

Correlates of Object Clauses in German and Dutch

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This paper deals with usages of the German pronoun *es* (and its counterpart *het* in Dutch) as a correlate of extraposed object clauses. It is argued (i) that *es* is the head of an argument DP and takes the embedded clause as its complement; (ii) that there are two types of matrix predicates, one of them being compatible with correlate-*es*, the other one incompatible; and (iii) that correlate-*es* has to be distinguished from an anaphoric use of the pronoun *es* that is possible in constructions with both types of matrix predicates, but has different contextual requirements.

1. Introduction

This paper deals with usages of the pronouns *es* and *het* as so-called correlates of extraposed object clauses in German and Dutch complex sentences, as exemplified in (1).¹

- (1) a. *weil Peter es bedauert, dass er krank ist* [German]
because Peter it regrets that he ill is
b. *omdat Pieter het betreurt dat hij ziek is* [Dutch]
because Pieter it regrets that he ill is

Focusing largely on the German data, I will argue that *es* is not an expletive in such cases but the head of an object-DP and that the object clause is generated as its complement and must be extraposed in the course of the derivation.

The paper is organized as follows. Section 2 presents the relevant data concerning constructions with correlate-*es* in German and the conditions of

¹ The work presented here develops ideas first discussed in Chapter 3 of Sudhoff (2003). I am grateful to Anita Steube, Peter Suchsland, Kerstin Schwabe and two anonymous reviewers for their valuable comments and to Edwin Werner, Ton Naaijken, and Ewout van der Knaap for their help with the Dutch data.

its use. Section 3 compares correlate-*es* to the expletive *there* in English, concluding that the two elements cannot be analyzed in the same way. In Section 4, an alternative syntactic analysis is discussed. Sections 5 and 6 address the role of the matrix predicate and information structure, respectively, and Section 7 compares the properties of correlate constructions in German to those of their counterparts in Dutch. The final section of the paper summarizes the results and addresses some issues that must remain unresolved.

2. Correlate-*es* in German

As shown in (2), the occurrence of *es* as a correlate of an object clause is restricted in German.² Although (2a) is grammatical with or without correlate-*es*, the correlate is impossible in (2b).³ Because the sentences differ only in the choice of the matrix verb – *bedauern* 'to regret' in (2a) and *behaupten* 'to assert' in (3b), this difference must be responsible for the distribution of *es*.

- (2) *Was ist los?*
'What's the matter?'
- a. *Marie bedauert (es), dass Peter berühmt wird.*
Marie regrets (it) that Peter famous becomes
- b. *Marie behauptet (*es), dass Peter berühmt wird.*
Marie asserts (it) that Peter famous becomes

The occurrence of correlate-*es* is further restricted by the syntactic structure of the matrix clause, in particular by the surface position of the object clause. For correlate-*es* to be possible, the object clause must be extraposed; if it is placed in the prefield or remains in its base position in the middle-field, correlate-*es* cannot be realized, as shown in (3).⁴

- (3) a. *Dass Peter berühmt wird, bedauert (*es) Marie (*es).*
that Peter famous becomes regrets (it) Marie (it)
- b. *weil Marie (*es) mit Peter verheiratet zu sein (*es)*
because Marie (it) with Peter married to be (it)

² Unless stated otherwise, all examples in the remainder of this paper are German.

³ The impossibility of *es* in (2b) only holds in relation to the given context. In Section 6, it will be argued that *es* occurring in combination with a matrix verb like *behaupten* is not a correlate, but an anaphoric pronoun.

⁴ In topological accounts of German sentence structure, the term *prefield* (*Vorfeld*) refers to the position preceding the finite verb in verb-second clauses, and the term *middlefield* (*Mittelfeld*) to the area between the finite verb and the non-finite verbs in verb-second clauses and between the complementizer and the verb(s) in verb-final clauses.

bedauert
regrets

The sentences in (4) show that *es* and the object clause do not form one constituent at the surface. In (4a), the perfect participle intervenes between the two elements, and (4b, c) show that the sequence consisting of *es* and the object clause cannot be extraposed or fronted as a whole.

- (4) a. *Marie hat (es) bedauert, dass Peter berühmt wird.*
Marie has (it) regretted that Peter famous become
b. *Marie hat bedauert, (*es) dass Peter berühmt wird.*
Marie has regretted (it) that Peter famous becomes
c. *(*Es) dass Peter berühmt wird, bedauert Marie.*
(it) that Peter famous becomes regrets Marie

Correlate-*es* can be fronted alone if it is associated with a subject clause, as in (5a). A relevant question is whether doing so is possible with correlate-*es* in an object function as well.

- (5) a. *Es stimmt, dass Marie krank ist.*
it.NOM is-true that Marie ill is
b. **Es bedauert Peter, dass Marie krank ist.*
it.ACC regrets Peter that Marie ill is
c. *Es bedauert jemand, dass Marie krank ist.*
it.ACC(?) regrets somebody that Marie ill is

It is often assumed that object-*es* is generally banned from the prefield, for instance, in its function as a personal pronoun (Travis 1984; Lenerz 1993). However, as shown by Frey (2006) and Meinunger (2007), object-*es* is possible in the prefield under certain circumstances. According to these authors, an important precondition is that the subject of the sentence cannot be interpreted as a topic. At first sight, the contrast between (5b) and (5c) seems to show that the same is true for correlate-*es*. However, it is not clear whether *es* in (5c) is a correlate or an instance of the so-called prefield-*es* or positional *es* (Sudhoff 2003), the only function of which is to guarantee that the prefield is filled in German verb-second clauses. I will return to this issue in Section 7.

A final relevant property of correlate-*es* is that it cannot associate with clauses having the function of prepositional objects. The appropriate correlate for prepositional object clauses is a combination of the pronominal element *da(r)*- and the respective verb-specific preposition, such as *darauf* in (6), cf. Breindl (1989).

- (6) *Marie wartet *auf es / darauf, dass Peter kommt.*
Marie waits for it / it-for that Peter comes

3. Correlate-*es* as an expletive?

According to Safir (1985) and Tomaselli (1986), among others, correlate-*es* is an expletive pronoun. It serves as a substitute for a constituent – in the cases under discussion the embedded clause – that cannot occupy its standard position in the syntactic structure. The same holds for other elements analyzed as expletives, such as English *there* in (7):

(7) *There is a man in the garden.* [English]

Chomsky's (1995) well-known analysis of such cases is that the subject is not in the structural subject position SpecIP, but rather in a position within VP. Because SpecIP must be overtly realized to fulfill the EPP, the expletive is inserted in this position. *There* does not bear a theta role and, as a consequence, is not an argument. The finite verb agrees with the VP-internal subject. Chomsky (1995: 155-156) analyzes the expletive as an LF-affix to which the associated constituent adjoins after covert movement.

In spite of the obvious parallels, the attempt to apply Chomsky's analysis of expletives in English to the German sentences with correlate-*es* results in several problems. First, as shown by Haider (1997, 2010) and Sternefeld (2006), there is no conclusive evidence for the existence of an obligatory structural subject position outside of VP in German. Consequently, the EPP cannot be the trigger for the insertion of *es* in German. Second, an analysis treating correlate-*es* as an expletive cannot explain why it is impossible in many cases (e.g., (2b) above) and only optional in most others. If the insertion of an expletive prevents a sentence from being ungrammatical, the expletive should be obligatory. Third, correlate-*es* can associate both with subject clauses and object clauses. To analyze it as an expletive in the latter case, one would have to assume an additional structural object position outside of VP, which cannot be independently motivated for German either.

If correlate-*es* is not an expletive, what is it? What categorial status does it have? What is the structural relation between *es* and the associated object clause? And finally, how can the difference between matrix verbs like *bedauern* 'to regret' and *behaupten* 'to assert' in (2) be accounted for? In the remainder of this paper, I will try to provide answers to these questions.

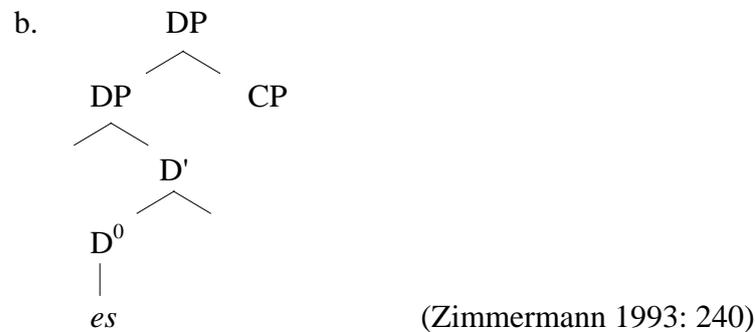
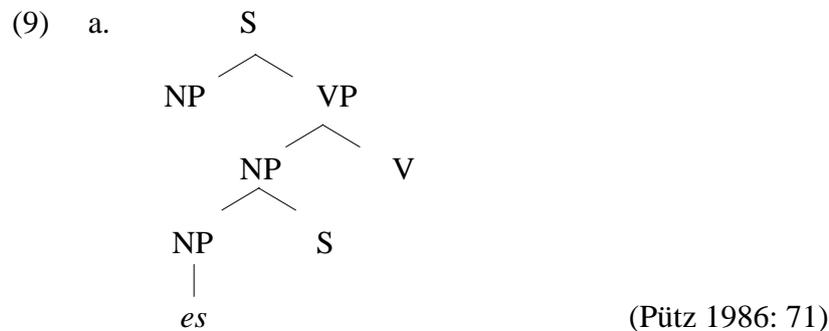
4. Syntactic properties of correlate-*es*

In the literature, correlate-*es* has been analyzed either as the specifier or as the head of a (functional or lexical) projection. In the previous section, it was argued that it is not located in the specifier position of the matrix IP. Sonnenberg (1992) assumes that correlate-*es* is the specifier of or an adjunct

to the embedded CP, as shown in (8a) and (8b), respectively. Because this analysis is incompatible with the extraposition/fronting data (cf. the examples in (4) above), it will not be pursued further here.

- (8) a. [CP es [C' C° ...]]
 b. [CP es [CP ... [C' C° ...]]]

The alternative view is that correlate-*es* is a head. This view has been taken by Pütz (1986), Zimmermann (1993), and Müller (1995), among others. Pütz (1986: 71) assumes *es* to be the head of an NP, to which the embedded clause is adjoined, cf. (9a). Zimmermann (1993: 240) proposes a similar structure, but with DP as the adjunction site for the subordinate clause, cf. (9b).

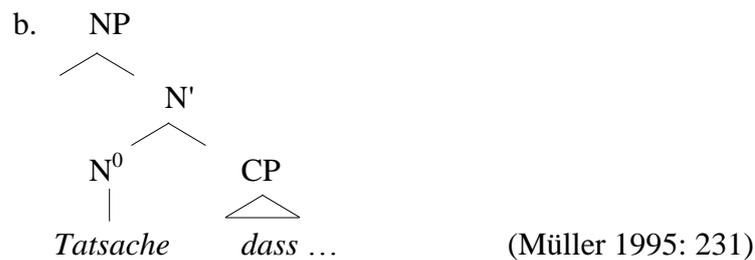
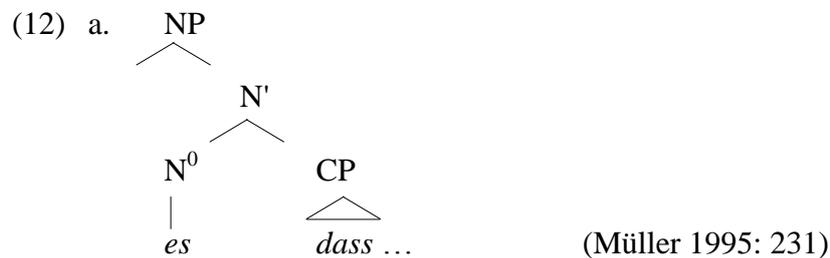


The problem with both analyses is that they consider the embedded clause to be an adjunct. This is hard to reconcile with the fact that the clause fills an argument slot of the matrix predicate and that the predicate imposes selectional restrictions on the sentential argument. The examples in (10) and (11) show that the (in)finiteness of the object clause as well as the choice of the subordinating conjunction depend on the matrix predicate.

- (10) a. *dass Peter es genießt/bewundert, dass Marie singt*
 that Peter it enjoys/admires that Marie sings

- b. *dass Peter es genießt/*bewundert zu singen*
 that Peter it enjoys/admires to sing
- (11) a. *dass Peter es abwartet/hasst, dass Marie singt*
 that Peter it awaits/hates that Marie sings
- b. *dass Peter es abwartet/*hasst, ob Marie singt*
 that Peter it awaits/hates whether Marie sings

Müller (1995: 231) argues for an analysis with *es* as the head of an NP and the embedded CP as its complement, cf. (12a). According to this view, correlate-*es* is a substitute for a full noun, such as *Tatsache* 'fact' in (12b).



I will adopt a similar view here, but with the crucial difference that correlate-*es* is analyzed as a determiner.⁵ This analysis corresponds with the analysis of *es* in its use as a personal pronoun, which is also argued to be a functional D-element, cf. Bhatt (1990), among others. Correlate-*es* and the personal pronoun *es* share a number of crucial properties, in particular concerning their placement in the middlefield. Both elements normally precede sentence adverbials like *wahrscheinlich* 'probably' and *vielleicht* 'perhaps' as well as the negation particle *nicht*, cf. (13) and (14). The relative order of pronouns in the middlefield is determined by their case: nominative > accusative > dative. The placement of correlate-*es* must be in accordance with this case sequence, cf. (15). Finally, personal pronouns, as well as correlate-*es*, may only be preceded by full DPs if these are nominative, cf. (16).

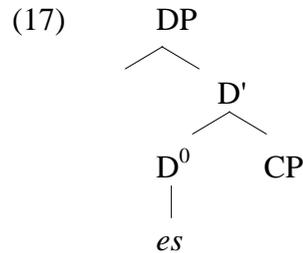
⁵ See also Hinterwimmer (2010).

- (13) a. *?dass wahrscheinlich eine Frau einem Mann es*
 that probably a woman.NOM a man.DAT it.ACC
verübelt, dass er schläft
 takes-amiss that he sleeps
- b. *dass es wahrscheinlich eine Frau einem Mann*
 that it.ACC probably a woman.NOM a man.DAT
verübelt, dass er schläft.
 takes-amiss that he sleeps
- (14) a. **dass die Frau dem Mann nicht es*
 that the woman.NOM the man.DAT not it.ACC
verübelt, dass er schläft
 takes-amiss that he sleeps
- b. *dass es die Frau dem Mann nicht verübelt,*
 that it.ACC the woman.NOM the man.DAT not takes-amiss
dass er schläft
 that he sleeps
- (15) a. *dass sie es ihm verübelt, dass er schläft*
 that she.NOM it.ACC him.DAT takes-amiss that he sleeps
- b. **dass es sie ihm verübelt, dass er schläft*
 that it.ACC she.NOM him.DAT takes-amiss that he sleeps
- c. *?dass sie ihm es verübelt, dass er schläft*
 that she.NOM him.DAT it.ACC takes-amiss that he sleeps
- (16) a. *dass es die Frau dem Mann verübelt, dass*
 that it.ACC the woman.NOM the man.DAT takes-amiss that
er schläft
 he sleeps
- b. *dass die Frau es dem Mann verübelt, dass*
 that the woman.NOM it.ACC the man.DAT takes-amiss that
er schläft
 he sleeps
- c. *?dass die Frau dem Mann es verübelt, dass*
 that the woman.NOM the man.DAT it.ACC takes-amiss that
er schläft
 he sleeps

I propose an analysis in which the embedded clause is generated as the complement of correlate-*es*.⁶ The DP consisting of *es* and the embedded CP

⁶ A similar proposal has been made for restrictive relative clauses in German by Steube (1992).

can serve as the subject or as the direct object of the matrix predicate. The resulting representation is given in (17).



To justify this analysis, two questions must be answered. First, why are the embedded clauses able to escape their DP-shells by means of extraposition although DPs constitute barriers for movement in other cases? Second, why do they have to be extraposed? As shown in Section 2 above, they are unable to occur together with *es* in the German prefield or middlefield.

With respect to the first question, note that the extraposition of embedded clauses out of DPs is not restricted to constructions with correlate-*es*. Embedded clauses bound to full nominal elements also cross DP-boundaries when they undergo extraposition, cf. (18).

- (18) a. *dass* [_{DP} *Peters Vermutung* t_i] *sich nicht bewahrheitete*,
 that Peter's suspicion REFL not proved-to-be-true
 [_{CP} *dass Marie nur scherzt*]_{*i*}
 that Marie only jokes
- b. *dass Peter* [_{DP} *seine Hoffnung* t_i] *aufgab*, [_{CP} *Marie schnell*
 that Peter his hope gave-up Marie soon
wiederzusehen]_{*i*}
 to-see-again
- c. *dass Peter* [_{DP} *ein Gesicht* t_i] *machte*, [_{CP} *das Marie das*
 that Peter a face pulled that Marie the
Herz erweichte]_{*i*}
 heart softened

An explanation for the possibility of extraposition out of DPs is given by Müller (1995), based on the *Principle of Unambiguous Binding* (PUB) formulated by Müller & Sternefeld (1993). This principle is given in (19).

- (19) A variable that is α -bound must be β -free in the domain of the head of its chain (where α and β refer to different types of positions). (Müller 1995: 223)

This principle states, in other words, that movement of a constituent to a position of type α cannot be followed by movement of the same constituent to a position of type β . A relevant distinguishing property of target positions

of syntactic movement is the direction from which the position is targeted. Consequently, target positions of extraposition, which is rightward movement,⁷ are of a different type than target positions of movement operations to the left, such as fronting, *wh*-movement, or scrambling. To explain the ability of embedded clauses to cross DP-boundaries, Müller (1995: 225f.) makes use of Chomsky's (1986) hypothesis that the barrier status of a constituent can be neutralized by adjunction to this constituent. According to this hypothesis, a phrase can be extracted from a DP if it is right-adjoined to this DP first.⁸ The only type of movement licensed by the PUB after right adjunction is another movement operation to the right, that is, extraposition. Thus, the PUB correctly predicts that constituents that are extraposed – and only such constituents – can be extracted from DPs.

Concerning the constructions with correlate-*es*, the PUB explains not only why extraposition of the embedded clause is possible but also why the embedded clause cannot be moved to the prefield or to a position preceding the correlate in the middlefield of the matrix clause, cf. (3) in Section 2 above. Fronting and scrambling as instances of leftward movement are excluded after right-adjunction to DP.

Let me turn to the second question formulated above, that is, the question as to why extraposition of the embedded clause is necessary in constructions with correlate-*es*. Why is it impossible for *es* and the object clause to occur together in the prefield or middlefield? In this respect, *es* contrasts with the otherwise similar element *das* 'that', which can form one constituent with the embedded clause at the surface, cf. (20) and (21).

- (20) a. **Es, dass Marie stur bleibt, bedauert Peter.*
 it that Marie persistent stays regrets Peter
 b. **Peter hat es, dass Marie stur bleibt, bedauert.*
 Peter has it that Marie persistent stays regretted
- (21) a. *Das, dass Marie stur bleibt, bedauert Peter.*
 that that Marie persistent stays regrets Peter
 b. *Peter hat das, dass Marie stur bleibt, bedauert.*
 Peter has that that Marie persistent stays regretted

According to Pittner (1999), *es* and *das* have almost identical properties: both elements bear the case assigned to the respective argument position, and both have a weak semantics. They differ only in their phonological forms, particularly in their ability to be stressed. Whereas *es* never receives

⁷ See Büring & Hartmann (1995) for arguments defending the hypothesis that extraposition is an instance of *move a* against the alternative view that “extraposed” clauses are base-generated to the right of V^o (cf. Kayne 1994 and Haider 1994).

⁸ See Müller (1995: 227ff.) for an answer to the question of why left-adjunction is not an option.

stress, *das* is a potential stress-bearing element. To account for the syntactic distribution of the associated embedded clauses, Pittner (1999: 222) differentiates between syntactic and phonological heads. Correlate-*es* and *das* are heads in the syntactic sense; they are generated in the same syntactic position. However, only *das* is also a phonological head, that is, the element bearing the main stress of the argument phrase. According to Pittner, this property of *das* is crucial for its ability to form a single constituent with the embedded clause in the prefield or middlefield. Correlate-*es*, on the other hand, cannot serve as the phonological head of the complex DP, which prevents it from occurring together with the embedded clause at the surface.

The obligatory extraposition of clauses associated with correlate-*es* can, thus, be described as a consequence of the lack of possible stress assignment to the syntactic head of the DP-shell. This property corresponds to the regularities exhibited by embedded clauses with the function of prepositional objects. As shown in Section 2 above, this kind of argument clause can be associated with correlates consisting of the pronominal element *da(r)*- and the respective verb-specific preposition, such as *darüber* 'about it', *damit* 'with it', and so on. In parallel with the distinction between *es* and *das*, these elements occur in two variants: stressed and unstressed (Breindl 1989: 159ff.). In this case, there are no segmental differences between the two variants (e.g., *damit* vs. *DAMit*); nevertheless, the associated clauses show the same distributional pattern. The unstressed correlate enforces extraposition, whereas the stressed pronoun can form a constituent with the embedded clause at the surface. This difference is exemplified in (22).⁹

- (22) a. *weil er DAMit / *damit, dass sie wegfährt, nicht
because he it-with that she goes-away not
gerechnet hat
reckoned has*
b. *weil er nicht damit gerechnet hat, dass sie wegfährt
because he not it-with reckoned has that she goes-away*

Some of the correlates of prepositional object clauses may occur in phonologically reduced forms (e.g., *drüber* instead of *darüber*). This phonological reduction is again accompanied by obligatory extraposition of the embedded clause, cf. (23). The distribution of the reduced and full forms can be seen as a direct reflex of the different stress patterns: only the unstressed variant of

⁹ The capitalization in (22a) only indicates the word stress of *DAMit*, not the sentence accent. The combination of *DAMit* and the embedded clause can only be interpreted as background information in (22a), which is why it precedes the negation particle *nicht* 'not'. The unstressed correlate *damit* in (22b), on the other hand, belongs to the focus information and follows the negation particle. Cf. Section 6 for a discussion of the role of information structure.

the correlate, which in turn enforces extraposition of the associated object clause, may be reduced.

- (23) a. *weil er sich darüber / drüber freut, dass sie hier bleibt*
 because he himself it-about is-pleased that she here stays
 b. *weil er sich DARüber / *drüber, dass sie hier bleibt, freut*
 because he himself it-about that she here stays is-pleased

5. Types of matrix verbs

As indicated in Section 2, some matrix verbs allow the use of correlate-*es* while others do not. This phenomenon, noted by Pütz (1986), is most obvious in fully focused sentences, that is, answers to questions like *Was ist passiert?* 'What happened?' or *Was ist los?* 'What is the matter?' – cf. (24).

- (24) *Was ist los?*
 'What is the matter?'
- a. *Ich glaube, dass Peter (es) bedauert, dass Marie wegfährt.*
 I think that Peter (it) regrets that Marie goes-away
- b. *Peter bedauert (es), dass Marie wegfährt.*
 Peter regrets (it) that Marie goes-away
- c. *Ich glaube, dass Peter (*es) behauptet, dass Marie wegfährt.*
 I think that Peter (it) asserts that M.
 goes-away
- d. *Peter behauptet (*es), dass Marie wegfährt.*
 Peter asserts (it) that Marie goes-away

A list of matrix verbs compatible with correlate-*es* is given in (25), whereas the verbs in (26) are incompatible with correlate-*es*. Every verb that subcategorizes for a sentential direct object can be classified as belonging to one of the two types.¹⁰

- (25) matrix verbs compatible with correlate-*es*:
abwarten 'to await', *aufgeben* 'to give up', *begrüßen* 'to be glad',
bedauern 'to regret', *bewundern* 'to admire', *ertragen* 'to endure',
genießen 'to enjoy', *hassen* 'to hate', *hinnehmen* 'to accept',
lieben 'to love', *verdanken* 'to owe'

¹⁰ For empirical evidence supporting the distinction between the two types of matrix verbs (based on corpus and experimental studies), see Trompelt, Axel & Holler (this volume).

- (26) matrix verbs incompatible with correlate-*es*:
ankündigen 'to announce', *befehlen* 'to order', *befürchten* 'to fear', *behaupten* 'to assert', *beobachten* 'to observe', *beschließen* 'to decide', *denken* 'to think', *empfehlen* 'to recommend', *feststellen* 'to detect', *glauben* 'to believe', *hören* 'to hear', *vermuten* 'to suspect'

My hypothesis, based on the proposal by Pütz (1986), is that the difference between the two types of matrix verbs can be accounted for on the assumption that the verbs in (25) subcategorize for a complex DP with the correlate as its head (cf. the structure in (17) above), whereas the verbs in (26) embed argument CPs directly. This property is fixed in the respective lexicon entries of the verbs, and crucially, it does not depend on the actual realization of the correlate. That is, I propose the complex DP structure even in cases in which an optional correlate-*es* is not overtly realized.¹¹

The question then is why object clauses of matrix verbs compatible with correlate-*es*, which – according to the hypothesis – subcategorize for complex DPs, may be fronted, as long as the correlate is not overtly realized. A possible explanation is that the argument clause does not have to escape the DP in these cases because it moves together with its phonologically empty DP-shell. It has been argued above that correlate-*es*, due to its inability to be stressed, cannot form one constituent together with the associated clause at the surface. If, however, the head of the DP-shell is not phonologically realized at all, it does not have to be able to serve as a phonological head, and fronting of the whole DP should be possible.¹² This is confirmed by sentences like (3a) above.

As already observed by Pütz (1986), the hypothesis that there are two distinct types of matrix verbs is corroborated by additional evidence. The proposed differences in the syntactic structures of constructions with matrix verbs of the two categories are reflected in a number of other grammatical properties of the verbs and the respective sentences.

First, the verbs in (25) are compatible with nominal arguments like *die Tatsache* 'the fact', *der Umstand* 'the circumstance', *die Möglichkeit* 'the possibility', and so on. The verbs in (26), on the other hand, are usually incompatible with such arguments. Second, matrix verbs compatible with correlate-*es* generally exclude small clauses (cf. (27a)), bare VPs (in so-called AcI-constructions, cf. (27b)), and verb-second clauses (cf. (29)) as their

¹¹ As pointed out by an anonymous reviewer, it must be further specified what it means for a verb to subcategorize for a complex DP containing an embedded clause. This is the more evident as the grammatical properties of the embedded clause must be visible for the matrix verb, cf. the discussion of (10) and (11) above. I leave this issue for further research.

¹² Note that the ability of an element to be a phonological head is a purely phonological (i.e., not syntactic) property that applies to overt elements only. Because an empty D-head has no phonological realization at all, it need not be able to serve as a phonological head.

complements, whereas matrix verbs incompatible with correlates often allow these options, cf. (28) and (30), respectively.

- (27) a. **Peter bedauert* [_{SC} *Marie krank*].
Peter regrets Marie ill
b. **Peter bewundert* [_{VP} *Marie hart arbeiten*].
Peter admires Marie hard work
- (28) a. *Peter glaubt* [_{SC} *sich in Sicherheit*].
Peter believes REFL in a-safe-place
b. *Peter vermutet* [_{SC} *Marie im Garten*].
Peter suspects Marie in-the garden
c. *Peter hört* [_{VP} *Marie lachen*].
Peter hears Marie laugh
- (29) a. **Peter erträgt (es), Marie macht ihre Drohung wahr*.
Peter endures (it) Marie carries her threat out
b. **Peter hasst (es), er muss abnehmen*.
Peter hates (it) he must lose-weight
- (30) a. *Peter befürchtet, Marie macht ihre Drohung wahr*.
Peter fears Marie carries her threat out
b. *Peter denkt, er muss abnehmen*.
Peter thinks he must lose-weight

Third, extraction of an adverbial from the argument clause is possible with matrix verbs that are incompatible with correlate-*es*, but impossible with matrix verbs of the other type. In (31), there is a clear contrast in grammaticality between the two variants. Because the adverbial *wh*-element *womit* 'with what' can only receive a meaningful interpretation with respect to the verb in the embedded clause (*verärgern* 'to annoy'), (31b) is ungrammatical. The sentences in (32) differ in their possible interpretations. (32a) is syntactically ambiguous. The *wh*-element *wann* 'when' can be generated either in the embedded clause or in the matrix clause. In the first case, the sentence is a question about the time of the *annoying*-event expressed by the verb in the embedded clause; in the second case, it is a question about the time of the *regretting*-event expressed by the matrix verb. (32b), on the other hand, has only one possible reading. The sentence must be understood as a question about the time of the event expressed by the matrix verb (the *regretting*-event).

- (31) a. *Womit_i behauptete Peter, sie t_i verärgert zu haben?*
what-with asserted Peter her annoyed to have
b. **Womit_i bedauerte Peter, sie t_i verärgert zu haben?*
what-with regretted Peter her annoyed to have

- (32) a. *Wann_{i/j} behauptete Peter (t_i), sie (t_j) verärgert zu haben?*
 when asserted Peter her annoyed to have
 b. *Wann_{i/*j} bedauerte Peter (t_i), sie (t_j) verärgert zu haben?*
 when regretted Peter her annoyed to have

The (im)possibility of extraction from the embedded clause can be attributed directly to the different syntactic structures of the sentences. Under the assumption that extraction from argument clauses must happen before their extraposition (Büring & Hartmann 1995: 185), the difference follows from the existence of a DP-shell in one case and its absence in the other. The DP-shell blocks *wh*-movement in (31b) and (32b), despite the fact that correlate-*es* is not overtly realized in these cases. Thus, only sentences with matrix verbs like *bedauern* provide a structural position for correlate-*es*, and these constructions always provide such a position, independently of the actual realization of *es*.

However, the ban on extraction from clausal complements of matrix verbs compatible with correlate-*es* holds without exception only for adjuncts. As shown in (33), argument *wh*-phrases can move to SpecCP of the matrix clause under certain conditions, in particular if the embedded clause is infinite.¹³ The corresponding data for matrix verbs incompatible with correlate-*es* is given in (34), demonstrating that extraction of an argument from the embedded clause is always possible in these cases.

- (33) a. *Was_i bedauert Peter, t_i getan zu haben?*
 what regrets Peter done to have
 b. **Was_i bedauert Peter, dass Marie t_i getan hat?*
 what regrets Peter that Marie done has
- (34) a. *Was_i behauptet Peter, t_i getan zu haben?*
 what asserts Peter done to have
 b. *Was_i behauptet Peter, dass Marie t_i getan hat?*
 what asserts Peter that Marie done has

Interestingly, (33a) becomes ungrammatical if correlate-*es* is inserted. A possible explanation for this fact is that the DP-shell has its full status as a barrier for extraction only if D⁰ is overtly realized. For a discussion of similar extraction data pointing in the same direction, see Bayer & Suchsland (1997: 23).

¹³ According to an anonymous reviewer, *bedauern* is reinterpreted as a *verbum dicendi* in (33a); thus, it belongs to the group of matrix verbs incompatible with correlate-*es* here, explaining the possibility of extraction. However, I do not think that the interpretation as a *verbum dicendi* is inevitable in this example.

An additional argument for the existence of two different types of matrix verbs is provided by the fact that the same differences can be found in the passive counterparts of the respective sentences. Tomaselli (1986) claims that correlate-*es* can never occur in passive sentences because the verb is unable to assign an external theta role. In her view, if *es* is, nevertheless, accepted by speakers of German, such acceptance occurs because of an inadmissible analogy to active sentences with embedded subject clauses. Vikner (1995: 244), on the other hand, considers correlate-*es* always to be possible in passive sentences with sentential arguments. This conclusion is a consequence of his assumption that argument clauses can always be substituted by a combination of *es* and an adjunct CP. The examples in (35) show that the hypotheses of both Tomaselli (1986) and Vikner (1995) make incorrect predictions about the grammaticality of passive sentences with correlate-*es*.

- (35) *Was ist los?*
 'What is the matter?'
- a. *Ich glaube, dass (es) bedauert wird, dass Marie wegfährt.*
 I think that (it) regretted is that Marie goes-awa
- b. *Ich glaube, dass (*es) behauptet wird, dass Marie wegfährt.*
 I think that (it) asserted is that Marie goes-away

Whereas correlate-*es* optionally occurs in (35a), the insertion of *es* results in ungrammaticality in (35b). It follows that, in passive sentences, as in their active counterparts, the possibility of correlate-*es* depends on the choice of the matrix verb with its corresponding subcategorization properties. In (35a), the embedded clause is part of a complex DP, which is – just as in the active sentences in (24a, b) – generated as the complement of the matrix verb *bedauern*. In (35b), on the other hand, the dependent clause is embedded directly – without a dominating DP-shell – as the complement of the verb (and extraposed in the course of the derivation), the consequence being that correlate-*es* is impossible here.

An analysis along these lines predicts that the differences in the grammaticality of extractions observed in active sentences should also be found in their passive counterparts. This prediction is borne out, cf. (36). Whereas extraction of an adverbial from an argument clause leads to an ungrammatical result if the matrix verb is compatible with correlate-*es*, extraction is possible with matrix verbs that can never occur with correlate-*es*.

- (36) a. **Wohin_i wird bedauert, dass sie t_i geht?*
 where is regretted that she goes
- b. *Wohin_i wird behauptet, dass sie t_i geht?*
 where is asserted that she goes

In this section, the discussion of the influence of the matrix verb on the possibility of correlate-*es* was confined to transitive matrix verbs subcategorizing for object clauses. However, similar phenomena can be observed in constructions with subject clauses, cf. (37). I assume that an explanation along the same lines is possible in these cases. However, a closer examination must be left for further research.¹⁴

- (37) *Was ist los?*
 'What is the matter?'
 a. *Niemanden interessiert (es), dass Marie wegfährt.*
 no-one_{acc} is-interested-in (it) that Marie goes-away
 b. *In der Zeitung steht (*es), dass ein Unwetter kommen*
 in the newspaper is-said (it) that a thunderstorm come
wird.
 will

6. Information structure

In the previous section, a distinction between two types of matrix verbs was proposed, with one type being compatible with correlate-*es* and the other incompatible. The difference has been exemplified with fully focused sentences. However, as soon as other information structural conditions are considered, *es* is possible even with matrix verbs like *behaupten* 'to assert', which have been discussed as belonging to the latter type. The influence of information structure is shown in (38). Although the fully focused sentence in (38a) is ungrammatical, *es* is possible in the variants with narrow or contrastive focus in (38b, c).

- (38) a. *Was ist los?*
 'What is the matter?'
 **Ich glaube, [dass Peter es behauptet, dass Marie*
 I think that Peter it asserts that Marie
WEGfährt.]_F
 goes-away
 b. *Wer behauptet, dass Marie wegfährt?*
 'Who asserts that Marie goes away?'
Ich glaube, dass [PEter]_F es behauptet, dass Marie
wegfährt.

¹⁴ See also Frey (this volume).

- c. *Paul behauptet, dass Marie wegfährt.*
 'Paul asserts that Marie goes away'
*Ich glaube, dass [PEter]_{CF} es behauptet, dass Marie wegfährt.*¹⁵
- d. *Was ist los?*
 'What is the matter?'
Ich glaube, [dass Peter es bedauert, dass Marie
 I think that Peter it regrets that Marie
WEGfährt.]_F
 goes-away

Following similar proposals by Pütz (1986) and Sandberg (1998), I argue that *es* in (38b, c) is not a correlate but an anaphoric pronoun licensed only because the content of the relevant embedded clause is given or can be derived from the context. Consequently, the sentences in (38b, c) must be assigned a different syntactic structure than sentences with “true” correlates, as in (38d). Because the sentences look quite similar at first sight – they all contain an instance of *es* that is related to an embedded clause in the right periphery of the matrix clause –, this hypothesis has to be well motivated. In particular, the status and function of the embedded clause in (38b, c) must be determined.

Let us take a closer look at the information structural differences between sentences with correlate-*es* and anaphoric *es*. Correlate-*es* typically occurs in sentences with focused embedded clauses. The sentence is either fully focused, as in (38d), or it has a non-maximal focus that includes the embedded clause. In both cases, the sentence accent lies within the sentential argument, its exact position being determined by the syntactic structure (cf. Cinque 1993, among others). Anaphoric *es*, on the other hand, is only possible when the embedded clause is defocused. In this case, other elements of the matrix clause are focused and bear either (narrow) new information focus, as with *Peter* in (38b), or contrastive focus, as with *Peter* in the correction sentence (38c). The sentence accent is located on the (contrastively) focused element in the matrix clause. The information structural differences between sentences with correlate-*es* and anaphoric *es* also seem to result in differences with respect to intonational phrasing. An intonational phrase boundary between the matrix clause and the embedded clause – indicated by pause insertion and a boundary tone – seems more likely to occur in sentences with anaphoric *es*. If so, it points to the stronger integration of embedded clauses associated with correlate-*es* in the matrix clause. The verification of this hypothesis, however, must be left for further research.

¹⁵ The index CF indicates contrastive focus in this example.

Additional evidence for the hypothesis that *es* occurring in combination with a matrix verb like *behaupten* is not a correlate comes from the fact that it can be replaced with the pronoun *das* 'that', as demonstrated in (39a). According to Pütz (1986), *das* is only possible as a substitute for *es* in the function of an anaphoric pronoun, not in the function of a correlate, cf. (39b).¹⁶

- (39) a. *Wer behauptet, dass Marie wegfährt?*
 'Who asserts that Marie goes away?'
Peter behauptet das, dass Marie wegfährt.
 Peter asserts that that Marie goes-away
- b. *Was ist los?*
 'What is the matter?'
 **Peter bedauert das, dass Marie wegfährt.*
 Peter regrets that that Marie goes-away

Moreover, the embedded clauses occurring in combination with anaphoric *es* can be omitted, whereas argument clauses associated with correlate-*es* are obligatory, cf. (40). This difference is a direct reflex of the information structure of the sentences and the status of the embedded clauses: Anaphoric *es* fills an argument slot of the matrix verb on its own. Correlate-*es*, on the other hand, has a cataphoric relation to the focused embedded clause and must be semantically specified by it.

- (40) a. *Wer behauptet/bedauert, dass Marie wegfährt?*
 'Who asserts/regrets that Marie goes away?'
Peter behauptet/bedauert es/das.
 Peter asserts/regrets it/that.
- b. *Paul behauptet/bedauert, dass Marie wegfährt.*
 'Paul asserts/regrets that Marie goes away.'
Nein, Peter behauptet/bedauert es/das.
 no Peter asserts/regrets it/that.
- c. *Was ist los?*
 'What is the matter?'
 **Peter bedauert es.*
 Peter regrets it

¹⁶ For empirical evidence for this difference, see Trompelt, Axel & Holler (this volume). As a consequence, *das* in example (21) above should also be analyzed as an anaphoric pronoun.

To conclude, the data discussed above indicate that the instances of *es* in (38b, c), on the one hand, and (38d), on the other hand, belong to different types.¹⁷ Only in the latter case is *es* a correlate of the embedded clause. This construction requires a matrix verb like *bedauern* 'to regret', which was classified as being compatible with correlate-*es* in Section 5 above. In contrast, all matrix verbs can occur with anaphoric *es*, provided the relevant information structural conditions are met (that is, the content of the subordinate clause is given or derivable).

This conclusion leads to the question of how sentences with anaphoric *es* can be syntactically analyzed. Pütz (1986) assumes that a subordinate clause related to anaphoric *es* is not extraposed (as with correlate-*es*), but right-dislocated. His syntactic analysis remains somewhat vague, in particular because the differences between extraposition and right dislocation are not as clearly observable as, for instance, the differences between movement to Spec-CP and left dislocation. Nevertheless, I believe there are good reasons for making such a distinction, including that the embedded clause is optional in the case of anaphoric *es* (as demonstrated above) and that sentences like (41a) show clear parallels to sentences with right-dislocated nominal elements, like (41b). In both cases, an anaphoric pronoun is coindexed with an element in the right periphery of the clause.

- (41) a. *dass PEter es behauptet, dass Marie wegfährt*
 that Peter it asserts that Marie goes-away
 b. *dass PEter sie gesehen hat, die Marie*
 that Peter her seen has the Marie

Altmann (1981) considers the function of right-dislocated phrases to be the resolution of an ambiguous pronominal reference. The same seems to hold for sentences like (41a). On the one hand, the use of anaphoric *es* indicates that the proposition expressed by the embedded clause is contextually given; on the other hand, this proposition is explicated again, thereby strengthening discourse coherence.¹⁸

I propose a syntactic analysis of sentences like (41a) in which the embedded clause is right-adjoined to the matrix-CP. This analysis corresponds to the fact that the postponed clause is – like the respective constituents in

¹⁷ The disregard for this distinction has led to a number of questionable conclusions in the literature, in particular with respect to the compatibility of certain matrix verbs with correlate-*es*. Even when the difference is acknowledged, as in Pütz (1986) and Sandberg (1998), it is not used to account for the whole range of relevant data. For a more extensive discussion of this topic see Sudhoff (2003, Section 3.2.3).

¹⁸ See also Averintseva-Klisch (2006) and Truckenbrodt (this volume). Averintseva-Klisch (2006) distinguishes between two types of right dislocation: *right dislocation proper* and *afterthought*. Constructions with anaphoric *es* seem to share properties with both types of right dislocation.

constructions traditionally analyzed as involving right dislocation – prosodically separated from the remainder of the sentence. I further assume that, in contrast to extraposition, the position of the embedded clause is not a derived one; that is, it has not moved from the middlefield to the right periphery of the matrix clause but is base-generated as an adjunct of the matrix-CP. This position corresponds to the pragmatics of this construction: The subordinate clause is, in fact, redundant; it is added to a syntactically and semantically complete sentence for discourse purposes only. If this reasoning is correct, the embedded clause is not an argument of the matrix predicate in these cases. This is a welcome consequence because it explains why nothing can be extracted from this clause, cf. (42).

- (42) **Womit_i behauptete es Peter, sie t_i verärgert zu haben?*
 what-with asserted it Peter her annoyed to have

Haider (2010) uses extraction data to argue against the possibility of covert correlates, that is, against the claim made in Section 5, that sentences with matrix verbs like *bedauern* always provide a structural position for correlate-*es* even if the correlate is not overtly realized. Haider (2010: 75) gives examples in which extraction is impossible in the presence of *es* but possible in its absence. His conclusion is that the embedded clause is not an argument of the matrix verb in the former case, which makes it opaque for extraction, and that it is an argument and thus transparent for extraction in the latter case. According to Haider, the possibility of extraction in the absence of *es* shows that there cannot be a covert correlate, which should also block movement out of the non-argumental embedded clause.

However, Haider's argument explains only part of the relevant data. The matrix verbs Haider uses in his examples are *erwarten* 'to expect' and *vermuten* 'to assume'. According to the hypothesis presented here, these verbs belong to the type of matrix verbs incompatible with correlate-*es*. Consequently, the (im)possibility of extraction depending on the presence of *es* comes as no surprise: If *es* is present, it must be an instance of anaphoric *es* filling the argument slot of the matrix predicate. The embedded clause, which is not an argument in this case, is opaque for extraction, as in (42). On the other hand, if *es* is absent, the embedded clause is an argument of the matrix verb, making extraction possible. Up to this point, Haider's explanation corresponds to the one given here. However, Haider's account fails to explain the fact that, in the case of matrix verbs classified as compatible with correlate-*es* in Section 5, extraction from the embedded clause is blocked even in the absence of an overt correlate, as in the examples in (31) and (32). Contrary to what is claimed by Haider, a covert correlate – in the terminology used here, a DP-shell containing the embedded clause – can block extraction. Of course, this is only the case if the matrix verb belongs to the type of verbs compatible with correlate-*es*.

Thus, two different configurations can be made responsible for the impossibility of extraction from the embedded clause: If the matrix verb subcategorizes for a complex DP containing the embedded clause, extraction is blocked by this DP-shell independently of the overt realization of correlate-*es*.¹⁹ If, on the other hand, an instance of anaphoric *es* is used (in combination with either type of matrix verb), the embedded clause is not an argument and, therefore, is opaque for extraction.

The assumption that the described use of anaphoric *es* is always an option also explains the contrast in (43), observed by Fabricius-Hansen (1980). (43a) is ungrammatical because an object clause associated with correlate-*es* cannot be fronted (see Section 4). (43b), however, is grammatical because *es* is an anaphoric pronoun here rather than a correlate. It does not refer to the initial adverbial clause but to an object clause that can be derived from this adverbial clause and, therefore, need not be realized explicitly.

- (43) a. **Dass Peter berühmt wird, bedauert es Marie.*
 that Peter famous becomes regrets it Marie
 b. *Wenn Peter berühmt wird, bedauert es Marie.*
 if Peter famous becomes regrets it Marie
 (*es = dass Peter berühmt wird*)

7. Dutch

In this section, the German data will be briefly compared to the corresponding phenomena in Dutch. The Dutch counterpart of correlate-*es* is *het*, an analysis of which is provided by Bennis (1987). Bennis largely distinguishes between cases in which *het* is present and cases in which it is absent, but he does not take into account the role of the matrix predicate and the effects of information structure. However, the relevant data indicate that the situation in Dutch is similar to the one in German. The examples in (44) and (45) show that the embedded clause associated with the correlate must be extraposed and that the correlate and the embedded clause do not form a constituent together at the surface.²⁰

- (44) a. *Pieter betreurt (het) dat Marie weggaat.* [Dutch]
 Pieter regrets (it) that Marie goes-away

¹⁹ However, see the preceding discussion concerning (33) and (34).

²⁰ (44c), the Dutch counterpart of (3b) above, is marked even if the correlate is absent because infinite embedded clauses, like finite ones, are only marginally possible in the middlefield in Dutch.

- b. *Dat Marie weggaat, betreurt (*het) Pieter.* [Dutch]
 that Marie goes-away regrets (it) Pieter
- c. *omdat Marie (*het) weg te moeten gaan (*het) betreurt*
 because Marie (it) away to must go (it) regrets
- (45) a. *Pieter heeft (het) betreurd dat Marie weggaat.* [Dutch]
 Pieter has (it) regretted that Marie goes-away
- b. *(*Het) dat Marie weggaat, betreurt Pieter.*
 (it) that Marie goes-away regrets Pieter

More importantly, (46) and (47) show that predicates may be distinguished with regard to the properties discussed in the above also in Dutch, and that a distinction must be made between “true” correlates of embedded clauses and anaphoric pronouns. As demonstrated by the extraction data in (48), the two types of matrix verbs – as in the German data – show a different behavior if the correlate is not overtly realized.

- (46) *Wat is er aan de hand?* [Dutch]
 'What's the matter?'
- a. *Pieter betreurt (het) dat Marie WEGgaat.*
 Pieter regrets (it) that Marie goes-away
- b. *Pieter zegt (*het) dat Marie WEGgaat.*
 Pieter says (it) that Marie goes-away
- (47) *Wie zegt dat Marie weggaat?* [Dutch]
 'Who says that Marie goes away?'
- PIEter zegt het/dat dat Marie weggaat.*
 Pieter says it/that that Marie goes-away
- (48) a. *??Waar_i betreurt Pieter haar t_i te hebben gezien?* [Dutch]
 where regrets Pieter her to have seen
- b. *Waar_i zegt Pieter haar t_i te hebben gezien?*
 where says Pieter her to have seen

Interestingly, the use of *het* as a correlate of an embedded clause in Dutch may be instructive for the distinction between *es* serving as a correlate and the so-called prefield-*es* in German, the function of which is to guarantee that the prefield is filled in verb-second clauses lacking a fronted constituent, cf. (49). Dutch has two different forms corresponding to these functions: *het* and *er*. The distribution of these forms is shown in (50). Bennis

(1987) analyzes *er* as a semantically empty adverbial used for information structural reasons only.²¹

- (49) a. *Es wird getanzt.*
there is danced
b. *Es steht ein Mann vor der Tür.*
there stands a man in-front-of the door
- (50) a. *Er/*Het wordt gedanst.* [Dutch]
it/there is danced
b. *Pieter betreurt het/*er dat Marie weggaat.*
Pieter regrets it/there that Marie goes-away

In the German passive sentences in (51), it is not immediately clear whether *es* is a correlate or belongs to the category of prefield-*es*. The Dutch counterparts of the sentences are given in (52). For (51a), two alternatives are available in Dutch. As shown in (52a), either the correlate *het* or the adverbial *er* can be used. In (52b), corresponding to the German sentence in (51b), the use of the correlate is impossible. This finding indicates that *es* in (51b) is not a correlate either but an instance of prefield-*es*, confirming once more that matrix verbs like *behaupten* are incompatible with correlate-*es*.

- (51) *Was ist los?*
'What's the matter?'
a. *Es wird bedauert dass Marie wegfährt.*
it is regretted that Marie goes-away
b. *Es wird gesagt dass Marie wegfährt.*
it is said that Marie goes-away
- (52) *Wat is er aan de hand?* [Dutch]
'What's the matter?'
a. *Er/Het wordt betreurd dat Marie weggaat.*
it/there is regretted that Marie goes-away
b. *Er/*Het wordt gezegd dat Marie weggaat.*
it/there is said that Marie goes-away

I will leave it at these preliminary remarks on Dutch. In particular, the behavior of the individual matrix verbs should be examined in much more detail.

²¹ In addition to this function, *er* has many other uses in Dutch. See also Leys (1979), den Besten (1983), Bayer & Suchsland (1997), and Sudhoff (2003, Section 2.7).

8. Summary and open questions

The hypotheses put forward in this paper can be summarized as follows. First, *correlate-es* is a functional D-head that takes a CP as its complement, forming a complex DP that serves as an argument of the matrix verb. Second, matrix verbs compatible with *correlate-es* subcategorize for such complex DPs, whereas matrix verbs incompatible with it embed their argument clauses directly. Third, extraposition of the subordinate clause in constructions with *correlate-es* is licensed by the *Principle of Unambiguous Binding* and is even enforced by the phonological properties of *es*. Fourth, independent of the compatibility of a given matrix verb with *correlate-es*, the sentential argument can be replaced by *es* acting as an anaphoric pronoun. Constructions with anaphoric *es* differ syntactically from those with *correlate-es* in that the subordinate clause (which is only optional) is realized as an adjunct to CP.

Two relevant questions have not been addressed here: The first is whether the classification of matrix verbs as belonging to one of the groups established in Section 5 corresponds to certain semantic properties of the verbs, that is, whether it is possible to predict the (in)compatibility with *correlate-es* from their meaning.²² The second question is how to deal with the fact that *correlate-es* is rarely obligatory in sentences with matrix verbs generally allowing it. If genuine optionality is to be excluded, one would have to look for differences in sentence meaning depending on whether *correlate-es* is actually realized.²³ The effects are subtle, if present at all, and a detailed investigation lies beyond the scope of this paper.

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²² For a discussion of some relevant accounts, see Sudhoff (2003, Chapter 4). More recent proposals include those of Fabricius-Hansen & Sæbø (2011) and Schwabe (this volume).

²³ For the semantics of *correlate-es*, cf. Zimmermann (this volume).

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