

Sentential proforms and argument conditionals

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Abstract

The paper is about the relationship of German argument *wenn*-clauses and their correlates 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 potentially factive matrix predicate, the paper suggests an explanation for Fabricius-Hansen's puzzle that argument *wenn*-clauses embedded by preference predicates like *vorziehen* 'prefer' provide an argument of the matrix predicate, but can hardly be regarded as the protasis of the matrix clause. Correlates of *wenn*-clauses are regarded as proforms referring to propositions. To ensure the co-reference between a correlate and the argument *wenn*-clause, a rule is formulated which makes use of Pesetsky's (1991) m_e -command relationship. Additionally, the verb classes that admit argument *wenn*-clauses are determined.

1 Introduction

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

- (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,*

'We regret it if the swimmers are not willing to share the conceptual issues.'

(2) a. *Er habe sich jedenfalls (darüber) gewundert, wenn seine*

he was anyway about wondering 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 wondering 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 wondering that his fellow countrymen were talking about their weekend in East Berlin.'

Wenn-clauses that express the propositional argument of a matrix predicate we call *argument wenn-clauses*. What is puzzling is the syntactic category of the correlate they co-occur with, of the *es*-correlate as in (1) and the prepositional correlate, i.e. the ProPP, as in (2). Do they differ from conform correlates of *that*-clauses as Sudhoff (2003) argues for with respect to German *es*-correlates as in (1) and Breindl (1989) with respect to ProPPs as in (2)? Or, is the correlate rather the spell out of a silent determiner and its complement as suggested for *their* in English *if*-clause constructions by Hinterwimmer (2010)?¹ What is the syntactic status of the clause the correlate relates to? Is the associated *wenn*-clause a complement clause which is introduced by a non-canonical complementizer as Böttcher & Sitta (1972:117f.), Schmid (1987) and Breindl (1989) suggest at least for extraposed *wenn*-clauses? Or does it rather have a

¹ Argument adverbial clause constructions are a cross-linguistic phenomenon. It exists, 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 and in Slavic languages (Schwabe & Jędrzejowski & Kellner 2012).

double function: the *wenn*-clause is a conditional clause and simultaneously provides the propositional argument for the matrix predicate as argued for by Fabricius-Hansen (1980), Kaiaty (2010) and this paper? The last option is also argued for by Hinterwimmer (2010:11f) when he regards the *if*-clause in comparable English constructions as a restrictor of a covert or overt modal operator in the matrix clause and simultaneously as argument of the matrix verb. What is the function of the correlate when it is regarded as a proform? Is it the spell out of a determiner together with its complement as assumed by Hinterwimmer (p. 12)? 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 statement it relates to and how are these properties mirrored by the meaning of the matrix predicate? Obviously, not all verbs admitting *dass*-clauses admit a *wenn*-form:

- (3) a. *Frank glaubt es_{j/*i}, wenn Maria krank ist_i.*
 Frank believes it if Maria ill is
 b. *Frank glaubt es_i, dass Maria krank ist_i.*
 Frank believes it that Maria ill is

To answer these questions I start by presenting the syntactic relationship of correlates and their associated clauses. Then, I discuss the function of correlates and the relevant semantics of the matrix predicate.

2 Syntactic remarks for correlates and argument *wenn*-clauses

2.1 Argument correlates

Hypotheses about *es*-correlates of German *dass*-clauses can be subdivided into three main groups: *i.* correlates form together with their associated clause an NP or DP, respectively (cf. Müller 1995, Sudhoff 2003, Sternefeld 2006, *ii.* correlates are homonymous in that they either form a DP or ProPP, respectively, together with their associated clause or in that they are anaphoric proforms (Breindl 1989; Sudhoff 2003, this volume; Axel 2009; Frey 2011, Trompelt et al. this volume; and Zimmermann this volume), and finally *iii.* correlates are always proforms (Zifonun et al. 1997:1488, Haider 2010:4f., 218f., and Schwabe 2012).² Representatives of the *ii*-approach who concern

² As to critical view on the place holder analysis see Schwabe (2011) and (2012).

with argument adverbial clauses regard the *es*-correlate as well as the ProPP as proforms in such constructions – cf. Sudhoff (2003) and Breindl (1989). Proforms in general, they say, are theta-marked, referring and anaphoric. But in view of the examples given in (1) and (2), proforms are not anaphoric. We return to this issue in Section 3.

Hinterwimmer (2010:8f.) regards the *it*-correlate of an English argument *when*-clause as the spell-out of a covert determiner of a DP. Its associated *when*-clause, he suggests, is the complement of this determiner as well as the restrictor of an overt or covert quantifier over events. Thus, the *when*-clause appears in a twofold way: as base-generated copy within a DP-shell and as a copy in extraposition. As to English argument *if*-clauses, Hinterwimmer claims that they are either left- or right-adjoined to the clause and that their *it*-correlate is not the spell-out of a silent determiner alone but of a silent determiner together with its complement. The complement of the silent determiner is a *that*-clause where *if* is replaced by *that*. This is not convincing since *that* and *if* differ with respect to their syntactic category and there isn't any empirical evidence for a constituent consisting of an *if*- or *when*-clause and *it*. As for the function of *it*, Hinterwimmer suggests that it relates to a fact when it is associated to a *that*- or *if*-clause, respectively. Hinterwimmer's analysis is similar to the analysis of *if*-clause constructions in Pullum (1987) and Pesetzky (1991:74). Pesetzky suggests that the correlate is an expletive that is without any semantic function, but is assigned a theta-role. Thompson (2012) argues against the movement and expletive-analysis. Her most convincing argument is that in French argument adverbial constructions the demonstrative *ce* is obligatory – cf. (4a). Something near it also applies to German. There, the *es*-correlate can be substituted by its strong variant, the *das*-correlate – cf. (4b).

- (4) 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 the
die Betroffenen wissen, wo es langgeht".
 the persons concerned know the score
 (DWDS BZ 1999)
 '.... But it is not tragic if the persons concerned know the score.'

Following Thompson, I regard the correlate as a proform in constructions with conditional *wenn*-clauses. An *es*-correlate as well as a ProPP is located in a syntactic complement position. That is *i.* it has accusative case and thus indicates to be an internal argument or direct object, respectively – cf. (5a), or *ii.* it has nominative case, i.e. it is the external argument or the subject – cf. (5b, c), or *iii.* it has accusative case, but is an external argument as in the small clause construction (5d), or *iv.* it has prepositional case, i.e. it is a ProPP – cf. (5e).

- (5) a. *Frank bedauert (es), wenn Maria krank ist.*³
 Frank regrets it if Maria ill is
 'Frank regrets it if Maria is ill.'
- b. *Frank nervt (es), wenn Max singt.*
 F.ACC worries it if Max sings
 'It worries Frank if Max sings.'
- c. *Sicher ist (es), misslich, wenn es regnet.*
 certainly is it awkward if it is raining
 'Certainly it is awkward if it is raining.'
- d. *Frank findet (es) gut, wenn Max kocht.*
 Frank finds it good if Max cooks
 'Frank finds it to be good if Max cooks.'
- e. *Max ärgert sich (darüber), wenn Marie übertreibt.*
 Max gets angry REFL.ACC ProPP if Marie exaggerates
 'Max gets angry if Marie exaggerates.'

ProPPs are PPs where the sentential proform *da-* is incorporated into the prepositional head – cf. *da-r-auf* und *da-von*. This head assigns case when occurring with a DP. As we will see below in (25c) in detail, the PP itself is governed by the matrix verb in a very low position. Thus, the complement clause, receives oblique case. Since the PP expresses an argument of the clausal head, it is regarded as a prepositional object.

A correlate is optional if the *wenn*-clause is in extraposition and the matrix predicate allows for an optional correlate. This is exemplified in (5a-e) where the correlates can be absent.

³ As for corpus-based examples, see (30).

2.2 *Argument adverbial clauses*

The canonical form of a finite complement clause is a *dass*-, *ob*- or *wh*-clause. As, Böttcher & Sitta (1972), Blatz (1970), Eisenberg (1986), Schmid (1987) and Pasch et al. (2003) show, it is not implausible to assume that *wenn*-clauses are complement clauses as well, but only non-canonical ones. It should be mentioned that German *wenn*-clauses have alternatives. It is first a conditional introduced by the conjunction *falls* 'in the case' as in (6a). *Falls* can only be used in a conditional which is singularly hypothetical – cf. Zifonun (1997: 2280). Second, it is a V1-conditional as in (6b). Here, we will only concentrate on argument *wenn*-clauses.

- (6) a. *Auf diese Weise will man rechtzeitig bemerken,*
thus wants one in time notice
falls erneut irgendetwas auf die Flügel prallt.
in case again something on the wings blazes down
(DWDS BZ 2005)
'Thus, one wants to notice in time if something blazes down
on the wings again.'
- b. *Auf diese Weise würde man rechtzeitig bemerken,*
thus would one in time notice
sollte irgendetwas erneut auf die Flügel prallen.
should something again on the wings blaze down

Whereas the status of the correlate of an argument *wenn*-clause is more or less non-controversial, the opinions differ with respect to the syntactic and semantic status of the *wenn*-clause. Böttcher & Sitta (pp.117), Blatz (p. 1021, p. 1049), Eisenberg (1986:358f.), Schmid (1987:268) and Pasch et al. (2003:383) regard a *wenn*-clause as a complement clause with "adverbial meaning" which, depending on the matrix predicate, is a subject, direct object or prepositional object. This approach leads to drawbacks which are hardly to overcome.

i. Obligatory es-correlates and the wenn-clause in the middle- or prefield:
As the examples given above in (5) show, the *es*-correlate is optional if the *dass*- or *wenn*-clause is in the extraposition. If, however, a *wenn*-clause is in the middlefield as in (7a-d), the *es*-correlate is obligatory. But it must not be there if there is a *dass*-clause – cf. (8).

- (7) a. ... *weil Frank es wohl, wenn Maria krank ist, bedauert.*
 because F it MP if Maria ill is regrets
 b. ... *weil es wohl, wenn es regnet, misslich ist.*
 ... because it MP if it is raining awkward is
 c. ... *weil Frank es wohl, wenn Max kocht, gut findet.*
 ... because F it MP if Max cooks good finds
 d. ... *weil Frank es wohl, wenn Maria kommt, vorzieht.*
 ... because Frank it mp if Maria comes prefers
- (8) a. *... *weil Frank es wohl, dass Maria krank ist, bedauert.*
 b. *... *weil Frank es wohl, dass Max kocht, gut findet.*
 c. *... *weil es wohl, dass es regnet, misslich ist.*
 d. *... *weil Frank es wohl, dass Maria kommt, vorzieht.*

The data in (8) reveal that one has to distinguish between adverbial argument *wenn*-clauses and complementary *dass*-clauses. As we will see in the next paragraph, the *dass*-clause is in an external or internal argument position, that is it is a sister of V^0 or v' in our terms. If a complementary *dass*-clause is in such a position, this place is blocked for a correlate. The argument *wenn*-clause, on the other hand, is an adverbial, thus not getting in the way of the correlate in the argument position – cf. (28).

The data in (9) with the *dass*- or *wenn*-clause in the prefield are related to the preceding middle field data (7) and (8). They illustrate that an obligatory propositional argument has to be expressed by a sentential correlate if the adverbial *wenn*-clause is preposed and that this option is impossible for a preposed *dass*-clause – cf. Pasch et al. (2003:385f.).

- (9) a. *Wenn Maria krank ist, bedauert es/das Frank.*
 if Maria ill is regrets it/this Frank
 b. **Dass Maria krank ist, bedauert es Frank.*

As for Sudhoff's (2003), Sternefeld's (2006), and Frey's (2011) approaches, the inadmissibility of an *es*-correlate in the middlefield in preposed *dass*-clause constructions results from the restriction that a *dass*-clause cannot leave the NP- or DP-island, respectively, which is formed by the correlate and the *dass*-clause. Schwabe (2012) argues against these approaches criticizing amongst others the lack of empirical justification for a constituent where the *es*-correlate and the associated clause co-occur.

To sum up, the *es*-correlate of a *wenn*-clause is obligatory in the argument position if the argument is obligatory and the associated *wenn*-clause is in the pre- or middle field. This is the case with respect to external arguments as in (7b, c) and the matrix predicate exhibiting an obligatory internal argument as, for instance, *bedauern* 'regret' in (7a) and (9a). If the internal argument is optional as it is the case with respect to *schreiben* 'write' in (10), the *es*-correlate is optional too – cf. (10a). There, the subject could write anything. If, on the other hand, the internal argument is expressed by the *es*-correlate as in (10b), it relates to the most salient statement, which can be the one denoted by the *wenn*-clause.

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

ii. *Wenn*-clauses cannot be PP- or DP-adjuncts: *Dass*-clauses can be adjoined to PPs or DPs as shown in (11a, b). An argument *wenn*-clause, however, cannot – cf. (11c, d). As we will see in paragraph 3.1, the semantics of the conjunction *wenn* is incompatible with a DP or PP, respectively. The fact that the *wenn*-clause can only be part of an VP but not of a DP or PP can be seen as a further piece of evidence for the non-complement function of the *wenn*-clause – cf. Breindl (1989: 261, ex. 5-207).

- (11) a. *Max hat sich* [_{PP} [_{PP} *darüber*] *dass Lea kommt*] *geärgert.*
 Max has REFL.ACC ProPP that Lea comes got angry
 'Max has got angry because Lea came.'
 a'. **Max hat sich* [_{PP} [_{PP} *darüber*] *wenn Maria kommt*] *geärgert.*
 b. *Max hat* [_{DP} [_{DP} *das*] *dass Lea kommt*] *bedauert.*
 Max has that that Lea comes regretted
 b'. **Max hat* [_{DP} [_{DP} *das*] *wenn Lea kommt*] *bedauert.*

The *dass*-clause cannot be in the prefield because it cannot leave the PP- or DP-island – cf. (12a, b) and Müller (1995) as well as Sternefeld (2006). The *wenn*-clause, however, can be in the prefield. It can do so because it is an

independent adverbial – cf. (9a) and (12c). If the PP-object is not obligatory as the one of *sich ärgern* 'get angry', the ProPP need not be expressed – cf. (12d).

- (12) a. **[Dass Lea krank ist]_i, bedauert Max* [_{DP} [_{DP} *das*] *t_i*]
 that Lea ill is regrets Max
 b. **[Dass Maria kommt]_i, ärgert sich Max* [_{PP} [_{PP} *darüber*] *t_i*]
 that Maria comes annoys REFL.ACC Max ProPP
 c. *[Wenn Lea krank ist]_i, bedauert es/das t_i Max.*
 if Lea ill is regrets it Max
 d. *[Wenn Lea kommt]_i, ärgert sich Max t_i (darüber).*
 if Lea comes annoys Max ProPP

iii. *Dass- and wenn-clauses in the paraphrase of the wenn-form*: Constructions with argument *wenn*-clauses can be paraphrased by an implication where the proposition the *wenn*-clause denotes can additionally be expressed by a *dass*-clause or alternatively by a correlate which both refer to the same proposition the *wenn*-clause does – cf. Williams (1974), Pullum (1987), Rothstein (1991), Pesetsky (1991), Hinterwimmer (2010) for similar English constructions as well as Fabricius-Hansen (1980) for German ones. The co-occurrence of a *wenn*- and a *dass*-clause in a paraphrase like (13b) illustrates again that the *wenn*-clause is an adverbial but not a complement clause.

- (13) a. *[Leo bedauert es]_σ_τ, wenn_{<σ, τ>} [Maria krank ist]_σ.*
 Frank regrets it if Maria ill is
 'Frank regrets it if Maria is ill.'
 b. *[L bedauert [dass M krank ist]_σ_τ, wenn_{<σ, τ>} [sie krank ist]_σ*
 L regrets that M ill is if she ill is
 'Leo regrets it that Mia is ill if she is ill.'
[Maria is ill]_σ ⇒ Leo regrets σ

The paraphrase (13b) of (13a) is only possible if there is a potentially factive predicate like *richtig sein* 'be correct' or *bedauern* 'regret' – cf. Fabricius-Hansen (1980:180f.).⁴ It is not appropriate if the matrix predicate is a preference verb as, for instance *vorziehen* 'prefer' – cf. (14a, b). We will return to this issue in Section 3.2 and 4.

⁴ Potentially factive predicates are predicates that are not factive without, but factive with a correlate – cf. Section 3.1 and Section 4.

- (14) a. [Leo zieht es_σ vor]_γ wenn_{<σ, γ>} [Mia schläft]_σ.
 Leo prefers it if Mia sleeps
 'Leo prefers it if Mia sleeps.'
 b. ?Wenn Mia schläft, zieht Leo das vor, dass sie schläft.
 if Mia sleeps prefers Leo it that she sleeps

iv. *Wenn-clauses as fragmentary answers*: If argument *wenn*-clauses were like *dass*-complements, it should be possible for them to occur as fragmentary answers to complement constituent questions with *was* 'what' or a prepositional *wh*-phrase like *worüber* 'wh-about'. But as far as constructions with potentially factive predicates are concerned, this is not the case.

- (15) a. Q: Was bedauert Frank denn?
 what regrets Frank PRT
 'What is Frank regretting just now?'
 A: Dass Maria krank ist.
 That Maria ill is
 'That Maria is ill.'
 A': *Wenn Maria krank ist.
 if Maria ill is
 b. Q: Worüber freut sich Frank denn?
 wh-about enjoy REFL.ACC Frank PRT
 'What is Frank happy about?'
 A: Dass Maria glücklich ist.
 That Maria happy is
 'That Maria is happy.'
 A': *Wenn Maria glücklich ist.
 if Maria happy is

The *wh*-interrogatives in (15) turn the potentially factive verbs *bedauern* 'regret' and *sich freuen* 'be happy' into factive ones.⁵ Consequently, the propositional argument that is asked for is a fact. If the *dass*-clauses in (15a, b) refer to facts, they are appropriate answers. A *wenn*-clause, however, which does not refer to a fact is inappropriate.

If the matrix verb is non-factive like, for instance, the preference predicate *vorziehen* 'prefer', a *wenn*- as well as a *dass*-clause can perform as fragmentary answer to a *was*-interrogative.

⁵ As for the definition of factivity, see (52b) in Section 4.

- (16) a. Q: *Was zieht Frank vor?*
 what prefers Frank
 'What does Frank prefer?'
 A: *Wenn Maria glücklich ist*
 if Maria happy is
 'If Maria is happy.'
 A': *Dass Maria glücklich ist*
 that Maria happy is
 'That Maria is happy.'

The similar holds true if a potentially factive predicate becomes non-factive by modalization – cf. (17).

- (17) Q: *Was würde Frank denn bedauern?*
 what would Frank PRT regret
 'What would Frank regret?'
 A: *Dass/Wenn Maria krank ist/sein würde.*
 That/if Maria ill is/would be
 'That Maria is ill.'

The data in (16) and (17), however, do not suggest that the *wenn* is a complementizer. The *wenn*-clause is a conditional because a correlate is necessary if the *wenn*-clause is preposed – cf. (7), (9a) and (18).

- (18) *Wenn Maria krank sein würde, würde Frank *(es) bedauern,*
 if Maria were would Frank it regret
dass sie krank ist.
 that she ill is

This interpretation also holds for independently used irrealis *wenn*-clauses like (19). As indicated in (19b), the *wenn*-clause is regarded as a conditional of a non-specified matrix clause variable – cf. Schwabe (2007).

- (19) a. *Wenn_{<σ, τ>} [ich es doch nur wüsste!]_σ*
 If I it PRT only knew
 'If I only knew it!'
 b. $\exists p$ [If I knew it, p]
 $\exists p$ [$\sigma \Rightarrow p$]

v. *No wh-movement out of wenn-clauses*: Non-factive propositions selecting predicates like *vorziehen* 'prefer' allow, besides V2-complements, *wh*-movement out of the embedded *dass*-clause. But this is strictly forbidden with respect to argument *wenn*-clauses. If they were real complements like *dass*-clauses, *wh*-extraction should be possible.

- (20) a. *Wohin_i zieht Hans vor, dass Maria zieht t_i?*
 where prefers Hans that Maria moves
 'Where does Hans prefer that Maria will move?'
 b. **Wohin_i zieht Hans vor, wenn Maria zieht t_i?*
 where prefers Hans if Maria moves

vi. *NPIs in argument wenn-clauses*: Amongst the predicates admitting argument *wenn*-clauses are ones that license a negative polarity item. This is shown in (21a). (21b), however, where the NPI *je* 'ever' is in a corresponding *dass*-clause is not correct.

- (21) a. *Selbst einer seiner strengsten Kritiker, Andre Gide, erwies ihm nun alle Ehren*
 Even one of his most rigorous critics, Andre Gide, did him now the honor
und bedauerte es aufrichtig, wenn er je versehentlich den zu früh Verstorbenen gekränkt hatte.
 and regretted it sincerely if he ever displeased the too early deceased accidentally
 (DWDS Zeit 1979)
 b. ... **und bedauerte er es aufrichtig, dass er je versehentlich den zu früh Verstorbenen gekränkt hatte.*
 *he regretted it sincerely that he ever displeased the too early deceased accidentally

As to 'positively evaluating predicates' like *gut finden* 'think to be good', *besser finden* 'think it to be better' and *vorziehen* 'prefer', they do not allow the NPI *je*.⁶

vii. *Wenn-clauses with embedded propositional arguments*: As Fabricius-Hansen (1980:183ff.) shows, there are conditional constructions where the

⁶ As to NPIs in English argument *if*-clauses see Thomson's (2012: examples (16a, c)).

wenn-clause only partially relates to the propositional argument of the matrix predicate – cf. the matrix predicate *hören* 'hear' in (22) which does not belong to the proposition the matrix predicate *erschrecken* 'get frightened' embeds. The *wenn*-clause of (22) is an ordinary adverbial, an adverbial which contains the argument expression of the matrix predicate. If such cases exist, why should one consider argument *wenn*-clauses to be complement clauses?

- (22) *Millionen Menschen erschrecken, wenn sie erfahren,*
 millions of people get frightened when they find out
dass die ... neuen Atomsprengköpfe auf Raketen mit etwa
 that the ... new nuclear war heads onto rockets of about
6 000 Kilometer Reichweite montiert werden.
 6000 kilometers range installed are
 'Millions of people get frightened when they find out that the new
 nuclear war heads have been installed onto rockets with a range of
 about 6000 kilometers.'

To conclude, in all their occurrences, *wenn*-clauses are adverbials. There are first *pure adverbial wenn-clauses* which provide the protasis of an implication and relate it to its consequence without providing the argument of a potential matrix predicate. These adverbials are asked for by the adverbial *wh*-phrase *wann* and can cataphorically and anaphorically be related to by the correlate *dann* 'then' – cf. (23) and (27) in Section 2.3.

- (23) *Leo bedauert freut sich erst DANN_i darüber, [wenn Maria kommt]_i*

There are secondly *argument adverbial wenn-clauses*. They also express the protasis of an implication, but they additionally provide the propositional argument of a potentially factive or preferential matrix predicate which is in the consequence. If the consequence contains a potentially factive predicate, they must be asked for by *wann* 'when' and cannot occur as fragmentary answers to a *was*-questions. If the matrix verb in the consequence is non-factive, the *wenn*-clause can occur as fragmentary answer and it can be asked by *was* 'what'. As we will see in the subsequent paragraph, argument adverbial *wenn*-clauses can neither be cataphorically related to by the correlate *dann* 'then' nor be focused by *nur* 'only' and *selbst* 'even'.

It follows from the adverbial status of argument *wenn*-clauses that *es*-correlates as well as ProPPs are proforms of propositional arguments but not of

wenn-clause tokens. Both, the proform as well as the *wenn*-clause refer to the same abstract object: a statement σ .⁷ The difference between a *dass*-clause and a *wenn*-clause is that the proposition denoted by the *wenn*-clause is related to the matrix proposition in a particular way by the conjunction *wenn*. The *dass*, on the other hand, does not establish such a relationship. As we will see in Section 3, argument *wenn*-forms and corresponding *dass*-forms are not equivalent.

Our conclusion deviates from Breindl's (1989:255ff.) view that extraposed *wenn*-clauses are complement clauses. Like Schmid (1987:268), she regards (24a) as inconsistent with the adverbial account. She argues that the second *wenn*-clause can only be a complement since there is already an adverbial *wenn*-clause. But (24b) illustrates that both conditionals can be conjoined what could not be the case if the second one were a complement clause. According to Gibbard (1981), (24a) and (24b) are equivalent,

- (24) a. *Und wenn er von den Frauen nicht gleich als Homo tituliert wird, kann er froh sein, wenn man ihn nur als Eisblock ... bezeichnet*
 And if he by the women not immediately as gay called is can he glad be
wenn man ihn nur als Eisblock ... bezeichnet
 if they him only as block of ice called
 (Breindl 257, Bsp. 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 und 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.'

Like this paper, Zifonun et al. (1997:1458f., 2261f., 2287f.) regard argument *wenn*-clauses as adverbials, but they do not present arguments for their view. They claim that argument *wenn*-clauses occur in all forms of appearance of adverbial *wenn*-clauses (p. 2287). They can be *i.* hypothetical-generalizing (*Es ist immer gut, wenn man etwas zu tun hat* 'It is always good if one has something to do'; *Es wäre gut gewesen, wenn man etwas zu tun gehabt hätte* 'It would have been good if one had something to do'), *ii.* hypothetical-singularly (*Es ist gut, wenn du heute abend kommst.* 'It is good if you will come this eve-

⁷ According to Asher's (1993) classification of abstract objects, it is a proposition.

ning.', *iii.* temporal (*Es war immer sehr schön, wenn er kam.* 'It always was beautiful when he came.', and *iv.* factual (*Es ist bewusste Verleumdung, wenn du sagst, ich hätte "absichtlich" die Vase fallengelassen.* 'It is intentional defamation if you say I would have dropped the vase intentionally').

2.3 Syntactic licensing of correlates and *wenn*-clauses

A propositional correlate or its trace, respectively, is licensed by being theta-marked by V^0 – see also Pesetsky (1991:74). I consider the subject propositional correlate to be in Spec-vP and the object correlate in the complement position of V^0 .

- (25) a. *Leo amüsiert es wenn Max singt.*
 Leo enjoys it if Max sings
 'Leo is amused if Max sings.'
Leo amüsiert_j es_i [_{VP} t_i {_{VP} [_{VP} ... t_j] wenn Max singt}]
- b. *Leo hört es, wenn Max singt.*
 Leo hears it if Max sings
 'Leo hears it if Max sings.'
Leo hört_j es_i {_{VP} [_{VP} ... [_{V'} t_i t_j]] wenn Max singt}
- c. *Frank hat sich (darüber) gefreut, wenn Maria kam.*
 Frank has REFL.ACC ProPP when Maria came
 'Frank was happy when Maria came.'
... darüber_i ... {_{VP} [_{VP} ... [_{V'} ... t_i ... gefreut]] CP'}

Like Haider (2010:203ff.), I suggest that constituents in extraposition are base-generated there. And, similarly to Pesetsky (1991:67), I consider *wenn*-clauses which are associated to object correlates to be a part of the VP. Argument *wenn*-clauses as VP adjuncts are legitimated indirectly, i.e. by their relationship to an element being licensed by V^0 . This element can be a correlate or a propositional *pro*. The relationship is such that the V^0 -argument $m(aximally)_e$ -commands the *wenn*-clause. Pesetsky (1991:67) referring to Chomsky (1986) defines m_e -command as follows:⁸

⁸ Pesetsky's original formulations are: " α m_e -commands β iff α does not dominate β and no maximal projection γ that dominates α excludes β ", " α is dominated by β only if i it is dominated by every segment of β ." and " α excludes β if no segment of α dominates β ." For better understanding.

(26) *m_e-command*

α *m_e-commands* β iff α does not dominate β and no maximal projection γ that dominates α excludes β .

- a. φ dominates μ only if every segment of φ dominates μ .
- b. γ excludes β if no segment of γ dominates β .

According to this definition, the *wenn*-clauses in (25a-c) are neither dominated by their correlates nor excluded by VP or vP, respectively. Thus, they are *m_e-commanded* by the correlates. Since the *wenn*-clauses in (25) are *m_e-commanded* by a complement-correlate, they are argument conditional clauses.

There are, however, cases like (27a) where the extraposed *wenn*-clause is related to the adverbial correlate *dann* 'then' which is supposed to be licensed in the Spec-position of the functional projection TP. Since the *dann*-correlate and its relating clause are focused, the correlate cannot be anaphoric. Therefore, it has to be related to the subsequent *wenn*-clause which has to be *m_e-commanded* by it. The required relationship is obtained if the *wenn*-clause is adjoined to TP. The adverbial proform *dann* is not obligatory as shown in (27b).

- (27) a. *Leo hört es DANN, wenn MIA kommt.*
Leo hears it then when Mia comes
'Leo hears it then when Mia comes.'
Leo_j bedauert_k es_i {TP [TP DANN ... t_j ... [v' t_i t_k]] CP'}
- b. *Leo hört es, wenn Mia kommt.*
Leo regrets it when Mia ill is
Leo_j bedauert_k es_i {TP [TP ... t_j ... [v' t_i t_k]] CP'}

Since the *wenn*-clause in (27a, b) is adjoined to TP so that it cannot be *m_e-commanded* by the *es*-correlate, the latter can only get an anaphoric interpretation. It follows that the *wenn*-clause does not provide the propositional argument of the matrix predicate. In other words, the *wenn*-clause is not an argument adverbial *wenn*-clause. It is purely adverbial.

A *wenn*-clause can also occur in the middlefield as shown in (28a-c). It is licensed by Spec-head-agreement, i.e. by particular features in T⁰. From SpecTP, it can move to the prefield – cf. (29a-c).⁹

⁹ Note that the *wenn*-clause can be adjoined to its correlate as in *Leo hat es [PP dann, wenn Mia sang] amüsiert* 'It has amused Leo then, when Mia was singing'. Since this complex PP is an island, the conditional clause cannot be preposed – cf. **Wenn Mia sang, hat es Leo dann*

- (28) a. *Ihn hat es oft, wenn M sang, amüsiert.*
 he.ACC has it often if M sang amused
 'He was often amused when Max was singing.'
Ihn_j ... hat es_i ... {TP CP' ... [vP t_i ... t_j ... amüsiert]}
- b. *Er hat es eigentlich, wenn Maria krank war, bedauert.*
 he has it actually if Maria ill was regretted
 'He actually regretted it if Maria was ill.'
Er_j ... hat es_i ... {TP CP' ... t_j ... [v' t_i bedauert] ... }
- c. *Er hat sich darüber, wenn Mia kam, gefreut.*
 he has REFL.ACC ProPP if Mia came enjoyed.
 'Frank was glad if Maria came.'
Er_j ... hat sich darüber_i ... {TP CP' ... [v' t_i gefreut]}
- (29) a. [*Wenn Max singt*]_i hat es_j ihn {TP t_i ... t_j ... amüsiert}
 if Max sings has it him amused
 'When Max singing, he was glad.'
- b. [*Wenn Max krank ist*]_i bedauert Mia es_j {TP t_i ... t_j ... }
 if Maria ill is regrets Mia it
- c. [*Wenn M singt*]_i freut er sich darüber_j {TP t_i ... t_j ... }
 if M sings amuses he himself ProPP
 'If Max is singing he is amused.'

The *es*-correlates and ProPPs are licensed by V^0 , in all examples. They are anaphoric because they or their traces are preceded by the *wenn*-clauses.

As we have seen above in connection with preposed *dass*-clauses in (9b), an *es*-correlate is inadmissible in the middlefield because its potential position is occupied by the trace of the preposed *dass*-clause. A ProPP alone isn't possible there either. Recall: the *dass*-clause which originally is adjoined to the ProPP cannot escape the PP-island – cf. (12b). As for the *wenn*-clause in the middle- or prefield in (28a, b) and (29a, b), the *es*-correlate is necessary because the propositional arguments are obligatory. However, the correlate can be missing if the *wenn*-clause is extraposed, i.e. adjoined to VP – cf. (30). The missing argument is then represented as *pro*, i.e. as a variable – cf. also Quer (2002:242) and Kaiaty (2010:304). The *pro* is licensed by V^0 and by its m_e -relationship to the *wenn*-clause. And, the *wenn*-clause is legitimated because it is m_e -commanded by *pro*.

amüsiert. The *wenn*-clause can also be base-generated in the pre-prefield. Then, it is related to the resumptive proform *dann* as in *Wenn Mia sang, dann hat es Leo amüsiert*.

- (30) a. *Mich stört ... pro ... einfach, wenn es schmutzig ist.*
 me annoys simply if it dirty is
 (DWDS BZ 1996)
 'It annoys me if it is dirty.'
- b. *Eine Mutter weiß ... pro ..., wenn etwas nicht in Ordnung ist.*
 a mother knows if something out of order is
 'A mother knows if something is out of order.'

Constructions with argument *wenn*-clauses in extraposition and *pro* as direct object seem to be relatively rare. For instance, there are 108 hits for constructions with *bedauern dass* 'regret' and the *es* compared to 23 correlateless constructions in the DWDS-news-paper corpus. Representing a missing propositional argument as a *pro* when the associated clause is in extraposition gives rise to the question why it is not possible to have a *pro* when the *wenn*-clause is in the middle- or prefield – cf. (31).

- (31) a. **Leo hat {_{TP} wenn M krank war ... [_{VP} ... pro ... bedauert]}*
 Leo has when M ill was regretted
- b. **CP'_i hat er ... {_{TP} t_i ... [_{VP} pro ... bedauert]}*

The reason for the inadmissibility of (31) is that *pro* must m_e -command the *wenn*-clause. Provided a preposed *wenn*-clause originates in Spec-TP so that it is outside of VP, *pro* does not m_e -command it. Thus, the m_e -command constraint concerning *pro* and its related *wenn*-clause is not met.

The m_e -command relationship is also not fulfilled if the adverbial correlate *dann* is in Spec-TP and the *wenn*-clause is adjoined to TP as in (32).

- (32) **Und Leo hat DANN ... pro ...bedauert ..., wenn M krank war.*
 and Leo has then regretted if M ill was

As for oblique propositional arguments in matrix clauses, i.e. arguments realized by the help of a preposition, many of them are optional independently from whether the *wenn*-clause is in the middle- or prefield or in extraposition – cf. *sich freuen* 'enjoy' in (33). If the propositional argument is optional, *pro* is not necessary.

- (33) a. *Frank hat sich (darüber) wohl, wenn M kam, gefreut.*

- Frank has REFL.ACC ProPP PRT if M came rejoiced
'Frank rejoiced if Maria came.'
- b. *Wenn Maria kam, hat sich Frank (darüber) gefreut.*
If Maria came has REFL.ACC Frank ProPP rejoiced
- c. *Frank hat sich (darüber) gefreut, wenn Maria kam.*
Frank has REFL.ACC ProPP when Maria come
'Frank was happy when Maria came.'

Interestingly, there are predicates like *entschädigen* 'compensate' like in (34) where the ProPP is obligatory if it co-occurs with a *dass*-clause, but optional if it is associated with a *wenn*-clause.

- (34) a. *Investoren müssen *(dafür) entschädigt werden,*
investors must ProPP compensated be
dass ein Teil der Projekte scheitert
that a part of the projects failure
(DWDS Zeit 2007)
'Investors must be compensated if a part of their projects failure.'
- b. *De Palacio hat nun durchgesetzt, dass Lufthansa und Co.*
de Palacio has now achieved that Lufthansa and co.
ihre Gäste künftig kräftig (dafür) entschädigen
their guests in the future strongly ProPP compensate
müssen, wenn sie sie am Schalter abweisen
must if they them at the counter reject
(DWDS TS 2004)
'De Palacio has achieved that LH and co. have strongly to compensate their guests if they reject them at the counter.'

And, there are a few predicates like *sich daran stören* 'be bothered by' and *sich damit vergnügen* 'to amuse oneself' that demand an obligatory propositional argument. As illustrated in (35), their correlates are obligatory.

- (35) a. *Frank stört sich *(daran), wenn Max singt.*
Frank is bothered ProPP if Max is singing
'Frank is bothered if Max is singing.'
- b. *Frank stört sich *(daran), dass Max singt.*

Frank is bothered ProPP that Max is singing

Leaving the observations given in connection with (34) and (35) to further research, I sum up what we have found out so far:

- (36) a. A *wenn*-clause is syntactically licensed in a *wenn*-form
- i. if it is right-adjoined to VP and m_e -commanded by a propositional correlate or *pro* in a complement position – cf. (25a, c) [= complement-like case] or
 - ii. if it or its trace are in SpecTP or it is right-adjoined to TP [= the purely conditional case] – cf. (28), (29) and (33a, b) as well as (27a, b).
- b. An *es*-correlate or a ProPP are syntactically licensed in a *wenn*-form if they or their traces are theta-marked by V^0 – cf. (25a-c).
- c. A propositional *pro* is licensed in a *wenn*-form if it is theta-marked by V^0 and m_e -commands the *wenn*-clause – cf. (30).
- d. The adverbial correlate *dann* is syntactically licensed in a *wenn*-form if it or its trace is in SpecTP – cf. (27).

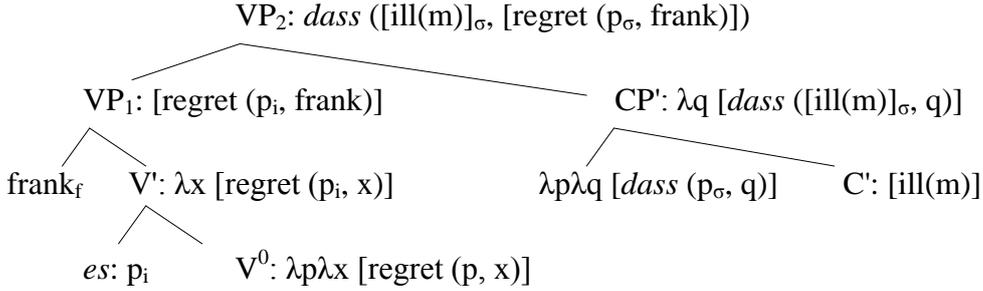
3 Index absorption

3.1 Potentially factive matrix predicates

I have argued for that a correlate is a proform. It refers to an abstract object in a particular context, to a proposition – cf. Pesetsky (1991:64), Asher (1993) and Schwabe (2007). The proform is represented as a propositional variable p which refers to a contextually given proposition. The context-giveness of the proposition is represented by an index variable at the proposition variable – cf. the representation of *es* in (37). If the proposition is given by the preceding discourse or by a preceding inner-sentential clause as in (28) and (29) – the proform is anaphoric in both cases –, the proposition variable absorbs the index of the anaphoric proposition. If it is denoted by the clause a correlate or *pro* m_e -commands, the proposition variable absorbs the index of this proposition. This is shown in (37) where the *dass*-clause CP' denotes a proposition σ and the proform *es* is a variable p_i referring to some contextually given proposition. When the VP which contains the *es*-correlate combines with CP'

which is m_e -commanded by the *es*-correlate, p_i absorbs the index of the proposition CP' denotes.

- (37) [*Frank bedauert es* $_{\sigma \in v}$] $_{\tau}$ *dass* $_{\langle \sigma, \tau \rangle}$ [*Mia krank ist*] $_{\sigma \in v}$.
 Frank regrets it that Mia ill is



According to Schwabe & Fittler (pub.), the proposition denoted by the embedded clause in a valid matrix clause with *bedauern dass* 'regret' belongs to the union of the set 'v' of propositions that are valid, but not propositionally tautological and of the set 'f' of propositions that are false, but not contradictory. That is, in the valid case, the embedded proposition is an element of $v \cup f$. In other words, the range of validity of a verb like *bedauern* 'regret' is a subset of $v \cup f$. If *bedauern* 'regret' co-occurs with an *es*-correlate, its range of validity $\subseteq f \cup v$ gets intersected with the set v of valid propositions. As for (37), this means that Frank regrets σ and σ is valid. If there is a *pro* in the matrix clause as in (30) and (38), it is also represented as an indexed variable. M_e -commanding the extraposed *dass*-clause, it also absorbs the index of the *dass*-clause. But unlike the *es*-correlate, it does not change the range of validity of the matrix predicate.

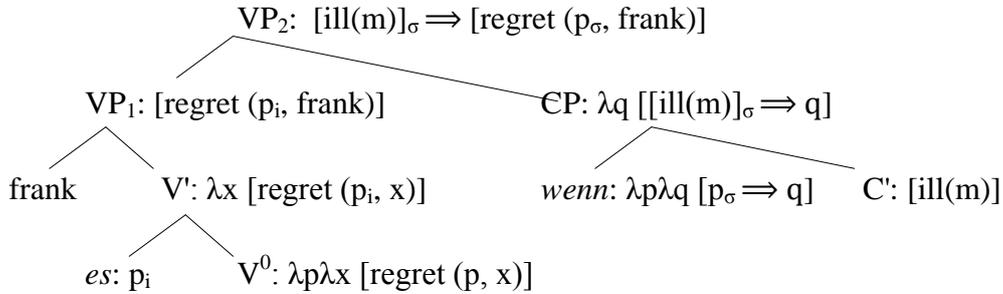
- (38) a. [*Frank bedauert pro* $_{\sigma}$] $_{\tau}$ *dass* $_{\langle \sigma, \tau \rangle}$ [*Maria krank ist*] $_{\sigma}$.
 Frank regrets that Mia ill is
 b. $\langle (\text{regret } (p_{\sigma}, \text{frank}))_{\tau}; (\text{ill}(m))_{\sigma} \rangle$

Since predicates like *bedauern dass* are veridical and even factive if they co-occur with an *es*-correlate, we call them potentially factive predicates.

Like the proform of a *dass*-clause, a proform in a construction with a *wenn*-clause is an indexed variable referring to some contextually given proposition. If this proposition is given anaphorically, the variable absorbs the index of this proposition. If the proform m_e -commands a *wenn*-clause as in (39), the latter

provides the index for the proform in the matrix clause. The *wenn* creates an implication where the *wenn*-clause is the protasis and the matrix clause is the consequence – cf. (39).¹⁰ Thus, the *wenn*-clause focuses on a truth condition of the matrix predicate. In (39), it is that σ is an element of v , the set of propositions that are valid, but not propositionally tautological. Thus, (39) means *Frank regrets σ is valid if σ is valid*. This truth condition results from the interplay of the lexically determined truth condition ' $\sigma \in v \cup f$ ' of *bedauern dass* 'regret' and the *es*-correlate. Recall *bedauern dass* becomes factive if it co-occurs with an *es*-correlate.

(39) [*Frank bedauert es*] _{τ} *wenn* _{$\langle \sigma, \tau \rangle$} [*Mia krank ist*]
 Frank regrets it if Mia ill is



An argument *wenn*-form like (39) and a corresponding *dass*-form like (37) have the same truth value if Mia is ill. They are, however, not equivalent because their truth values differ if Mia is not ill. This helps to explain why argument *wenn*-clauses cannot perform as fragmentary answers to *was*-interrogatives with potentially matrix predicates like (15a, b).

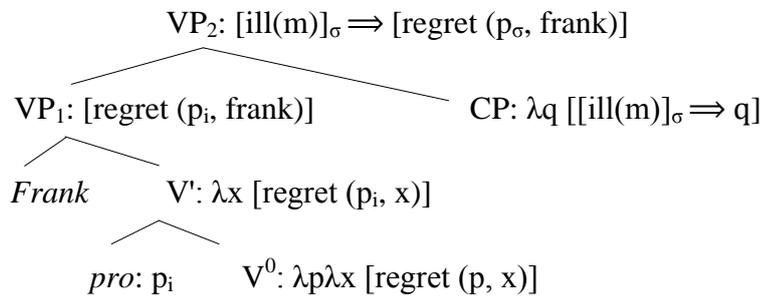
We see index absorption underlies particular syntactic and semantic conditions. Syntactically, a proform absorbs the index of a proposition that is denoted by the clause it m_e -commands or it absorbs the index of a proposition that is given anaphorically.

¹⁰ The representation given in (39) is similar to the representations in Williams (1974), Fabricius-Hansen (1980) and Hinterwimmer (2012) in that it is a material implication. It is also similar to Kratzer (1986) and Quer (2002) who consider the conditional clause to be the restrictor of an operator quantifying over events. In their frame work, (39) would be represented similar to (i).

(i) {GENe: [ill(maria, e)] _{σ} } { $\exists e'$: regret (frank, e, e')} [e involves e']
 For usually every event e characterized by *M is ill*, there is an event e' characterized by *F regrets that e* such that e involves e' .

I have suggested that in the quite rare constructions with an extraposed argument *wenn*-clause and a missing obligatory argument, the latter is represented as *pro* – cf. (5) and (30a, b). Like the *pro* in the *dass*-form (38), I represent *pro* in a *wenn*-form like (40) as an indexed variable. When the matrix VP combines with the *wenn*-clause, the variable absorbs the index of the proposition the *wenn*-clause denotes.

- (40) {*Frank bedauert pro*_σ}_τ, *wenn*_{<σ, τ>} (*Maria krank ist*)_σ
 Frank regrets if Maria ill is



Unlike the indexed variable p_i in (39), which either absorbs the index of some anaphorically given proposition or of the proposition it m_e -commands, the variable representing *pro* in (40) only absorbs the index of a subsequent *wenn*-clause. Recall that according to the licensing condition given in (36), *pro* must m_e -command the *wenn*-clause. This constraint explains why the *es*-correlate in (41) cannot absorb the index of the *wenn*-clause. As shown in (27), the *wenn*-clause is m_e -commanded by its adverbial correlate *dann*, but not by the trace of the *es*-correlate.

- (41) *Leo*₁ *bedauert*_b *es*_{i, φ/*σ} {_{TP} [_{TP} *DANN*_{<σ, τ>} ... [_{VP} *t*₁ ... *t*₁ ... *t*_b]]]_τ
 Leo regrets it then
*wenn*_{<σ, τ>} (*Mia krank ist*)_σ
 if Mia ill is
 ‘Leo feels then sorry if Mia is ill.’

Regarding *wenn*-clauses in the pre- and middlefield, they provide an anaphorically given proposition for the correlate – cf. (28) and (29). A Construction like (42a) illustrates that the *es*-correlate can also absorb the index of an anaphorically given proposition. A *pro* cannot be preceded by the *wenn*-clause as shown in (42b) because it must m_e -command its associated clause – cf. (31).

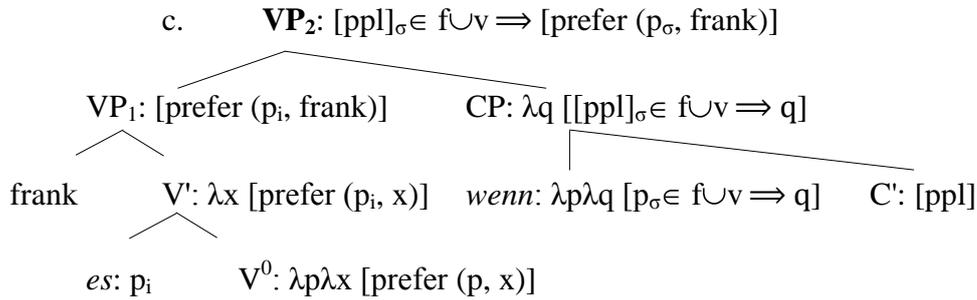
- (42) a. *Wenn Mia krank war, hat es Leo bedauert.*
 if Mia ill was has it Leo regretted
 'If Mia was ill, Leo regretted it.'
 $[wenn (M krank war)_\sigma]_i hat e_{S_k, \sigma/\varphi} \{_{TP} t_i \dots L \dots t_k bedauert\}$
- b. **Wenn Mia krank war, hat pro Leo bedauert.*
 $[wenn (M krank war)_\sigma]_i hat \{_{TP} t_i \dots L \dots pro bedauert\}$

3.2 Preference predicates

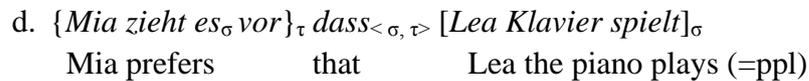
As pointed out by Fabricius-Hansen (1980:181), the logical form of constructions with potentially factive predicates like (39) is not appropriate for a construction with a preference predicate – cf. (14a, b) and (43). According to Fabricius-Hansen, the *wenn*-clause provides the argument for the matrix predicate, but it is not an appropriate protasis of an implication.

- (43) a. $\{Mia zieht es_\sigma vor\}_\tau wenn_{<\sigma, \tau>} [Lea Klavier spielt]_\sigma$
 Mia prefers if Lea the piano plays (= ppl)
 'Mia prefers it if Lea plays the piano.'
- b. **Wenn L Klavier spielt, zieht M es vor, dass sie Klavier spielt*
 if L piano plays prefers M it that she piano plays

She presupposes that the argument *wenn*-clause always confines the range of validity of a matrix predicate to the set of valid statements that make the matrix predicate true. As far as the *wenn*-clause of predicates like (*es*) *bedauern dass* 'regret' are concerned, the embedded proposition the *wenn*-clause asserts does belong to this set – cf. (37) and (39). Recall, the argument *wenn*-clause of *bedauern* 'regret' focuses on the (truth-)condition that σ is an element of v . Preference predicates, Fabricius-Hansen states, are not "factive". Thus, σ need not be valid if *M prefers it that σ* . It can be, but it could also be invalid, as long as it is not contradictory. This suggests that the *wenn*-clause focuses on the truth condition that σ is an element of the union $v \cup f$, that is of v , the set of valid but not propositionally tautological propositions, with f , the set of false but not contradictory ones. In this way, the *wenn*-clause is a faultless protasis for the matrix clause – cf. (43c) which says 'Frank prefers σ (= Lea plays the piano) if $\sigma \in v \cup f$.



Obviously, a construction like (43a) is equivalent to a corresponding construction with a *dass*-clause like (43d) provided contradictory and propositionally tautological arguments are excluded.



To conclude, there is only one conjunction *wenn* 'if' having the function to indicate an implication and to introduce the protasis of this implication. The protasis either denotes that σ is true or belongs to v , respectively or σ is an element of $v \cup f$.

- (44) a. $wenn_v: \lambda p \lambda q [p \Rightarrow q]$
 b. $wenn_{v \cup f}: \lambda p \lambda q [p \in f \cup v \Rightarrow q]$

If the predicate's range of validity is a subset of v , the protasis expresses that the argument proposition σ is an element of v . If the range of validity of the predicate is a subset of $v \cup f$ but neither of v nor of f , the protasis expresses that the argument proposition σ is an element of $v \cup f$.

3.3 Propositional arguments derived from the *wenn*-clause

There are constructions with predicates like *dafür einstehen dass* 'vouch for' where the propositional argument of the matrix predicate is derived from the *wenn*-clause. As for (45a), this means: if the washing machine has got broken and this entails that the washing machine is not in an intact state, the person the proform *he* refers to has to vouch for the removal of the intact state – cf. (45aii).

- (45) a. *Ebenso muss er dafür einstehen, wenn die Waschmaschine von einem seiner Leute montiert wird und dabei kaputt geht.*
 also must he ProPP vouch if the washing machine by one of his people installed is and in doing broken gets
 'He has also to vouch for the consequences if the washing machine gets broken when being installed by one of his people'.
 (DWDS BZ 2001)
- i. $[Mo\ steht\ dafür_{\pi}\ ein]_{\tau}\ wenn_{\langle\sigma, \tau\rangle} [die\ WM\ kaputt\ geht]_{\sigma}$
 ii. $(p_{\sigma} \ \& \ [p_{\sigma} \Rightarrow \neg p_{\pi}]) \Rightarrow (\text{vouch for } (p_{\pi}), (mo))_{\tau}$
- b. *Wer stünde dafür ein,*
 who vouches for
wenn sie auf dem Weg zur Schule einen Unfall hätte?
 if she on the way to school an accident has
 'Who would vouch for the consequences if she were in an accident on the way to school. DWDS BZ 1998

Like the index providing argument *wenn*-clauses I have discussed so far, the associated *wenn*-clause of *dafür einstehen dass* is m_e -commanded by the complement correlate. But it is not the *wenn*-clause which provides the index. The index provider is the proposition which is entailed by the *wenn*-clause.

3.4 Propositional arguments embedded in the *wenn*-clause

As already shown in connection with (22), the following example illustrates that the clause that characterizes the event the correlate of the matrix clause refers to can be embedded in a *wenn*-clause.

- (46) $\{Frank\ erträgt\ es_{\sigma/\varphi/\#\psi}\}_{\tau},\ wenn_{\langle\psi, \tau\rangle} [er\ erfährt,$
 Frank endures it if he learns
 $(dass\ Maria\ krank\ ist)_{\sigma}]_{\psi}$
 that Maria ill is
 'Frank endures it if he learns that Maria is ill.'

Obviously, the semantic properties of the clause that is embedded in the *wenn*-clause have to correspond to the semantic properties of the overall matrix predicate. In (46), the truth of the matrix clause τ (Frank endures it) depends on the truth of the propositional argument σ or φ , respectively, and on the subject's awareness of σ or φ . As far as σ is concerned, both conditions are ex-

pressed by the protasis of the implication. The protasis embodies that the validity of ψ (Frank finds out that Maria is ill) and of σ (Maria is ill) is a sufficient condition for the truth of τ (Frank endures that Maria is ill). Both, ψ and σ , the latter following from ψ , could be considered as propositional arguments for the matrix predicate *ertragen* 'endure' because the clauses they denote are both m_e -commanded by the correlate. Since ψ is not an appropriate proposition for the matrix predicate – an event denoted by a predicate like *erfahren* 'find out' does not typically involve an enduring event, the variable p_i either absorbs the index σ of the proposition it m_e -commands and which is appropriate or it absorbs the index φ of any other anaphorically given proposition.

There are constructions with argument-containing conditionals like (47a, b) where the truth of the matrix clause τ does not depend on the truth of the propositional argument which is embedded in the *wenn*-clause.

- (47) a. {*Frank verlässt sich darauf* _{$\sigma/\varphi/*\psi$} } _{τ} ,
 F counts REFL.ACC ProPP[on]
 wenn _{$\langle \tau, \psi \rangle$} [*Maria ihm verspricht, (dass Lea kommt)*] _{σ}] _{ψ}
 when Maria him promises that Lea comes
 'Frank counts on Maria's promising that Lea will come.'
- b. {*Frank glaubt es* _{$\sigma/\varphi/*\psi$} } _{τ} ,
 Frank believes it
 wenn _{$\langle \psi, \tau \rangle$} [*Maria ihm sagt, (dass Lea kommt)*] _{σ}] _{ψ}
 when Maria him tells that Lea comes
 'Frank counts on Maria's promising that Lea will come.'

In (47a, b), the semantics of the matrix predicates *sich darauf verlassen dass* 'count on' and *es glauben dass* 'believe' do not select a proposition which is a fact. Provided (47a, b) hold and ψ is true in each case, ψ cannot be the propositional argument of *sich verlassen* 'count on' and *glauben* 'believe'. Thus, the *es*-correlate cannot absorb the index ψ . It can, however, absorb the index σ of the proposition which is embedded in the *wenn*-clause. This is possible because the matrix predicate of τ as well as of ψ share the semantic property that their argument proposition is not a fact. By the way, the matrix clauses τ in (47) denote reactions to speech acts denoted by the protasis.

Note that *pro* in constructions like (46) and (47b) is impossible – cf. (48). The reason for this is that there must not be an intervening CP between *pro* and its index provider.

- (48) a. *{*Frank erträgt pro*}_τ, *wenn*_{<ψ, τ>} [*er erfährt*
 Frank endures if he learns
 (*dass Maria krank ist*)_σ]_ψ
 that Maria ill is
- b. *{*Frank glaubt pro*, *wenn*_{<ψ, τ>} [_{CP} *Maria ihm sagt*
 Frank believes when Maria him tells
 [_{CP} *dass Lea kommt*]_σ]_ψ
 that Lea comes

Whereas in (41), there isn't any intervening CP between *pro* and its index-provider, there is one in (48).

As far as the relationship of a correlate or *pro*, respectively, and their extraposed index-providers are concerned, I now can formulate the following absorption-rule:

- (49) *Absorption rule*
- a. A sentential correlate *es*, ProPP or *dann* absorbs the index of a proposition σ
- i. if the clause denoting σ is m_e -commanded by the correlate or
 - ii. σ is entailed by the clause which is m_e -commanded by the correlate or
 - iii. if the clause denoting σ is embedded in a clause which is m_e -commanded by the correlate or
 - iv. if σ is a salient anaphorical proposition.
- b. A propositional *pro* absorbs the index of a proposition σ if the clause CP' denoting σ is m_e -commanded by *pro* and there isn't any intervening CP' between *pro* and CP'.

As I have foreshadowed, the conditions given in (49) are not sufficient for a well-formed construction with an argument *wenn*-clause.

4 Licensers of argument *wenn*-clauses

We have seen that argument *wenn*-clauses embedded by potentially factive predicates like *bedauern dass* 'regret' are regarded as the protasis of an implication – cf. (13) and (39) in section 3.1:

- (50) a. $\{Frank\ bedauert\ es_{\sigma/\phi}\}_{\tau}\ wenn_{<\sigma, \tau>} [Maria\ krank\ ist]_{\sigma}$
 Frank regrets it if Maria ill is
 'If Maria is ill, Frank regrets that she is ill.'
- b. $[ill(m)]_{\sigma} \Rightarrow [regret(p_{\sigma}, frank)]$

Such a construction embodies that the validity of σ 'Maria is ill' is a sufficient condition for the truth of $\tau(\sigma)$ 'Frank regrets that Maria is ill'. Provided the implication $\sigma \Rightarrow \tau(\sigma)$ as well as the antecedent σ are valid, it follows $\tau(\sigma)$, the proposition 'Frank regrets Maria's coming'. Thus, in a situation where (50a) is uttered and σ is obviously true, the speaker indirectly expresses that $\tau(\sigma)$ is true. The fact that the truth of σ is a sufficient condition for the truth of $\tau(\sigma)$ suggests that veridicality or factivity, respectively, be a necessary condition for a matrix predicate to license the embedding of an argument adverbial.

- (51) a. *veridicality*
 For all σ , $\tau(\sigma) \Rightarrow \sigma$ (cf. Lahiri 2002, Spector & Egré 2007)
- b. *factivity*
 For all σ , $[(not)\ \tau(\sigma)] \Rightarrow \sigma$

Verbs like, for instance, *sich darüber freuen* 'enjoy' and *sich für etw. entschuldigen* 'apologize for sth.' are veridical and even factive and thus license an argument *wenn*-clause.

- (52) a. ... und wenn die Leute zu mir kommen, freuen sie sich,
 ... and when the people to me come are happy
 wenn die beiden Rosenstöcke wieder blühen.
 if the both rose trees again blossom
 (DWDS BZ 2002)
 'And when the people come to me, they are happy if the both
 rose trees are blossoming.'
- b. *Ich entschuldige mich dafür, wenn ich zu direkt ... war.*
 I apologize ProPP if I too direct was
 (DWDS BZ 1997)
 'I apologize if I was too direct.'

But veridicality, and let alone factivity, are not necessary conditions for a matrix verb to license an argument *wenn*-clause. As we have seen in Section 3.2, preference predicates like *besser finden* 'find better' and *vorziehen* 'prefer' li-

cense the argument *wenn*-clauses, but are not veridical. The same holds for *bedauern dass* 'regret' and *erfahren dass* 'find out' which are not veridical without the correlate – cf. Sudhoff (2003), Egré (2008) and Schwabe & Fittler (pub.). If veridicality or factivity, respectively, are not necessary conditions for predicates to license an argument *wenn*-clause, are they sufficient conditions then? As far as veridicality is concerned, they are not since there are predicates like *beweisen* 'prove' which is veridical, but does not license argument *wenn*-clauses. Even factivity does not warrant argument *wenn*-clauses, as exemplified by **Max bedenkt es_i, [wenn Mia kommt]_i* 'Max considers it if Mia comes'. Thus, veridicality and factivity are neither necessary nor sufficient conditions for predicates to allow argument *wenn*-clauses. But, we will see that these properties play a prominent role. There are just five predicate classes that license argument *wenn*-clauses.

i. Veridical-objective verbs

Argument-*wenn* clauses are licensed by predicates that are. According to Schwabe & Fittler (pub.), a matrix verb *verb dass* is veridical-objective (v-objective in their terms) if there is at least one constellation in which the verb is veridical and for every embeddable true statement σ , there is an individual α such that α *verbs dass* σ holds. Veridical-objective predicates are, for instance, *hören dass* 'hear', *erfahren dass* 'find out', *sagen dass* 'tell' and *wissen dass* 'know' – cf. (53). The matrix verbs *beweisen dass* 'prove' is veridical but not veridical-objective and therefore, it does not license argument *wenn*-clauses.

- (53) a. [*Durch ein Lichtsignal erfährt pro_σ er*]_τ,
 by a light signal finds out he
 wenn [jemand vor der Tür steht]_σ, ...
 if someone at the door stays
 (DWDS BZ 1998)
 'He finds out if someone is at the door by a light signal.'
 b. If anyone is at the door, he finds out that someone is at the door
 by al light signal.
 $\sigma \Rightarrow \tau(\sigma)$

Interestingly, (53) is very similar to a construction with an embedded *ob*-clause – cf. (54a) and (54b), the latter being the paraphrase of (54a).¹¹

¹¹ The similarity is mirrored by the polysemy of *if* in English and *oba* in Old High German. Both are an interrogative complementizer or a conditional conjunction.

- (54) a. *Er erfährt, ob jemand vor der Tür steht.*
 'He finds out if anyone is at the door.'
 b. He either finds out that somebody is at the door or he finds out that nobody is at the door.
 $[\tau(\sigma) \vee \tau(\neg\sigma)] \wedge [\tau(\sigma) \Leftrightarrow \sigma]$

The similarity results from the fact that both, (53) and (54) are true if there is someone at the door. The argument *wenn*-form and the corresponding *ob*-form are, however, not equivalent. If there isn't anyone at the door, the implication given with (53) is true whereas the disjunction given with (54) could be false.

As for veridical-objective verbs like *erfahren dass*, they construe the *exclusive reducible ob-form* – cf. Schwabe & Fittler (pub.).

- (55) *Exclusive reducible ob-form*
 $\{[a \text{ verb dass } \sigma] \vee [a \text{ verb dass } \neg\sigma]\} \wedge [a \text{ verb dass } (\sigma) \Leftrightarrow \sigma]$

In terms of Groenendijk & Stokhof (1982), these verbs embed question extensions. The same *ob-form* is licensed by non-objective verbs like *ignorieren dass* 'ignore' or *egal sein dass* 'do not care' in contrast to *bedenken dass* 'consider'. The former predicates are veridical with a correlate and admit besides exclusive reducible *ob-form* also the *internal ob-form* – cf. (56). Their internal *ob-form* is equivalent to their exclusive reducible *ob-form* (55) – cf. Schwabe & Fittler. We will return to these verbs below.

- (56) *Internal ob-form*
 a verb $(\sigma \vee \neg\sigma)$

ii. *Veridical-objectively based verbs*

A predicate *pred dass* licenses an argument *wenn*-clause if it is *veridical-objectively based*. According to Schwabe & Fittler, veridical-objectively based predicates are originally veridical-objective verbs co-occurring with a correlate. Nearly all veridical-objectively based predicates co-occurring with an *es*-correlate are veridical and even factive with the *es*-correlate – cf. *es erfahren* 'find out' in (57a) as well as Sudhoff (2003) and Schwabe (2012). Thus, for instance, it follows from (57a) that the speaker's contract will not be prolonged independently of whether the matrix clause is negated or not.

- (57) a. *Ich habe es (nicht) aus der Presse erfahren,*
 I have it by the press heard
dass mein Vertrag nicht verlängert wird.
 that my contract not prolonged will be
 (DWDS BZ 2003)
 'I've found it out by the press that my contract won't be prolonged.'
- b. *Aber er erfährt es meistens,*
 but he comes to know it mostly
wenn es nicht gut geht, und das ist oft.
 if it not fine is, and this is often
 (DWDS BZ 2003)
 'But he mostly comes to know if something is not fine, and this is often the case.'

If a veridical-objective verb is inherently veridical like *wissen dass* 'know' and *erfahren dass* 'find out', it is also veridical when co-occurring with a prepositional correlate as in *davon erfahren dass* 'come to know' or *davon wissen dass* 'know about it' – cf. (58a). It is even factive and it licenses an argument *wenn*-clause as exemplified in (58b).

- (58) a. *Gerade eben hat er davon erfahren, dass die Präsidenten der*
 just now has he ProPP heard that the presidents of the FU
FU und der Humboldt-Universität (HU) am Montag die neuen
 FU and the Humboldt-Universität (HU) on Monday the new
Hochschulverträge mit dem Senat unterzeichnet haben.
 university contracts with the Senate signed have
 (DWDS BZ 2003)
 'Just now, he has heard about the signing of the university contracts between the universities and the Senate.'
- b. *Ja, Männer wollen, dass die Welt davon erfährt,*
 yes, men want that the world Pro[about] hear
wenn es ihnen nicht gut geht.
 if they suffer.
 (DWDS BZ 2003)
 'Yes, men want that the world hears about if they suffer.'

Veridical-objectively based predicates *verb dass* that are not inherently veridical as, for instance, *lesen dass* 'read' or *hören dass* 'hear' do not become veridical, let alone factive, when co-occurring with a prepositional correlate – cf. *davon hören dass* 'hear about' (59a). That is, they can be true if they embed true propositions and they can be true if they embed false ones. According to Schwabe & Fittler, all veridical-objectively based predicates with a prepositional correlate are deductively closed. As for *davon hören dass*, this means that for every constellation κ , every matrix subject α and every contingent proposition σ that fulfills α *hört davon, dass* σ , σ follows from a consistent set of propositions τ the subject α *hears*. These predicates allow an argument *wenn*-clause although they are not potentially factive – cf. (59b).

- (59) a. *Max hat davon gehört, dass Mia die Prüfung bestanden hat.*
 Max has ProPP heard that Mia the exam passed has
 'Max has heard about the issue that Mia has passed the exam.'
 b. *Du wirst schon davon hören, wenn er Erfolg hat.*
 you will PRT ProPP hear if he success has
 'You will hear about if he will be successful.'

Unlike the veridical-objectively based predicates *es wissen dass* 'know' and *es hören dass* 'hear', which becomes factive by an *es*-correlate, a veridical-objectively based predicate like *es sagen dass* does not become factive. The fact that it permits an argument *wenn*-clause underlines that factivity is not a necessary condition for a matrix predicate to license argument conditionals.

iii. *Non-objectively based predicates that are factive with an es-correlate*

A predicate *pred dass* licenses an argument *wenn*-clause if it is non-objective, factive when co-occurring with the *es*-correlate and provided it licenses an *ob*-form, this *ob*-form is equivalent to the exclusive reducible internal *ob*-form – cf. (55) and (56). Predicates of these class are, for instance, *bedauern* 'regret' and *schätzen* 'appreciate' which are factive with an *es*-correlate and *ignorieren* 'ignore' which is factive with its *es*-correlate as well, but admits additionally the exclusive reducible internal *ob*-form – cf. (1a) and (60a, b).

- (60) a. *Araber schätzen es, wenn sich der Gastgeber viel Zeit*
 Arabs appreciate it if the host much time
für sie nimmt.
 for them takes

(DWDS BZ 2005)

'Arabs appreciate if the host takes much time for them.'

b. *Doch keine Regierung darf es ignorieren,*

But no government may it ignore

wenn in ihrem Staat derart offenkundig

if in its state in such an obvious way

mit Recht und Gesetz Schindluder getrieben wird.

with justice and law is played fast and lost

(DWDS Zeit 2006)

'But no government is allowed to ignore if justice and law is played fast and lost with in such an obvious way.'

Recall that non-objective verbs like *bedenken* 'consider', which are also veridical with a correlate, but admit besides a *dass*-form only the non-reducible internal *ob*-Form do not license argument *wenn*-clauses

We have seen above that the *ob*-form of predicates like *ignorieren dass* 'ignore' or *egal sein dass* 'do not care' has two equivalent paraphrases, the internal *ob*-form and the exclusive reducible *ob*-form – cf. (55), (56) and (61). Like the *ob*- and *wenn*-forms of verbs like *erfahren dass* 'find out', the *ob*- and *wenn*-forms of verbs like *ignorieren dass* are not equivalent – cf. (54).

(61) a. *Weil das Rennen ... um 20 Uhr, gestartet wird,*

because the race at 20 o'clock started will be

empfiehlt es sich für den Biorhythmus,

recommended it is for the circadian rhythm

zu ignorieren, ob es hell oder dunkel ist.

to ignore whether it light or dark is

(ids sgt 2008)

'Because the race will start at 8 a.m., it is recommended to ignore whether it is light or dark for the circadian rhythm.'

b. ' α ignores it is dark or not dark' is equivalent to ' α ignores that it is dark or α ignores that it is not dark'.

iv. *Non-objectively based predicates cognitent with ProPP*

A predicate *pred dass* admits an argument *wenn*-clause if it is non-objective, is cognitent together with a ProPP and does not license the internal *ob*-form – cf. (56). According to Schwabe & Fittler (pub.), a predicate is cognitent if in the valid case, the embedded statement σ follows from what the subject knows.

Predicates that fulfill this condition are *sich darüber freuen dass* 'be happy', *sich damit abfinden dass* 'accept', *jm. entschädigen dass* 'compensate s.o.' and *jm. dabei erwischen dass* 'catch s.o.' – cf. (2a). An argument *wenn*-form like *Frank freut sich darüber, wenn Max gesund ist* 'Frank is glad if Max is well' can be paraphrased by *If Max is well, then Frank is glad that Max is well and that Max is well follows from what Frank knows*. Predicates like *darüber nachdenken* 'cogitate about', which are cognitent and license the internal *ob*-form, do not admit the argument *wenn*-clause – cf. (55b) and (62).

- (62) *Erst mit 30 werde ich darüber nachdenken,*
 not until 30 will I ProPP cogitate
ob ein Ende meiner Karriere in Sicht kommt, ...
 whether an end of my career appears
 (DWDS BZ 1994)
 'Not until 30, I will cogitate about whether an end of my career will appear.'

To conclude so far, argument *wenn*-clauses are admitted by predicates *verb dass* that are *i.* veridical-objective (*erfahren dass* 'find out') or *ii.* veridical-objectively based (*es erfahren dass, es sagen dass, davon erfahren dass*) or *iii.* non-objective and factive with the *es*-correlate and, provided an *ob*-form is admissible, licensing the reducible internal *ob*-form (*es bedenken dass* 'consider' and *ignorieren dass* 'ignore') or *iv.* non-objective and cognitent and not admitting an *ob*-form (*sich darüber freuen* 'be glad'). All predicates have in common that the *wenn*-clause σ is the protasis of an implication and provides their propositional argument σ . The paraphrase scheme of their argument *wenn*-form is given in (63).

$$(63) \sigma \in v \Rightarrow \tau(\sigma)$$

v. Preference predicates

A predicate *pred dass* licenses an argument *wenn*-clause if it is non-objective and if in the valid case, the proposition σ it embeds is an element of $v \cup f$ – cf. (44) in section 3.2 and (64).

- (64) *Wir ziehen es vor, wenn die Häuser gleichzeitig fertig sind.*
 we prefer it PRT if the houses simultaneously finished are

(DWDS TS 1999)

'We prefer it if the houses are finished simultaneously.'

Verbs of this type are preference predicates like *vorziehen dass* 'prefer' and *besser finden dass* 'think it to be better'. Preference predicates are similar to predicates like *bedauern dass* 'regret' in that in a valid matrix clause with *es*-correlate, they disallow propositional tautologies and contradictions, but they differ from them in the fact that they are not factive when combined with an *es*-correlate.

The scheme of the paraphrase of constructions with preference predicates and argument *wenn*-clauses is given in (65).

$$(65) \sigma \in f \cup v \Rightarrow \tau(\sigma)$$

To sum up, there are three major classes of predicates licensing argument *wenn*-clauses: (i) verbs that are veridical-objective or veridical-objectively based, (ii) predicates that are neither objective nor veridical-objectively based, but factive when exhibiting a correlate, and (iii) predicates that are non-objective and the proposition they embed is an element of $v \cup f$ – cf. (44e). Accordingly, the protases vary in that they either denote that σ is true – cf. class (i), or they denote that σ belongs to v – cf. class (ii), or they denote that σ is an element of $v \cup f$ – cf. class (iii).

5 Conclusion

As far as potentially factive matrix predicates like *bedauern dass* 'regret', *sich darüber freuen dass* 'be glad' and *hören dass* 'hear' are concerned, Fabricius-Hansen's (1980) claim has been confirmed and complemented that argument *wenn*-clauses provide the propositional argument for the matrix predicate on the one hand and are proper conditionals in that they provide the protasis of an implication where the matrix clause is the consequence, on the other. Regarding a verb as potentially factive if it becomes factive when co-occurring with a correlate as *es hören dass* 'hear it' and *es bedauern dass* 'regret' and *sich darüber freuen dass* 'be glad about', it has been shown that potential factivity is not a necessary condition for a predicate to license an argument *wenn*-argument clause. Predicates like *es sagen dass* 'tell' and *davon hören dass* 'hear of sth.' are not factive, but permit argument *wenn*-clauses. On the basis of Schwa-

be & Fittler's (pub.) distinction between objective and non-objective verbs, it has been suggested instead that predicates admit argument *wenn*-clauses if they are veridical-objective or veridical-objectively based or if they are neither objective nor veridical-objectively based, but factive with a correlate.

As to preference predicates like *vorziehen dass* 'prefer', it has been proposed a solution for Fabricius-Hansen's problem that the *wenn*-clause seems not to be a proper adverbial. It has been suggested that the *wenn*-clause σ provides the propositional argument for the matrix predicate and additionally focuses on a truth condition of the matrix predicate, the condition that the proposition it embeds belongs to the union of the set v 'the set of valid statements except propositionally tautologies' and the set f 'the set of false propositions except contradictions', that is $\sigma \in v \cup f$. Thus, the *wenn*-clause of a construction with a preference predicate provides a protasis like the *wenn*-clause of a construction with, for instance, a potentially factive predicate. In all cases, the *wenn*-clauses focus on a truth condition of the matrix predicate. If the predicate is related to veridicality or factivity, respectively, the *wenn*-clause focuses on the condition that the embedded proposition is true. If there is a preference predicate, the *wenn*-clause focuses on the condition that σ belongs to $v \cup f$, the union of true but not propositionally tautological statements and of the invalid but not contradictory statements.

It has also been shown that argument *wenn*-forms and corresponding *dass*-forms have identical truth values if the *wenn*-clause denotes that $\sigma \in v$ and that the *dass*- and the corresponding *wenn*-forms of a preference predicate are equivalent if σ is neither propositionally tautological nor contradictory. Furthermore it has been pointed out that the truth values of *wenn*- and *ob*-forms of verbs like *erfahren dass* 'find out' and *ignorieren dass* 'ignore' are closely related but not equivalent.

Similarly, for instance, to Sudhoff (2003), it has been argued that the propositional correlates *es* 'it' and ProPPs like *darüber pro*-about' are proforms that represent a propositional argument of the matrix predicate. They have been represented as indexed variables where the index points at the proposition they represent. Furthermore, the absorption rule (49) has been elaborated, a rule that ensures that the index of the proform and the proposition the proform refers agree. This rule makes use of Pesetsky's (1991) syntactic relationship m_e -command (26) which entails that a *wenn*-clause following the correlate has to be adjoined to VP if the correlate is in object or subject position. This rule predicts that a complement correlate and a *wenn*-clause cannot be co-indexed if the *wenn*-clause is m_e -commanded by the adverbial correlate *dann* 'then'. It

also predicts that a complement correlate cannot be co-indexed with a proposition which is embedded in a *wenn*-clause. Furthermore, the rule determines that a *wenn*-clause preceding the correlate provides the index for the latter.

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