses have in common with constructions with post-sentential complement *dass*-clauses that the obligatory propositional argument of the matrix predicate need not be expressed by an overt proform. We will return to this issue in the subsequent section.

As to ProPPs, there are a few predicates where the proform is obligatory – cf. *sich daran stören* 'be bothered by' and *sich damit vergnügen* 'to amuse oneself', (40a, b) and (41a, b).

- (40) a. *Max stört sich daran, wenn Lea singt.*  
 Max is bothered ProPP if Lea sings  
 'Max is bothered if Max is sings.'  
 b. \**Max stört sich, wenn Lea singt.*
- (41) a. *Max stört sich daran, dass Lea singt.*  
 Max is bothered ProPP that Lea sings  
 b. \**Max stört sich, dass Lea singt.*

As for constructions with pre-sentential argument *wenn*-clauses, the proform is obligatory if the propositional argument is mandatory, (8b) and (9b).

Finally, conditionals have a genuine proform: the *dann*-proform as in (42A). It relates to the protasis of an implication, that is, to the proposition the *wenn*-clause denotes. An *es*-proform co-occurring with a conditional proform as in (42A1) is always anaphorical. The reason for this is that the adverbial correlate *dann* focusses the adverbial. That is, the *es* is not in the focus domain.

- (42) Q: *Unter welcher Bedingung bedauert Max,*  
 under which condition regrets Max  
 [*dass Lea singt*]<sub>τ</sub>?  
 that Lea sings  
 'Under which condition does Max accept that Lea sings?'
- A: *Max bedauert es<sub>τ</sub> DANN<sub>σ</sub>, [wenn Lea nicht geÜBT hat]<sub>σ</sub>.*  
 Max regrets it then if Lea not practiced has  
 'Max regrets it then if Lea has practiced.'

Onea (2015: 93) regards examples like (42A) as a piece of evidence for his claim that post-sentential argument *wenn*-clauses are complements rather than conditionals. As to his example (41) *Es ist (\*dann<sub>i</sub>) meine Privatangel-*

*egenheit*, [*wenn ich mit Renate befreundet bin*]; 'it is then my private affair if I'm a close friend of Renate.' he argues that the *wenn*-clause must be a complement clause because it is incompatible with the conditional correlate *dann*. But he is mistaken. As shown above, the *dann*-correlate focusses on the conditional clause which hardly provides the propositional argument of the matrix predicate. The propositional argument is expressed by the *es*-correlate.

We can conclude so far: The proform that relates to pre- and post-sentential *wenn*-clauses is not an expletive or a place holder, but a propositional proform. And an argument *wenn*-clause, which cannot replace a proform or adjoin to it, is not a complement clause but an adverbial. If the *wenn*-clause is pre-sentential obligatory and the propositional argument is obligatory, a sentential proform is mandatory. If the *wenn*-clause is post-sentential, an obligatory propositional argument need not be overtly expressed. Both, the proform and the *wenn*-clause refer to the same abstract object, that is, to a statement  $\sigma$ .<sup>6</sup>

### 3. Syntactic structure of constructions with argument *wenn*-clauses

This section discusses the syntactic representation of constructions with argument *wenn*-clauses. While the literature on German constructions with argument conditionals more or less ignores their syntactic representation, there are a few approaches for corresponding English constructions.<sup>7</sup> In this paper, only those approaches are presented that are relevant for the syntactic representation of German constructions with argument conditionals.

#### 3.1 Pre-sentential argument *wenn*-clauses

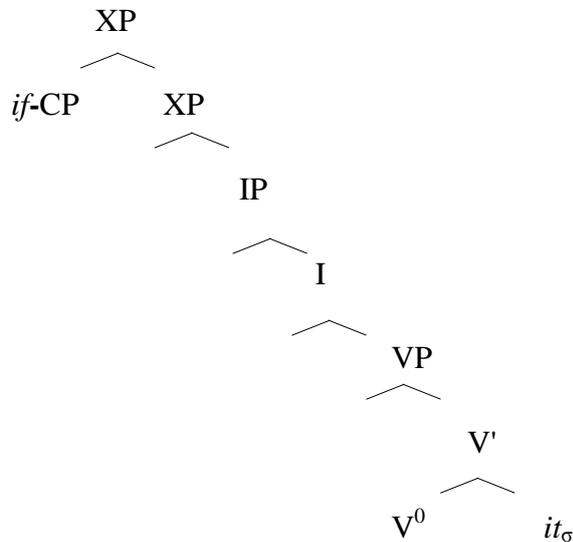
Following Kratzer (1986), Pesetsky (1991) considers an English argument *if*-clause to be the restrictor of a quantifier which quantifies over the nuclear scope, the IP in his terms. If the *if*-clause is pre-sentential as in (43), it is a base-generated left IP-adjunct. The sentential *it* is regarded as a referential proform – cf. Pesetsky p. 72 f.

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<sup>6</sup> According to Asher's (1993) classification of abstract objects, it is a proposition.

<sup>7</sup> For a detailed discussion of approaches to English constructions with argument conditionals see Schwabe (2015).

(43) *If he played the violin right now, I would like it.*



The proform *it* must be locally m-bound by the *if*-clause – cf. Pestsy's (270) to (273) and his (290) to (292).

(44) *Local Binding Requirement on A-bar-chains*

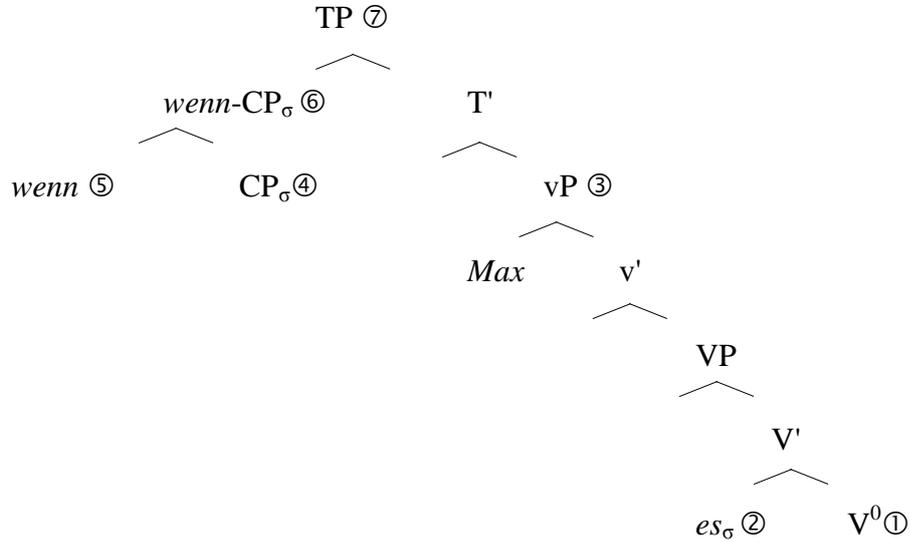
For C a chain and  $\alpha$  an A-bar position, \*C = (...  $\alpha$ ,  $\beta$  ...), unless  $\alpha$  locally m-binds  $\beta$ .

- a.  $\alpha$  locally m-binds  $\beta$  iff  $\alpha$  m-binds  $\beta$  and there is no  $\gamma$  such that  $\alpha$  m-binds  $\gamma$  and  $\gamma$  m-binds  $\beta$ .
- b.  $\alpha$  m-binds  $\beta$  iff  $\alpha$  is coindexed with  $\beta$  and  $\alpha$  m-commands  $\beta$ .
- c.  $\alpha$  m-commands  $\beta$  if  $\alpha$  does not dominate  $\beta$  and no maximal projection  $\gamma$  that dominates  $\alpha$  excludes  $\beta$ .<sup>8</sup>
- d.  $\alpha$  is dominated by  $\beta$  iff it is dominated by every segment of  $\beta$ .
- e.  $\alpha$  excludes  $\beta$  iff no segment of  $\alpha$  dominates  $\beta$ .

For German constructions with pre-sentential *wenn*-clauses, we can adopt the representation as given in (43), albeit in a slightly modified and schematic way – see also Schwabe (2015).

<sup>8</sup> Regarding m-command, Pesetsky proposes two versions,  $m_e$ - and  $m_d$ -command. Since the difference between them is not relevant for our purposes, we neglect this distinction here.

- (45) *Wenn Lea krank ist, bedauert es Max.*  
 if Lea ill is regrets it Max



- ①  $\lambda p \lambda x [\textit{regret}(x, p)]$   
 ②  $p_\sigma$   
 ③  $\textit{regret}(\textit{max}, p_\sigma)$   
 ④  $[\textit{lea\_ill\_is}]_\sigma$   
 ⑤  $\lambda p \lambda q [p \Rightarrow q]$   
 ⑥  $\lambda q \{[\textit{lea\_ill\_is}]_\sigma \Rightarrow q\}$   
 ⑦  $[\textit{lea\_ill\_is}]_\sigma \Rightarrow [\textit{regret}(\textit{max}, p_\sigma)]$

In (45), the conjunction *wenn* ⑤ is regarded as an operator that applies the subordinated clause to the matrix clause. It accomplishes that the subordinated clause provides the protasis and the matrix clause renders the consequence of an implication – see also the subsequent section. The proform *es* ② is a variable that is theta-marked by the matrix predicate and locally m-bound by the *wenn*-clause. As to constructions like (12a), where the pre-sentential *wenn*-clause corresponds to a subject, the *it*-proform is located in Spec-vP. Prepositional proforms as in (15a) are V<sup>0</sup>-adjuncts. The proform *es* is anaphoric and coreferential with the preceding *wenn*-clause.

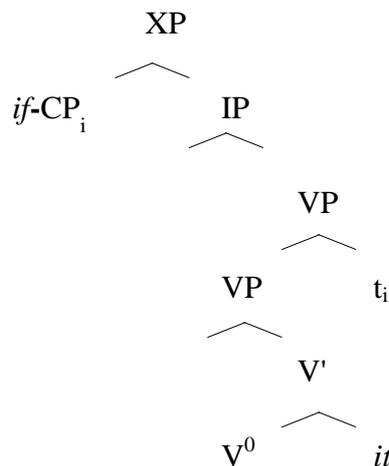
The reason why a pre-sentential *dass*-clause cannot co-occur with an *es*-proform is that it is base-generated as a V<sup>0</sup>-complement. When it moves to the left periphery, it leaves a trace which blocks the proform, (11b) and

(12b).<sup>9</sup> A *dass*-clause that is part of a PP-shell may not leave this shell in order to move to the left periphery, (16b).

### 3.2 Post-sentential argument wenn-clauses

Pesetsky (1991: 66, 73) regards an English post-sentential *if*-clause as complement-like, that is, as a right VP-adjunct, (46). According to Pesetsky, the *if*-clause moves to an A-bar-position external to IP at LF in order to function as a restricting term – cf. Pesetsky's (249). It must locally m-bind its trace. However, this violates, as Pesetsky notes, the local binding requirement as given in (44). The reason for this is that the *it*-proform, which is m-bound by the *if*-clause, m-binds the trace of the *if*-clause.

(46) *I would like it better if he played the violin right now.*



Pesetsky avoids this problem by denying the referential status of *it* and claiming that it is a copy, that is, a device to copy the content of the *if*-clause into the complement position, (47) which corresponds to Pesetsky's (338).

(47) *If-Copying Rule (IC)*

- a. Take a clause *k* of the form [IF IP], where *k* modifies a sentence  $\Sigma$ .
- b. Copy *k* as *k'*, substituting *that* for *IF*, making appropriate changes to mood so as to replace irrealis with realis mood marking.

<sup>9</sup> This view differs from Sudhoff's (2003, this volume). His *es*-correlate is part of a DP-shell so that it cannot leave the shell when moving to the left – cf. Schwabe (2013).

- c. Place  $k'$  in an argument position of  $\Sigma$ . Leave  $k$  as an adjunct modifier. (It gets interpreted as a restrictive clause, with  $S$  the nuclear scope.)
- d.  $k'$  is factive.

IC applies if the copy *it* is related to the *if*-clause by *m-command*, (44c). Pesetsky's approach, however, evokes a few objections. As we have seen with respect to (39a), a French proform must be referential if it is related to an argument conditional. Furthermore, Pesetsky's IC Rule, especially (46d), does not account for constructions with preference predicates, (30a). Preference predicates do not presuppose factivity of an embedded *that*-clause.

Pesetsky's analysis also does not account for constructions in which the *if*-clause is complex, (31a) and (47). As shown in (48b), it is not the *if*-clause which is copied into the complement position but the complement in the *if*-clause.

- (48) *John would hate it if he realized that his colleague snored.*
- a. #John would hate that he realized that his colleague snored if he realized that his colleague snored.
  - b. John would hate that his colleague snored if he realized that his colleague snored.

Another problem arises if one takes into account German constructions with missing sentential proforms— cf. (6a), (7a) and (9a). Are we dealing with empty copies here?

German constructions with preference predicates (30a), constructions with conditionals where the propositional argument of the matrix predicate is embedded (31a) and (48), French constructions with referential proforms of argument conditionals (39a), and structures lacking overt proforms (6a), (7a) and (9a) lead to an approach in which the proform is not seen as a copy of the *if*-clause.

In this approach, a post-sentential *wenn*-clause is regarded as a base-generated right TP-adjunct, (49)Ⓞ. Like with respect to (45), the *es* ② as well as the ProPP are considered to be referential proforms which are theta-marked by the matrix predicate and locally m-bound by the *wenn*-clause.<sup>10</sup>

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<sup>10</sup> Constructions like (4a, b) where the proform is in the subject position differ from (48) only in the position of the proform. There, the proform is located in Spec-vP. Prepositional proforms are  $V^0$ -adjuncts.



tion for the truth of a potentially factive or preference matrix predicate  $\tau(\sigma)$  – see (28) to (30). As to potentially factive predicates, the condition is that  $\sigma$  is true. As for preference predicates the condition is more sophisticated. It is that  $\sigma$  is an element of a set of alternatives which exclude each other. This implies that  $\sigma$  is neither a tautology nor a contradiction – cf. Schwabe & Fittler (2014) and Schwabe (2015).

### 3.3 *Missing proforms*

Recall the constructions (6a), (7a) and (9a), where the *wenn*-clause is post-sentential and the obligatory propositional argument does not necessarily be expressed by a proform. Similar ones are given with (50a, b, c)

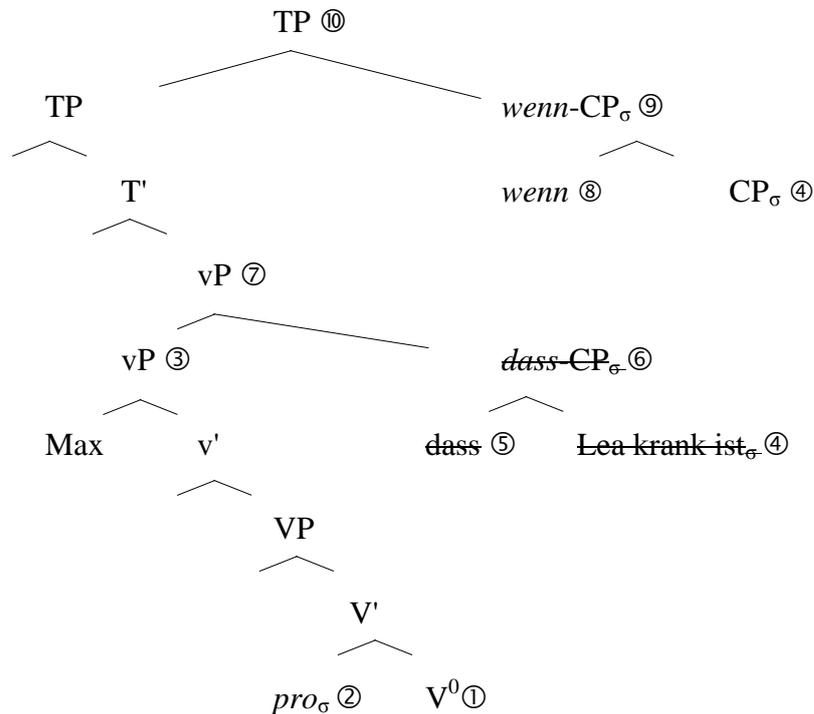
- (50) a. *Max bedauert, wenn Lea krank ist.*  
 Max regrets if Lea ill is  
 'Max regrets it if Lea is ill.'
- b. *Max amüsiert, wenn Lea singt.*  
 Max.ACC amused if Lea sings  
 'Max is amused if Lea is singing.'
- c. *Immer wieder ertappe ich mich, wenn ich "cool" sage*  
 again and again find I myself if I "cool" say  
 'Again and again, I find myself saying "cool".  
 (IDS rhz 2003)

As we have already mentioned in section 2.2, a sentential proform is necessary if the propositional argument is obligatory. The reason for this is that predicates like *bedauern* 'regret', *amüsieren* 'amuse' and *sich ertappen* 'find oneself' must assign the theta-role to the direct or prepositional object or to the subject. This role can only be assigned to an item in a complement position, that is, to a  $V^0$ -complement, to a complement in Spec-vP or to a  $V^0$ -adjunct. If these positions are not occupied overtly by a clause or by a proform, they are filled by a null proform, by *pro*. One could assume syntactic representations for (50a-c) that are similar to (49) except that there is a *pro* instead of an overt proform. Like the *es*-proform, *pro* would be theta-marked by  $V^0$  and m-bound by the *wenn*-clause.

But assuming a representation as given with (49) leads to the suggestion that a pre-sentential *wenn*-clause should also be possible with *pro*. But this is definitely excluded as we have seen with respect to (11b), (12b) and (15b). It seems that *pro* unlike *es* is weak and therefore needs a particular

licensing condition. The condition is that the relating clause of *pro* has to be its local environment. In other words, *pro* must locally m-bind its relating clause, (44). As shown in (51), this relating clause is a *dass*-clause which is a base-generated vP-adjunct. The *dass*-clause can be deleted under conditions that are presented below.<sup>11</sup>

- (51) *Max bedauert, wenn Lea krank ist.*  
 Max regrets if Lea ill is  
 'Max regrets it if Lea is ill.'



- ①  $\lambda p \lambda x [\text{regret}(x, p_\sigma)]$
- ②  $p_\sigma$
- ③  $\text{regret}(max, p_\sigma)$
- ④  $[\text{lea\_ill\_is}]_\sigma$
- ⑤  $\lambda p \lambda q [<q, p>]$
- ⑥  $\lambda q [<q, [\text{lea\_ill\_is}]_\sigma>]$
- ⑦  $<\text{regret}(max, p_\sigma), [\text{lea\_ill\_is}]_\sigma>$
- ⑧  $\lambda p \lambda q [p \Rightarrow q]$
- ⑨  $\lambda q \{[\text{lea\_ill\_is}]_\sigma \Rightarrow q\}$
- ⑩  $[\text{lea\_ill\_is}]_\sigma \Rightarrow <\text{regret}(max, p_\sigma), [\text{lea\_ill\_is}]_\sigma>$

<sup>11</sup> The motivation for assuming ellipsis is due to Hubert Truckenbrodt (p.c.).

The *dass*-clause can be deleted if its radical and the radical of the *wenn*-clause are identical. This implies that both are coreferential, that is, coindexed, (51④). It also implies that both are equivalent. This is shown in (52), where the radical of the *dass*-clause implies the radical of the *wenn*-clause but not vice versa.

- (52) \**Max bedauert pro<sub>σ</sub> [~~dass Lea einen Fehler gemacht hat~~]<sub>σ</sub>,*  
 Max regrets that Lea one mistake made has  
*[wenn sie einen Fehler gemacht hat]<sub>σ</sub>.*  
 if she one mistake made has

The identity restriction explains why *pro* is inconsistent with a *wenn*-clause that contains a negative polarity item as in (53a). The latter is not licensed in the *dass*-clause.<sup>12</sup> An *es*-proform as in (53b), however, which need not locally m-bind a *dass*-clause, is not excluded.

- (53) a. \**Max bedauert pro<sub>σ</sub> [~~dass Lea auch nur~~*  
 Max regrets that Lea even only  
*einen Fehler gemacht hat]<sub>σ</sub>,*  
 one mistake made has  
*[wenn Lea auch nur einen Fehler gemacht hat]<sub>1</sub>.*  
 if Lea even only one mistake made has
- b. *Max bedauert es<sub>σ</sub>,*  
 Max regrets it  
*[wenn Lea auch nur irgendeinen Fehler gemacht hat]<sub>σ</sub>.*  
 if Lea even only any mistake made has  
 'Max regrets it if Lea has made even only any mistake.'

Additionally, the *dass*- and the *wenn*-clause must not differ with respect to their information structural status. In (54A1), only the *wenn*-clause but not the *dass*-clause is focus marked. Therefore the *dass*-clause cannot be deleted. In (54A2), *pro* is licensed by the non-deleted *dass*-clause which it m-commands. In A3, the *es*-proform is anaphoric.

- (54) Q: *Unter welcher Bedingung bedauerte Max, dass Lea sang?*  
 under which condition accepted Max that Lea sang  
 'Under which condition did Max accept that Lea sang?'

---

<sup>12</sup> Regarding German NPI-elements, see Richter & Soehn (2006).

- A1: \**Er bedauerte pro<sub>σ</sub> [~~dass L sang~~]<sub>σ</sub> [wenn L sang]<sub>σ, FOC</sub>.*  
 he accepted that Lea sang if Lea sang  
 'He accepted if Lea was singing.'
- A2: *Er bedauerte pro<sub>σ</sub> [dass Lea sang]<sub>σ</sub> [wenn Lea sang]<sub>σ, FOC</sub>.*
- A3: *Er bedauerte es<sub>σ</sub> [wenn Lea sang]<sub>σ, FOC</sub>.*

In (55), however, the *dass*- and *wenn*-clauses are alike with respect to information structure. Therefore, the *dass*-clause can be omitted.

- (55) Q: *Was bedauerte Max?*  
 what accepted Max  
 'What did Max accept?'
- A: *Er bedauerte pro<sub>σ, FOC</sub> [~~dass L sang~~]<sub>σ, FOC</sub>*  
 he regretted that Lea sang  
*[wenn L sang]<sub>σ, FOC</sub>*  
 if Lea sang  
 'He regretted if Lea was singing.'

The next condition on *dass*-clause deletion blocks structures with pre-sentential *wenn*-clauses and *pro* as in (11b), (12b), (15b) and (56a-c). This condition demands that the *dass*- and *wenn*-clauses be adjacent. Adjacency is ensured if the *wenn*-clause is post-sentential as in (51).

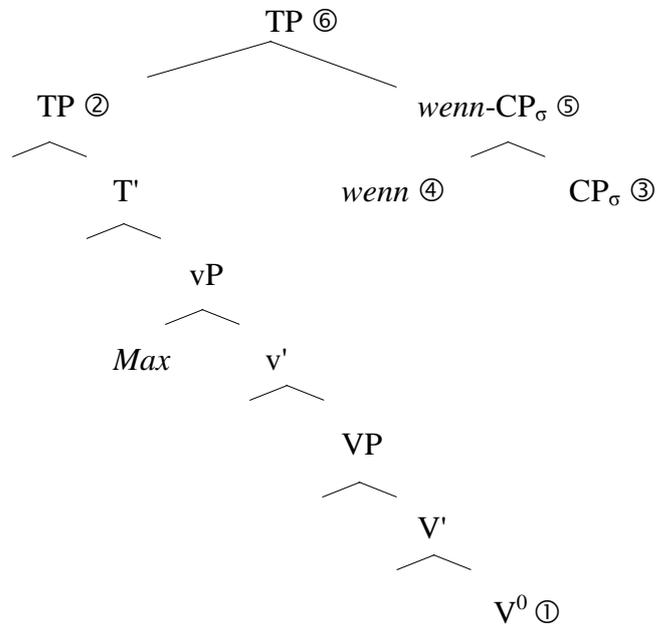
- (56) a. \**[Wenn Lea krank ist]<sub>σ, i</sub>, bedauert Max t<sub>i</sub> pro<sub>σ</sub>*  
 if Lea ill is regrets Max  
*[~~dass Lea krank ist~~]<sub>σ</sub>*  
 that Lea ill is
- b. \**[Wenn es regnet]<sub>σ, i</sub>, ist t<sub>i</sub> pro<sub>σ</sub> misslich [~~dass es regnet~~]<sub>σ</sub>*  
 if it rains is unfortunate that it rains
- c. \**[Wenn ich "cool" sage]<sub>σ, i</sub>, ertappe ich mich immer*  
 if I "cool" say find I myself again and  
*wieder pro<sub>σ</sub>, [~~dass ich "cool" sage~~]<sub>σ</sub>*  
 again that I "cool" say

The adjacency condition also blocks *pro* in constructions in which the propositional argument is embedded in the *wenn*-clause, (31a) and (57).

- (57) \**Max bedauert pro<sub>σ</sub>, [wenn er erfährt, [dass Lea krank ist]<sub>σ</sub>].*  
 Max regrets it when he finds out that Lea ill is  
 'Max regrets it if he realizes that Lea is ill.'

If the propositional argument is optional as is the case with respect to predicates like *schreiben* 'write' or *glücklich sein* 'be happy', *pro* is not necessary, (58). The propositional variable *p* given by the argument structure of the matrix predicate ① can receive the index of the *wenn*-clause that m-binds it, (17a).

- (58) *Max ist glücklich, wenn Lea singt.*  
 Max is happy sif Lea sings



- ①  $(\lambda p) \lambda x [\text{happy}(x, p)]$
- ②  $\text{happy}(\text{max}, p_\sigma)$
- ③  $[\text{lea\_is\_singing}]_\sigma$
- ④  $\lambda p \lambda q [p \Rightarrow q]$
- ⑤  $\lambda q \{[\text{lea\_is\_singing}]_\sigma \Rightarrow q\}$
- ⑥  $[\text{lea\_is\_singing}]_\sigma \Rightarrow [\text{happy}(\text{max}, p_\sigma)]$

If the variable is not bound within the sentence, it gets existentially bound, (59A). That is, there is some event that causes Max to be happy.

- (59) Q: *Was ist mit Max?*  
what is with Max  
'What about Max?'
- A: *Max ist glücklich.*  
Max is happy  
 $\exists p$  [happy (max,  $p$ )]

The variable can be unspecified even though there is a conditional clause. That is, (57) is ambiguous in that it can have the representation as given in (57)© where Max is happy because of Lea's singing or it is represented as in (60) where the reason for Max' happiness is not expressed.

- (60) Q: *Wann ist Max glücklich?*  
when is Max happy
- A: *Max ist glücklich, wenn Lea singt.*  
Max is happy if Lea sings  
 $\exists p \{[\text{lea\_is\_singing}] \Rightarrow [\text{happy (max, } p)]\}$

#### 4. Conclusion

This paper has discussed conditional clauses that in addition to their adverbial function also render the propositional argument for the matrix predicate and the sentential proforms they co-occur with. We have argued against the view that they are primarily complement clauses like *dass*-clauses by pointing out the following facts:

- i. They enforce a sentential proform if they are pre-sentential, (11a, b) and (12a, b).
- ii. They cannot be adjoined to a ProPP or DP, (19a, b).
- iii. They cannot replace a sentential proform, (21a, b), (22a, b) and (26a, b).
- iv. They can co-occur with a post-sentential *dass*-clause, (28b).
- v. They can be conjoined with another *wenn*-clause, (32b).
- vi. They do not allow long *wh*-movement, (33a, b).
- vii. They can be complex in that they embed the propositional argument of the matrix predicate, (31a).

It has been shown that argument *wenn*-clauses are either left- or right-adjoined TP-adjuncts and that they m-command a sentential proform, (44), (45) and (49). The sentential proform is located in a complement position and theta-marked there by the matrix predicate. It is interpreted as a variable that refers to a proposition. Depending on the matrix predicate, the proform is either an *es*-proform or a ProPP.

The proform can also be non-overt, that is, *pro*, if it represents an obligatory propositional argument. This *pro* is locally m-bound by the argument *wenn*-clause and itself locally m-binds an argument *dass*-clause; see (51). This *dass*-clause is a right vP-adjunct.

The *dass*-clause can be deleted if

- i. the radicals of the *dass*- and *wenn*-clauses are equivalent, (51), (52) and (53), and
- ii. the *dass*- and *wenn*-clause do not differ with respect to their information structural status, (54) and (55), and
- iii. the *dass*- and *wenn*-clause are adjacent, (56) and (57).

If the argument *wenn*-clause provides the propositional argument for an optional propositional argument, the propositional argument is not represented by *pro*. The propositional variable of the matrix predicate is then specified by the argument *wenn*-clause directly as in (58) or it is existentially bound as in (60).

This paper only marginally discusses the semantic properties of predicates that license argument *wenn*-clauses. Schwabe (2015) discusses the necessary semantic conditions of these predicates as well as the similarities and differences of constructions with argument *wenn*-clauses with corresponding ones with embedded *dass*- and *ob*-clauses. The semantic properties of predicates licensing argument *wenn*-clauses are also investigated in Onea (2015).

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