



# Giving content to expletive *es* in German

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**Abstract** The present paper proposes an alternative analysis of so-called expletive *es* in German. It is argued that *es* has semantic content that serves to anchor the utterance in the context. In particular, I argue that *es* constitutes a weak demonstrative element binding a situation argument. The account gets rid of the assumption that the relevant head in the clause is endowed with an EPP-feature and restores the original principle underlying it, namely the requirement that every predicate needs a contentful subject argument it can be predicated of. The account also explains in more depth the obligatory and optional occurrences of *es* and proposes that there are essentially two occurrences of *es* to distinguish in terms of their syntactic properties.

**Keywords** Expletives · EPP-feature · Weak and strong definite expressions · Anchoring to the context · Categorical and thetic judgements

## 1 Introduction

The present paper proposes an alternative analysis of so-called expletive *es* in German.<sup>1</sup> It is argued that *es* has semantic content that serves to anchor the utterance

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<sup>1</sup> The paper represents a further application of the approach developed in Hinterhölzl (2019), where the two ways of anchoring to the context are introduced and where it is argued that English *there* in existential sentences has content. The reader is referred to this paper for more elaborate discussions of the concepts of SL- and IL-predicates, the distinction between thetic and categorial judgements, and the relevance of the distinction between weak and strong definite determiners in the syntax of German.

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in the context. In particular, I argue that *es* constitutes a weak demonstrative pronoun binding a situation argument.<sup>2</sup>

The account gets rid of the assumption that the relevant head in the clause is endowed with an EPP-feature and restores the original principle underlying it, namely the requirement that every predicate needs a contentful subject argument it can be predicated of. The account also explains in more depth the obligatory and optional occurrences of *es* and proposes that there are essentially two occurrences of *es* to distinguish in terms of their syntactic properties:

A) *Es* can be inserted in [Spec,TP], in which case it binds a situation argument of Tense. In this function, *es* is in alternation with its null version and is compatible with the referential and the attributive uses of Tense, as discussed in Sect. 4.2 below. The *es* inserted in [Spec,TP] is to be identified with the quasi-argument of weather verbs and the subject argument of verbs in existential constructions, but also forms the basis of *Vorfeld-es* ('prefield-es'), as I will argue in detail below.

B) *Es* can also be inserted in the Specifier of a DP containing a CP selected by the matrix predicate. In this case *es* indicates—as a demonstrative pronoun with a weak definite interpretation—that the content of the CP is (uniquely) identifiable in the common ground (CG). In this use, *es* is in alternation with the strong demonstrative element *das*, which indicates that the content of the CP is given in the CG. The difference between what it means to be given or identifiable in the CG will be discussed in detail in Sect. 4. This section also discusses the differences in usage and interpretation of the weak and the strong versions of the definite determiner in German.

Both elements are licensed either in [Spec,AgrSP] or [Spec,AgrOP], depending on whether the embedded extended CP constitutes the subject or the object argument of the matrix predicate. The paper thus also adduces an argument for differentiating between [Spec,TP] and a position in which subjects are (Case-) licensed, a distinction that has been abolished in the Minimalist Program. We will see that without this distinction the different syntactic and interpretational properties of *es* cannot be accounted for.

## 2 The occurrences of *es* in German

Apart from its role as object personal pronoun referring to individuals with neuter gender, as is illustrated in (1), *es* is analysed as an expletive element that comes in three varieties: A) the so-called subject expletive that appears with verbs that lack an argument, as is illustrated in (2a–b), B) the so-called *Vorfeld-es* or V2-*es* that disappears if another constituent is topicalized, as is illustrated in (3a–b), and C) the so-called extraposition-*es* or correlate-*es* that is obligatory in case a subject clause is extraposed, as is illustrated in (4a), and appears optionally in cases of extraposition of an object clause, as is illustrated in (4b).

<sup>2</sup> I dedicate this paper to my wonderful daughter Elisa, who often physically distant from me is always on my mind.

- (1) Hans traf das Mädchen und küsste es. (object pronoun)  
*John met the girl and kissed it*
- (2) a. Es regnet. (subject expletive)  
*It rains*  
 b. Heute regnet es.  
*Today rains it*
- (3) a. Es scheint die Sonne. (V2-*es*)  
*It shines the sun*  
 b. Die Sonne scheint (\**es*).  
*The sun shines (it)*
- (4) a. Es ist eine Schande dass Peter Maria verlassen hat. (correlate-*es*)  
*It is a shame that Peter Mary left has*  
 b. Maria hat (es) verlangt, dass Peter kommt.  
*Mary has (it) requested that Peter comes*

The standard analysis of cases like (2a) and (3a) is that *es* lacks any semantic content and has a purely formal function, satisfying the so-called EPP-feature of the respective head, T in (2a) and C in (3a) (cf. Bayer and Suchsland 1997; see Biberauer and van der Wal 2014 for a survey of expletives in a variety of languages).

In this analysis the status of *es* in (4a–b) is unclear. Since it remains obligatory in embedded clauses, as is illustrated in (5), it differs from occurrences of V2-*es*. But it also differs from a pure subject expletive, as given in (2), since it disappears if the subject clause is topicalized, as is illustrated in (6a), or is replaced by the pronoun *das*, if the subject clause is given in the context, as is illustrated in (6b). For further discussion see Pütz (1975 [1986]).

- (5) a. weil \*(*es*) regnet  
*since it rains*  
 b. weil \*(*es*) eine Schande ist, dass Peter Maria verlassen hat  
*since it a shame is that Peter Mary left has*  
 c. weil (\**es*) die Sonne scheint  
*since it the sun shines*
- (6) a. dass Peter Maria verlassen hat ist (\**es*) eine Schande  
*that Peter Mary left has is it a shame*  
 b. Peter hat Maria verlassen. Das /?? es ist eine Schande.  
*Peter has Mary left. That / it is a shame*

(7a) and (7b) show that the correlate-*es* of object clauses behaves completely like the one of subject clauses with respect to topicalization and discourse antecedents (cf. also Sudhoff 2016). The optionality of the object correlate in (4b) thus must be related to an additional property of these verbs, as is argued for also in Sudhoff (2016).

- (7) a. dass Peter kommt, hat Maria (\*es) verlangt  
       that Peter comes has Mary it requested  
    b. Peter soll kommen. Das / ?? es verlangt Maria.  
       Peter should come. That / it requests Mary

I will argue below that verbs like *request* can either select a bare CP complement or a nominalized CP complement, with *es* occupying a position within DP. Pütz (1986) and Zimmermann (1993) have argued that *es* is the head of a D-projection to which a CP is adjoined. Müller (1995) argues that the relevant CP forms the complement of a nominal head. Finally, Sudhoff (2016) proposes that *es* is a D-head taking a CP complement on the basis that it behaves like a regular referential pronoun in its syntactic positioning in the middle field in German (and for its variants in Dutch). I will propose that *es* is a demonstrative pronoun (D-pronoun) that has a weak definite interpretation (to be clarified in Sect. 4.1 below) that occupies [Spec,DP].

The analysis of correlate-*es* as a D-pronoun opens up the possibility of an alternative analysis of all occurrences of so-called expletive *es*: if *es* is a D-pronoun combining with a CP, it should have the interpretation of an element that combines with properties of situations. Thus, I will argue that *es* does indeed have semantic content and has the same semantic core in the cases of (2–4). Its different syntactic properties follow, as I will argue below, from its being licensed in different positions in the clause. Putting aside *es* in (1) that constitutes the neuter version of the personal pronoun, I will argue that *es* as a weak D-pronoun binds a situation argument in all its uses in (2–4) and serves to anchor the utterance in the context (cf. Wiltschko 1998; Patel-Grosz and Grosz 2017 on the differences between personal pronouns and D-pronouns in German).

The paper is organized in the following way. In Sect. 3, I will present the two ways an utterance can be anchored in the context and discuss the special role that Tense and the *reference situation* play in this anchoring process. In Sect. 4, I will introduce the difference between weak and strong definite determiners with expressions denoting individuals and argue that this basic distinction can be applied to expressions denoting situations. Section 5 will then present the analysis of the different occurrences of *es* in German.

### 3 Anchoring an utterance in the context

In this section, I will briefly discuss the two ways of anchoring an utterance in the context. The reader is referred for further details and arguments for this approach to Hinterhölzl (2019). In particular, I will argue that categorial statements are anchored via an individual argument in the context, whilethetic statements are anchored via a situation argument in the context. A special role in this anchoring process is played by the reference situation to which we turn now.

### 3.1 The Role of the reference situation ( $s_R$ )

It is generally assumed that the clause is anchored by tense (and mood) to the context. Tense in this conception has the role of temporally situating the event expressed by the verb with respect to the utterance situation. For instance, in event semantics, the interpretation of (8a) can be specified as in (8b); that is, the sentence represents the claim of the speaker that there is an event of visiting in the past (at a time before the utterance situation) in which a certain individual, named John, figured as the agent of this event, and the individual's mother figured as the theme of the event (cf. Davidson 1967; Barwise and Perry 1983).

- (8) a. John visited his mother.  
 b.  $\exists e$  visiting( $e$ ) & past ( $e$ ) & agent ( $e$ , John) & theme ( $e$ , his mother)
- (9) a. John visited his mother. ( $e_1$ )  
 b. She was sick. ( $e_2$ )  
 c.  $e_1 < e_2 < s_U$ ,  $e_2 < e_1 < s_U$ ,  $e_1 \circ e_2 < s_U$   
 d. She was sick one week before/after.

As is illustrated in (9), this simple linking approach turns out to be insufficient, when considering sentences embedded in a discourse. For instance, linking the sickness event of John's mother in (9b) directly to the utterance situation would be compatible with the temporal readings specified in (9c):  $e_1$  could precede or follow or overlap with  $e_2$  as long as both of them precede  $s_U$  (the utterance situation). However, (9b) is naturally read as indicating that John's mother was sick during the time of his visit. This can be achieved via the introduction of a reference situation. According to Reichenbach (1947), Tense establishes a link between speech time ( $s$ ) and reference time ( $r$ ), as is illustrated in (10a). The event expressed by the verb ( $e$ ) is then situated with respect to  $r$  via Aspect, as is illustrated in (10b).

- (10) a. The meaning of tense: Past :=  $r < s$  ; Present :=  $r \subseteq s$   
 b. The meaning of aspect: Perfect :=  $e < r$  ; Imperfect :=  $e \subset r$

In the discourse above, we can assume that  $r$  is identified with a discourse antecedent that has been established in the previous context, namely the event of John's visit, and it is this event with respect to which the predicate is (temporally) situated in (9b) and that the temporal adverbial refers to in (9d). We may assume that a value for this reference situation ( $s_R$ ) is assigned in FinP in the C-domain and is taken up by Tense.

In the standard account, Tense is analysed as a predicate on points in time or intervals (cf. Stowell 1995; Giorgi and Pianesi 1997 and much subsequent work). In situation semantics (cf. Kratzer 1989, 2007), tense expresses a relation between the utterance situation and the Austinian topic situation. Elbourne (2013) proposes that the content of the speech act of an assertion is analysed as an Austinian proposition, that is, a pair of a topic situation about which the speaker intends to say

something, and a proposition, that is, a set of situations: if the topic situation is a member of the set, the speaker has spoken truly (cf. Austin 1961; Barwise and Perry 1983).

I propose to identify the topic situation with the reference situation that is introduced as an argument of Tense. The role of Tense can then be defined as given in (11). In the SAT-approach, the temporal interpretation of Tense is secondary. In this approach, temporal precedence, for instance, is derived from a precedence relation between situations, by referring to the running time of an eventuality ( $\tau$ ), as is illustrated in (12).

(11) Situation-based account of Tense (SAT):

Tense is a predicate that relates situation arguments

(12) Past ( $s_1, s_2$ ) =  $s_1$  precedes  $s_2$  = :  $\tau(s_1) < \tau(s_2)$

Since I will argue below that *es* essentially serves to anchor athetic judgment in the context, I will discuss the differences between categorial and thetic judgments and the role that SL- and IL-predicates play in the anchoring of an utterance in the following section.

### 3.2 Categorial and thetic judgements

In Hinterhölzl (2019), it is argued that the difference between the acceptability of weak subjects with SL-predicates and their unacceptability with IL-predicates, illustrated in (13), can be explained in terms of an anchoring mechanism (cf. also Kratzer 1995; Higginbotham and Ramchand 1997).

- (13) a. The man is drunk (strong + SL)  
 b. The man is intelligent (strong + IL)  
 c. sm men are drunk (weak + SL)  
 d. \*sm men are intelligent (weak + IL)

The idea that I like to argue for is that statements can be anchored to the context via an individual argument that is either given or identifiable in the context. In this case, the judgement is a categorial one, presenting—via a definite description—an individual that is characterized by the predicate (cf. Brentano 1874; Kuroda 1972; Ladusaw 1994). Alternatively, statements can be anchored to the context via a situation argument that is given or identifiable in the context. In this case the judgment is a thetic one: it presents—via a definite description, more specifically via  $s_R$ —a situation that is characterized by the predicate. In this way, a stage-level predicate like *drunk* can be anchored either via its definite individual argument, as in (13a) or via the (silent) reference situation in (13c). Likewise, an individual-level predicate can be anchored via its definite individual argument to the context, as in (13b). What fails in (13d) is the appropriate anchoring of the predicate via a definite reference situation.

In Hinterhölzl (2019), this is explained in the following way: since the non-specific indefinite subject in (13d) cannot anchor the predicate to the context, the latter must be anchored via its situation argument in time and space. Since Hinterhölzl (2019) follows Chiercha (1995) in assuming that IL-predicates do have an event argument, which, however, cannot be localized in space, the anchoring of the predicate in (13d) fails.

The last section briefly discussed the difference between weak and strong quantifiers including definite DPs. Note that definite DPs, given their behavior in environments giving rise to a definiteness effect (cf. Milsark 1974; Safir 1982; Hazout 2004), count as strong quantificational expressions. The following section is dedicated to differences between two types of definite DPs, namely the differences between weak and strong definite expressions.

## 4 Weak and strong definite elements in German

Since I will argue below that *es* is a demonstrative element with a weak definite reading and *das* constitutes its strong counterpart, I will briefly outline what is assumed in the literature about the semantic distinction between the weak and the strong determiner in German. In this way we will be able to see the similarities but also be able to better appreciate the differences in the semantic properties and in usage between our two D-pronouns and the definite determiner in German, whose proper characterisation has received a lot of attention in recent years, especially in the studies by Schwarz (2009, 2012).

### 4.1 Weak and strong definite determiners in German

There are basically two types of approaches to the meaning of the definite determiner. A) Uniqueness-based approaches assume that the definite determiner indicates that the referent of a definite DP constitutes the unique individual satisfying the nominal predicate in the relevant domain. This is also called the attributive use of the definite determiner, and its account goes back to Russell (1905) and Frege (1892), depending on whether the uniqueness condition is taken to be asserted or is part of the presupposition of the definite determiner (cf. also Strawson 1950). For instance, in (14), the definite determiner can be taken to indicate that the unique sun in our planet system is shining today. B) Familiarity-based approaches assume that the definite determiner indicates that the referent of a definite DP is given in the context of its use. For instance in (15), the definite determiner is used to pick out an individual that has been introduced in the previous utterance. This is often called the anaphoric or referential use of the definite determiner. Note that the uniqueness property is neither a sufficient nor a necessary condition for the anaphoric use of the definite determiner, given that there may or may not be other men in the room in the situation described in (15).

(14) (out of the blue): The sun is shining today.

(15) A man and a woman came into the room. The man wore a green hat.

The question with the former approach is how one can arrive at a systematic account of the domain restriction in which the uniqueness property of the definite article is taken to hold. The question with the latter approach is how context givenness should be defined.

It will be crucial for the account to be developed in the following section to note that there have been proposed two notions of familiarity by Roberts (2003): strong familiarity means that the referent of the definite DP is given in the preceding discourse; weak familiarity means that the referent of the definite DP is given in (derivable from) the CG without necessarily being mentioned in the previous discourse. We will come back to this point when discussing the (de)-accentuation of the nominal predicate in the typical uses of the definite determiner in Sect. 4.2.

Both approaches are faced with the question of how each of them can be extended to accommodate also the cases that are taken as prime argument for the other approach. In an alternative to a unified account, Schwarz (2009) argued on the basis of a grammatical distinction of definite determiners in German that two types of definite determiners should be distinguished in their interpretation.

## 4.2 Two types of definite determiners in German(ic) dialects

There is evidence that these two uses of the definite article, illustrated in (14–15) above, are based on a distinction in grammar. Several Germanic languages/dialects have long been known to have two full article paradigms (cf. Heinrichs (1954) for the Rhineland dialects, Scheutz (1988) and Schwager (2007) for Bavarian, and Ebert (1971) for the Frisian dialect of Fering). In Standard German, the distinction becomes apparent in certain preposition-article combinations, as is illustrated in (16).

- (16) a. Hans ging in-s Haus. (D-weak)  
       *John went into-the house*  
       b. Hans ging in das Haus. (D-strong)  
       *John went into the house*

It seems that we have to deal with two different types of definite determiners that also differ in their semantics. Schwarz (2012) argues convincingly that the weak definite determiner is subject to a uniqueness requirement, while such a requirement is irrelevant for the strong definite determiner. The reader is referred to Schwarz (2012) for the details.

I will not adopt the account of Schwarz (2009, 2012). Instead, I will argue for an account in which the weak and strong determiner only differ in whether the uniqueness condition holds in the evaluation situation and is part of what is asserted by the determiner, or in the antecedent situation and is part of what is presupposed by the determiner, as will be shown below.



However, I will build on an observation by Schwarz (2009) that will become important also for the correct characterization of our D-pronouns: At a first glimpse, it seems that while the weak determiner can refer to entities that are new to the discourse, the account of the strong determiner should be built on its discourse-anaphoric nature (strong familiarity). But in discussing the role of the weak and the strong determiner in bridging relations (cf. Schwarz 2009), it turns out that both notions of familiarity are relevant for the use of the strong determiner, as is illustrated in (17) and (18) below.<sup>3</sup>

- (17) Der Kühlschrank war so groß, dass der Kürbis problemlos *im*  
*The fridge was so big that the pumpkin without-problems in*  
 Gemüsefach untergebracht werden konnte.  
*the crisper placed have could*  
 ‘The fridge was so big that the pumpkin could easily be stowed in the crisper’

- (18) Das Theaterstück missfiel dem Kritiker so sehr, dass er in der  
*The theater-piece disliked to.the critic so much that he in his*  
 Besprechung kein gutes Haar an dem Autor ließ.  
*review no good hair on the author left*  
 ‘The play displeased the critic so much that he tore the author to pieces in his review’

(17) confirms that the weak determiner introduces a new discourse referent that is identifiable in terms of a part-whole relation that holds between a discourse given element and the referent of the definite DP. But (18) shows that the strong determiner is also compatible with a similar scenario and can introduce a new discourse referent that stands in a producer-product relation to a discourse-given entity. How can we then define the meaning of the strong determiner and characterize the difference in meaning to the weak variant?

First note that the strong definite DP in (18), like the weak one in (17), receives stress/is accented, while the head noun in the pure discourse-anaphoric uses of the strong determiner is necessarily deaccented. This means that there is a division of labor between the use of the strong versus weak definite determiner and the (de-) accentuation of the (nominal) predicate, with the accentuation pattern indicating whether the referent of the definite DP is given or new in the discourse.

This also means that the referential use of the definite determiner in the sense of Donnellan (1966) constitutes a combination—the prototypical one—of the use of the strong determiner and the use of de-accenting of the nominal predicate, while the attributive use of the definite determiner in the sense of Donnellan involves

<sup>3</sup> Schwarz (2009) also points out cases in which weak definites allow for a discourse anaphoric interpretation. This is the case when an identified referent becomes the main protagonist of a story. In this case, the weak DP is de-accented. It is possible that the evaluation situation in this case constitutes the entire story, rather than specific sub-situations by which the story advances. I will leave this issue for future research.

combining the weak definite determiner with a stressed nominal predicate (cf. also Simonenko 2014). In (19) (adopted from Umbach 2002),<sup>4</sup> I show how article meaning and (de)-accentation combine to arrive at a complex DP-meaning. (In (19) stressed syllables are indicated by capital letters.) (19) also serves to highlight the effect of applying the uniqueness condition as a presupposition in the meaning of the strong determiner.

- (19) Hans hat sich neulich ein kleines Häuschen am Land gekauft.  
*Hans has himself recently a small house in.the country bought*
- a. Nächste Woche will er die alte HÜTTE abreißen  
*Next week wants he the old shed tear down*  
 (attributive use)
- b. Nächste Woche will er die alte Hütte ABreißen.  
*Next week wants he the old shed down.tear*  
 (referential use)
- 'Next week he wants to tear down the old shed'

In (19a) we learn that this country house has a (garden-) shed that John wants to tear down. In (19b) we learn something different, namely that the small house in the countryside is a (rotten) shack and that is why John wants to tear the house down. Thus, in (19a) a new discourse referent with the relevant property is introduced, while in (19b) *the old shed* is identified with *the small house* as the only way to satisfy the strong determiner's presupposition that there is a unique object in the previous discourse that satisfies the description *old shed*. Since sheds and houses are normally different objects, the predicate *old shed* is reinterpreted as providing a (negative) connotation of the given discourse referent.

Given these observations, I propose the following definition of the meaning of the strong determiner. In particular, I propose that its meaning differs only minimally from that of the weak determiner and that the uniqueness condition is also relevant in the use of the strong definite determiner, but it is taken to hold true (already) in the antecedent situation. In other words the uniqueness condition is interpreted as a presupposition with the help of which the antecedent of a strong definite DP is discriminated in the previous discourse or in the common ground.

<sup>4</sup> In standard German the morphological difference between the strong and the weak version of the determiner is not visible. In my Austrian dialect, the distinction is evident, as is shown in (i).

- (i) a. neksti Woacha wü ea d(i) oiti HITN oraissn (attributive use) (Upper Austrian)  
*next week wants he the<sub>weak</sub> old shed tear down*
- b. neksti Woacha wü ea dei oiti Hitn Oraissn (referential use)  
*next week wants he the<sub>strong</sub> old shed tear down*

This difference can be expressed formally as given (20). In (20) conditions that are used as presuppositions are underlined.

- (20) a.  $\llbracket D \rrbracket = \lambda P \exists s \text{ s in CG} . \lambda x P(x, s)$  (weak definite determiner)  
 b.  $\llbracket D \rrbracket = \lambda P \underline{\exists s \text{ s in CG}} \ \& \ \underline{\lambda x \text{ in CG}} \ \& \ P(x, s) . x$  (strong definite determiner)

In (20), I assume differently from Schwarz (2009) that the situation pronoun is introduced as an argument of the noun. The idea is that entities are always individuated with respect to a specific situation. In Hinterhölzl (2019), I thus argue that situation arguments are also present in indefinite noun phrases and are identified with the event argument of the verb, while the situation argument of definite noun phrases is always interpreted with respect to a situation given in the discourse.

Both determiners are anaphoric in the sense that they presuppose the presence of an individuating situation in the CG. The weak determiner then asserts that a unique individual with the relevant property is part of the given situation. The strong determiner does not only presuppose the individuating situation but also presupposes that an individual has already been uniquely identified in the CG. The latter condition is straightforwardly fulfilled in the anaphoric use of the strong determiner, with de-accentuation of the predicate specifying that this entity has already been identified in the previous discourse (D) with  $D \subset CG$ .

In the case in which the predicate is accented and the referent is taken to be new to the discourse, the relevant presupposition that there is a unique individual in CG that has the relevant property in some situation given in the CG can be taken to be fulfilled in the context of (18) above, since the presence of a play in  $s_1$  in the CG implies the presence of an author in  $s_2$  ( $s_2$  prior to  $s_1$ ) in the CG. Thus, the use of the strong definite determiner in (18) is legitimate, even if the relevant DP is taken to introduce a new discourse referent in the context.

In the following section, I will argue that the same basic distinction can be applied to D-pronouns that bind situation arguments.

### 4.3 Weak and strong demonstratives in descriptions of situations

It is well-known that demonstrative pronouns can have a deictic and a discourse-anaphoric use in language. *Das* and *es* are such pronouns which formally represent the strong and the weak version of an element that combines with descriptions of situations. Differently from the strong definite determiner, however, *das* only combines with propositions (as properties of situations) that are de-accented or elided due to their discourse-givenness, but it cannot be used to refer to a proposition that is only implied in the CG, as is illustrated in (21). It seems that a proposition implied in the CG has to be activated before it licenses the use of a strong demonstrative pronoun. The embedded clause in (21c) has to be accented and is incompatible with the strong demonstrative element. Thus, *das* is incompatible with introducing a new discourse referent. In this case the weak element *es* has to be used, as is illustrated in (21d).

- (21) a. Hans hat Maria besucht. Das ~~dass Hans Maria besucht hat~~ hat mich überrascht.  
*Hans has Mary visited. That (that Hans Mary visited has) has me surprised*
- b. Context: Speaker and hearer who have a common friend Hans know that their friends (including Hans) have visited Mary
- c. ??Das hat mich überrascht dass Hans Maria besucht hat.  
*That has me surprised that Hans Maria visited has*
- d. Es hat mich überrascht dass Hans Maria besucht hat.  
*It has me surprised that Hans Maria visited has*  
 'It/that has surprised me that Hans has visited Maria'

Thus, I will assume that *es* as a weak demonstrative element is compatible with new and given discourse referents, but since its alternative *das* is only compatible with discourse-given propositions, there is a Q-based implicature (cf. Horn 1984) that correlate-*es* combines with propositions new in the discourse.

However, this implicature can possibly be cancelled by de-accenting the relevant clause (induced by the context or the semantics of the matrix predicate). Below we will see that this happens when the alternative element *das* is given an additional interpretation and the division of labor between *es* and *das* serves another purpose.

In conclusion, we know that definite determiners have been grammaticalized from demonstrative pronouns; it does hence not come as a surprise that the basic distinction between elements with a strong and a weak reading is present in the original system.

As far as the D-pronoun that binds the reference situation of the Tense predicate is concerned—and that is normally silent and is only spelled-out as a means of last resort, as I will argue below—I propose that there is no alternation between a strong D-pronoun and a weak D-pronoun, since *es* is compatible with both readings, the referential and the attributive one, and the choice between the two readings depends on the aspectual and *Aktionsart* properties of the verbal stem in Tense.<sup>5</sup>

Let us therefore first note that the distinction between the referential and the attributive use is also present in the use of the Tense predicate that—as I have argued above—expresses a relation between situations and denotes the reference situation that in cases of embedded Tense, is either identified with the matrix event or constitutes a new situation identified with respect to the event of the matrix verb, as is illustrated in (22).

- (22) John said that Mary left
- a. Mary left at the time John said that she left. (referential use)
- b. Mary left at a time prior to John's saying. (attributive use)

The standard account of this difference in interpretation involves the presence of two different temporal predicates: *present* ( $s_1 = s_2$ ) in (22a) that is spelled out as *past*

<sup>5</sup> This means that only one D-pronoun is sufficient. Why German uses the weak version, but Icelandic the strong version (cf. Booth 2018) is probably due to a differential historic development in the two languages. In particular, Fuß and Hinterhölzl (2023) show that *es* appears first in contexts in which it replaces the demonstrative pronoun *thó* in its attributive use at the beginning of the Middle High German period.

for reasons of temporal agreement and real *past* ( $s_1 < s_2$ ) in (22b). This account figures under the name Sequence of Tense rules.

An alternative is to assume that the reference situation argument of Tense is bound by a silent demonstrative element. In the referential use, the embedded tense predicate presupposes the presence of a past Tense predicate whose reference situation it picks up, while in the attributive use, the embedded Tense predicate introduces a new reference situation that is located in the past with respect to the matrix event.

Note that this distinction is also relevant in the interpretation of Tense across sentences. For instance, the example in (9b) above involves a referential use of Tense. The account of a contentful element *es* in [Spec,TP] is crucially based on this account of the role of Tense in the discourse and in a complex sentence.

While the first argument of the Tense predicate in embedded clauses is bound by the matrix event, it is deictic, referring to the utterance situation, in main clauses. In the following, I will argue that Tense in matrix clauses always involves the presence of a weak demonstrative element (silent or overt) binding its reference situation argument.

First, I would like to point out that the choice between the two readings is determined by aspectual/*Aktionsart* properties of the relevant verb: a non-dynamic verb (denoting a state or an activity) goes hand in hand with a referential interpretation, while a dynamic verb (denoting an achievement or an accomplishment) gives rise to an attributive interpretation. As we have seen above in (9b), a stative predicate triggers the referential use of Tense, while as is illustrated in (23), a dynamic predicate involves the attributive use of Tense: the dynamic event  $s_2$  is interpreted as non-overlapping with event  $s_1$ .<sup>6</sup>

(23) A man entered the room ( $s_1$ ). He asked for information ( $s_2$ ).

Given these observations, the question arises of how can we then describe the meaning contribution of a weak demonstrative element to the interpretation of Tense. Proposing a weak demonstrative element as binding the reference situation of matrix Tense means that this Tense predicate presupposes the existence of a given situation in the CG. This condition is trivially fulfilled by the presence of the utterance situation. Furthermore, it then asserts that there is a uniquely identifiable (reference) situation that stands in the relevant temporal relation to the utterance situation. How is such a situation uniquely identifiable by the information contained in the Tense predicate?

We have seen above that it is the information contained in the verbal root (that adjoins to the Tense morpheme in T) that decides about the referential or attributive nature of the relevant reference situation. But how is the relevant reference situation discriminated in the discourse? Typically, there are various reference situations

<sup>6</sup> Here and below, I am ignoring the effect of Aspect: the reference situation is not directly identified with the event argument of the verb, but Aspect specifies a relation between the two, ultimately anchoring the predicate to the context (via the utterance situation). In most cases, the event denoted by verb will simply be contained in the reference situation.

present in the discourse, more salient and less salient ones. But there does not seem to be a grammatical device present to refer to more or less salient reference situations. Therefore, I propose that it is hard-wired in the system that reference is always made to the most salient reference situation in the discourse, called  $s_R$  in (24) below. The meaning of *es* in [Spec,TP] together with the meaning of Tense can then be specified as given in (24).

- (24)  $\llbracket es \rrbracket = \lambda P \exists s_U s_U \text{ in } CG . \iota s T (s, s_U)$  (with  $P = T+v$ ); identification of  $s$ :  
 if  $\exists s_R s_R \text{ in } CG$  then  $s = s_R$  if  $v$  is non-dynamic, but  $s \neq s_R$  if  $v$  is dynamic.

Thus, there is again a division of labor at work, this time between the semantics of the D-pronoun, the semantics of the verbal stem, and discourse pragmatics. The semantics of the D-pronoun only asserts that there is a situation uniquely identifiable in the context. If the verbal predicate denotes a non-dynamic event, this unique situation is identified with the most salient reference situation (referential use); if the verbal predicate denotes a dynamic event, the unique situation denoted by Tense is a new situation that is to be taken to directly follow the most salient reference situation (attributive use). The latter fact arguably follows as a conversational implicature from the Gricean Maxim of manner that has it that the sequence of their report in the discourse follows the sequence of events in the reported reality.

In conclusion, I argue that *es* is omnipresent in the grammar of modern standard German, not because it is semantically empty, but because it has a very general meaning and it is multi-functional: it can bind the situation argument of an embedded clause, it can bind a situation argument of Tense, it can function as an argument of certain predicates, as we will see below, and finally, it can anchor the proposition to the context.

## 5 Towards a unified analysis of so-called expletive *es*

While we argued above that statements can be anchored to the context via situations in so-calledthetic judgments, it is essential to point out that these anchors must be definite descriptions of situations. This holds for sentential arguments of the main predicate where the containing statement is anchored via the weak or strong D-pronoun (*es* or *das*) of the embedded proposition. But this also holds if a statement is anchored via the reference situation of its Tense predicate. This is where *es* in [Spec,TP] enters the game. Note, however, that the demonstrative element that binds the reference situation of Tense can be silent or expressed by *es*. Since there are two ways of anchoring a statement to the context via the reference situation of Tense, it will be an important point in the alternative account to describe and explain when the binder of the reference situation can be silent and when *es* can or must appear. We will start out the discussion of the true nature of expletive *es* in German with discussing the role of correlate-*es*.

### 5.1 Correlate-*es* in object clauses

As we have seen above, *es* disappears if the correlate-CP is topicalized and it is replaced with *das*, if the content of the correlate-CP is given in the context. This is illustrated again in (25).

- (25) a. Hans hat es verlangt [dass Maria eine Aussage macht].  
*Hans has it requested that Maria a statement makes*  
 b. [Dass Maria eine Aussage macht] hat Hans (\**es*) verlangt.  
*That Mary a statement makes has Hans (it) requested*  
 c. Maria soll eine Aussage machen. Das hat Hans verlangt.  
*Maria should a statement make. That has Hans requested*

If correlate-*es* were a D-head, as proposed by Sudhoff (2016), then it could be straightforwardly analyzed as a weak definite determiner that combines with a property of situations, that is, the set of situations denoted by the embedded CP in (25a). In (26a) the embedded clause is taken to denote a proposition which is standardly analysed as denoting a set of situations, as is indicated in (26b). The denotation of the entire DP is given in (26c), and (26a) displays the relevant syntactic analysis.

- (26) a. [<sub>DP</sub> [<sub>D</sub> *es* [<sub>CP</sub> dass Maria auch Peter eingeladen hat]]]  
 b. CP =  $\lambda s$ . Mary has invited also Peter in *s*  
 c. DP =  $\iota s$ . Mary has invited also Peter in *s*

The structure in (26a) corresponds to the structure proposed by Kastner (2015) for selected presuppositional complements with *es* lexicalizing the silent definite determiner  $\Delta$  in his analysis, as is illustrated in (27).

- (27) Bill remembers/denies that John stole the cookies.  
 [<sub>VP</sub> remembers/denies [<sub>DP</sub>  $\Delta$  [<sub>CP</sub> that [<sub>IP</sub> John stole the cookies]]]]

Kastner (2015) takes up the three-way classification of Catell (1978) of verbs taking CP complements and argues that *non-stance* (factive) verbs like *regret*, *know*, *remember*, etc. and *response-stance* verbs like *deny*, *accept*, *agree*, *admit*, etc., in contradistinction to *volunteered stance* verbs like *think*, *suppose*, *assume*, *claim*, etc., can take DP complements. In line with Honcoop (1998,165) who states that *deny* presupposes that its complement expresses claims held by someone which are part of the common ground, Kastner (2015) calls the first two classes presuppositional verbs.

The problem with the structure in (26a) is that the parallel clause in (27) gives rise to only weak islands, while CP-complements headed by *es* in German give rise to strong islands, as is illustrated in (28).

- (28) \*Was hat Peter es verlangt, dass Maria sagen soll.  
*What has Peter it requested that Maria say should*  
 ‘What did Peter request (it) that Mary should say?’

For overt definite presuppositionals, Kastner (2015) proposes the structure in (29), where the embedded clause is not analysed as a complement, but as an adjunct modifying the NP. It is this structure that gives rise to strong island violations.

- (29) a. Bill remembers/denies the fact/claim that John stole the cookies.  
 b. [<sub>VP</sub> remembers/denies [<sub>DP</sub> the [<sub>NP</sub> [<sub>NP</sub> fact/claim] [<sub>CP</sub> that [<sub>IP</sub> John stole the cookies]]]]]

This raises the question of whether (25a) should be analysed similarly to (29b) with the nominal predicate remaining silent. But what kind of silent nominal do we have to assume? If the silent nominal is akin to the English noun *claim* in (29b), then it should have the denotation of a result noun derived from the verb *claim*. Moulton (2009) convincingly argues that the nominal *claim* is to be analysed as a predicate on things that represent propositional content. Kratzer (2006) argues that verbs like *believe* and *claim* have an internal argument that refers to the kind of things that can be believed and claimed—that is, that have propositional content.

To maintain the assumption that *es* binds a situation argument in all of its occurrences, I will assume that individuals that have propositional content are simply situations, namely situations that are propositionally specified, and that I will call  $s_c$  (c for content).

But then the question arises what is a propositionally specified content individual? An anonymous reviewer asks the important question what, if these D-pronouns can combine with (silent) nominals, prevents them from combining with regular nouns like \**es Kind* (‘it child’). This is no problem, since we assume that *es* needs to bind a situation argument and not an individual argument. The question becomes considerably trickier why *es* cannot combine with nominals that arguably have content arguments like the result noun *claim* in English or *Behauptung* in German: \**es Behauptung* (‘it claim’). My intuition is that the difference between a content individual and a propositionally specified content individual is like the difference between a variable (of a certain type) and a constant (rigidly) denoting an individual of a certain type.<sup>7</sup>

<sup>7</sup> The difference between a content individual and a specified content individual in my opinion is like the difference in (i.a). The parallel in (i.a–b) implies that D-pronouns combine with names of state of affairs or specified content individuals, while the regular determiner combines with descriptions of content individuals. Like the referent of ‘the mayor’ is variable and the referent of ‘John’ is constant, ‘the claim’ can refer to different content individuals, but the expression ‘that Mary is sick’ in (i.b) behaves like a proper noun (name) that rigidly denotes a particular state of affairs.

- (i) a. The mayor (of New York) is John  
 b. the claim is that Mary is sick (the claim is that)



Kastner (2015) argues that response predicates presuppose that both the previous claiming and the content of the claim are discourse-given. In our analysis of the distinction between *das* and *es*, there should be a difference: *es* as a weak D-pronoun only requires that a previous act of claiming is given in the CG (cf. (30c)), where the existence of a claiming in the CG necessarily implies also the existence of the content of the claiming in the CG. The meanings of *es* and *das* with their differential presuppositions are given in (30c) and (30d), respectively. In (30b), the CP is interpreted as specifying the content of  $s_c$ , and the predicate *claiming* ( $e, s_c$ ) is interpreted as  $e$  is an act of claiming of  $s_c$ .

- (30) a. Hans hat es verneint, dass Maria krank war.  
*Hans has it denied that Maria sick was*
- b.  $[\text{VP verneint} [\text{DP } es] [\text{NP } \textit{claiming} (e, s_c)] [\text{CP dass Maria krank war}]]]$
- c.  $[[es]] = \lambda P (e, s_c) \exists e \ \& \ \exists s_c \text{ in CG \& } P(e, s_c) . \iota s_c P (e, s_c)$
- d.  $[[das]] = \lambda P (e, s_c) \iota s_c \text{ in D \& } \exists e \text{ in CG \& } P (e, s_c) . s_c$

But that the claiming and its content are part of the CG does not necessarily imply that the content of the claim has been mentioned in the previous discourse, as is illustrated in (31b). However, *das* as a strong D-pronoun also requires that the content of the claim ( $s_c$ ) is given in D ( $D \subset CG$ ), as is illustrated in (31a) and reflected in (30d).

In other words, I propose to distinguish between the presence of the claiming as a speech act or discourse move in the CG and the presence of the content of the claim in D. What is then actually always presupposed by, say, *response stance* verbs and indicated by *es* is the existence of a previous discourse move to which the matrix verb expresses a response. This means that *es* in (30) presupposes the silent nominal predicate *claiming*—in a similar vein as a deaccented nominal predicate with the definite determiner is taken to be presupposed—with asserting only that the content of  $s_c$  is to be specified by CP.<sup>8</sup>

- (31) a. Hans hat behauptet dass Maria krank ist.  
*Hans has claimed that Maria sick is.*  
 Das / \*es verneint Peter.  
 That / it denies Peter.
- b. Hans hat behauptet und Peter verneint es / \*das dass  
*Hans has claimed and Peter denies it / that that*  
 Maria krank ist.  
*Maria sick is*

<sup>8</sup> An anonymous reviewer asks why it is not possible to spell-out the silent noun in cases like (30). This is possible, but the somewhat cumbersome example in (i) shows that the overt variant with ‘claiming’ does not refer to the content of the claim but to the act of claiming.

(i) His claiming that Mary was sick lasted several minutes.

To get this to work formally, I assume with Kratzer (2006) that attitude predicates require a logophoric complementizer in the CP complement that introduces centered alternative worlds and that the verb *claim* and the deverbal noun *claiming* compose with their CP-complement via the operation *Restrict* (cf. Chung and Ladusaw 2004).

A final point in the syntactic analysis is the question whether *es* and *das* as demonstrative pronouns should or can be assumed to occupy the same position as a (definite) determiner. For reasons of space, I will—without any discussion—simply adopt the analysis in (32), since it allows a) for a relatively simple account for CP-extrapolation by sub-extraction of the D-pronoun and b) for a syntactically unified analysis of correlate-*es* and expletive subject-*es*, as I will argue in Sect. 5.3 below.

(32) [<sub>DP</sub> [<sub>DP</sub> *es* / *das*] [<sub>D</sub> D<sup>0</sup>] [<sub>NP</sub> *claiming*] [<sub>CP</sub> *dass* *Maria* *auch* *Peter* *eingeladen* *hat*] ]]

Moving on to the other presuppositional verb class, similar considerations apply to factive verbs. Factive verbs presuppose that the content of their embedded clauses is held to be true in the CG, but this does not imply that the content is also discourse-given. I cannot go into the complex issue of factivity in any detail in this paper, but simply propose that the interpretation of factive verbs can be given an account parallel to the one of response verbs, as is indicated in (33) with *unc-claiming* ( $e, s_c$ ) meaning that  $s_c$  is uncontroversial in the CG of speaker and hearer.<sup>9</sup>

(33) a. Hans                    bedauert *es*    *dass* *Maria*    *krank* *ist*.  
       *Hans*                    *regrets*    *it*    *that* *Maria*    *sick*    *is*  
 b. [<sub>VP</sub> *bedauert*] [<sub>DP</sub> *es*] [<sub>NP</sub> *unc-claiming* ( $e, s_c$ )] [<sub>CP</sub> *dass* *Maria* *krank* *war*] ]]

We can ask for the content of a regret in the presence of *es*, as is indicated in (34a), since *es* only presupposes that there is a claiming to the end that its content is true in the CG. Only if the truth of the embedded clause is in question, *es* is excluded, as indicated in (34b), and the verb appears with a *bare* CP complement in (34c).<sup>10</sup>

(34) a. Was bedauert Hans? (*What does John regret?*)  
       Hans                    bedauert    *es*,    *dass* *Maria* *krank*    *ist*.  
       *Hans*                    *regrets*    *it*    *that* *Maria* *sick*    *is*  
 b. Hans                    bedauert    *es*    *dass* *Maria* *krank*    *ist*.  
       *Hans*                    *regrets*    *it*    *that* *Maria* *sick*    *is*

<sup>9</sup> As is evident now, I am using silent nominal structure in the complements of these verbs to represent (part of) their presuppositions. Another way consists in Kratzer's approach (2006) of distinguishing different types of complementizers. The data in (34), however, shows that both kind of representations may be needed: both nominal structure and a special factive complementizer.

<sup>10</sup> In (34c) the propositional content must be uncontroversial for the attitude holder. This is probably due to the contribution of the factive complementizer selected by emotive factive verbs. The nominal structure above then indicates that the propositional content of the factive CP is also uncontroversial in the CG.

% Dabei	geht	es	ihr	ganz	gut.
<i>Thereby</i>	<i>goes</i>	<i>it</i>	<i>her</i>	<i>quite</i>	<i>well</i>
c. Hans	bedauert	dass	Maria	krank	ist.
<i>Hans</i>	<i>regrets</i>	<i>that</i>	<i>Mariasick</i>	<i>is</i>	
Dabei	geht	es	ihr	ganz	gut.
<i>Thereby</i>	<i>goes</i>	<i>it</i>	<i>her</i>	<i>quite</i>	<i>well</i>
'Hans regrets (it) that Mary is sick, while in fact she is quite well'					

Before closing off this section on correlate-*es* in object clauses, I would like to note that there is an additional factor at play that may confound the clear division of labor between the use of the weak and the strong D-pronoun. It is possible to use *es* discourse-anaphorically to indicate that the complement clause does not constitute the aboutness topic of the utterance. In this case the strong D-pronoun is interpreted as indicating that the antecedent clause in fact does constitute the Aboutness topic of the utterance, with *es* indicating that the content of the CP counts as a Familiar topic in the terminology of Frascarelli and Hinterhölzl (2007). This is illustrated in (35).

- (35) Speaker A: Maria ist krank. (*Maria is sick*)  
 Speaker B: a. Hans bedauert [~~das dass Maria krank ist~~].  
               *Hans regrets that*  
 b. ?Hans bedauert [~~es dass Maria krank ist~~].  
               *Hans regrets it*  
 c. Hans bedauert es, Peter aber nicht.  
               *Hans regrets it, Peter but not*

This happens when *es* occurs alone, that is to say, when the embedded CP is elided. The elision of the embedded CP, similar to its de-accentuation is thereby interpreted as triggering the referential reading of the D-pronoun and the Q-based implicature that the antecedent of *es* is not in D (but only in the remnant CG) is cancelled since the opposition between *es* and *das* in these cases arguably serves another purpose. It is my intuition that the speaker uttering (35a) continues to talk about Mary's sickness, while the speaker uttering (35b) changes the Aboutness topic and continues to talk about the subject referent *Hans*, which is slightly unmotivated hence the question mark in (35b). (35c) in which the continuation indicates the use of the subject as a contrastive topic motivates the change of topic and improves the sentence.

I will leave this issue for further research and turn to cases where the correlate-CP constitutes the subject of the matrix predicate in the following subsection.

## 5.2 Correlate-*es* in subject clauses

As we have seen in the beginning of the paper in (6) and (7), correlate-*es* in subject clauses behaves in the exactly the same way as in object clauses. Moreover, if the clause is topicalized, *es* disappears, and *es* is replaced with *das*, if the content of the correlate-CP is given in the discourse.

As we have argued above, if the speaker uses *es* and the embedded CP is not de-accented, *es* indicates the introduction of a new entity in the discourse, in this case of a new situation. If the content of the CP constitutes given information, the CP can be moved to the subject position, barring the presence of *es*. It can remain there or it can be topicalized, as in (36b).

For the sake of coherence, I propose that the correlate CP also in this case constitutes a DP, which contains the strong D-pronoun *das* that can be silent. In particular, I propose that either the D-pronoun or the embedded CP is deleted, depending on how salient the content of the CP is in the current discourse: if the embedded CP needs to be activated in the context, the D-pronoun is deleted, as is illustrated in (36a); if the embedded CP is given in the preceding discourse, its content is deleted, as is illustrated in (36b). Evidence for this analysis comes from the presence of Principle C-effects in both variants. This Principle C-effect can be explained by reconstructing the argument into its base-position in (37a), but is completely unexpected in the cross-sentential variant in (37b), unless it is assumed that the D-pronoun contains a copy of the expression denoting a propositional specified content argument, as is illustrated in (37c).

- (36) a. [DP ~~Das~~ [CP dass Maria auch Peter eingeladen hat ]] hat  
~~That~~ that Maria also Peter invited has has  
 mich überrascht.  
*me surprised*  
 ‘That Maria has also invited Peter did surprise me.’
- b. Maria hat auch Peter eingeladen.  
*Maria has also Peter invited*  
 [Das [~~dass Maria auch Peter eingeladen hat~~]] hat mich überrascht.  
~~That that Maria also Peter invited has~~ has surprised surprised
- (37) a. \*[Dass Hans<sub>i</sub> nicht kommen wird] hat ihn<sub>i</sub> überrascht.  
*That Hans not come will has him surprised*
- b. \* Hans<sub>i</sub> wird nicht kommen. Das hat ihn<sub>i</sub> überrascht.  
*Hans will not come. That has him surprised*
- c. Hans wird nicht kommen. Das [~~Hans wird nicht kommen~~] hat ihn überrascht.

It is necessary to distinguish between cases of subject-correlate-*es* and subject-expletive-*es*. In the following discussion, I am also picking up a question by an anonymous reviewer that points out that the analysis of *es* as part of a DP that hosts

a silent noun and a complement CP raises a number of predictions that are not necessarily correct. In particular, they argue that clausal expletives should not be found with predicates like *seem* and *be possible / be likely / be necessary*, as illustrated in (38), that do not select for nominals. Moreover, they argue that it is plausible to analyse the embedded CPs in (38) as mere propositions.

- (38) a. Es scheint, dass Maria krank ist.  
*It seems that Maria sick is*  
 b. Es ist möglich, dass Maria krank ist.  
*It is possible that Maria sick is*

It is interesting to note that our diagnostics show that (38a) and (38b) require different analyses. While *es* in (38a) is to be analysed as Subject-*es* base-generated in [Spec, TP] (cf. Sect. 5.3 below), *es* in (38b) behaves like a correlate-*es* base-generated in a DP, as is illustrated in (39) and (40). With *scheinen*, the embedded CP cannot be topicalized and it cannot move to the subject position replacing *es* (cf. (39ab)). Furthermore, it cannot be resumed by *das*, as illustrated in (39c), while this is possible with the predicate *möglich sein*, as illustrated in (40).

- (39) a. \*[dass Maria krank ist] scheint (es) durchaus  
*that Maria sick is seems (it) indeed*  
 b. \*weil [dass Maria krank ist] scheint  
*since that Maria sick is seems*  
 c. Maria ist krank. \*Das scheint.  
*Maria is sick. That seems*  
 (40) a. [dass Maria krank ist] ist möglich  
*that Maria sick is is possible*  
 b. weil [dass Maria krank ist] möglich ist  
*since that Maria sick is possible is*  
 c. Maria ist krank. Das ist möglich.  
*Maria is sick. That is possible*

The data in (39) and (40) show that the complement of *scheinen* is a propositional CP. This CP being non-definite cannot anchor the predication in the context. Moreover, the data in (39) indicate that such a CP cannot function as a subject in the clause, implying that the subject in the clause needs to be a DP (cf. Kastner 2015 for the exact same conclusion). This implies that *es* in (38a) is inserted in [Spec,TP] and serves as an argument for the predicate *scheinen*, hence its obligatoriness.

Likewise, the data in (39) and (40) imply that the CP in (38b) is not propositional at all and must be contained in a DP. The question that arises whether there is a silent noun present, that represents the specific presuppositions of these predicates. It seems to me that the contrast in (41) indicates that a predicate like *be possible*

presupposes that there is a QUD of a certain propositional content for which the propositional content of the expression *that Mary is sick* is relevant.<sup>11</sup> But this goes beyond the scope of this paper and should be subject for further research. For the time being, I will propose the very tentative solution in (42), allowing us to maintain that *es* always combines with a predicate relating two situation arguments.

- (41) A: What is new?  
 B: Mary is sick.  
 B: ?? It is possible that Mary is sick.
- (42) [<sub>AP</sub> möglich [<sub>DP</sub> *es* /*das* [<sub>D</sub> · D<sup>0</sup> [<sub>NP</sub> Relevance (<sub>S<sub>R</sub>, s<sub>c</sub>) [<sub>CP</sub> *dass* Maria krank war]]]]]]</sub>

### 5.3 Expletive subject-*es*

In this section, I will discuss the status of *es* with weather verbs and address the question of how *es* is to be analyzed in existential constructions. The answer will be that *es* serves as an argument for the predicate.

What can be said in this account about the status of *es* as a quasi-argument with weather verbs? If we agree that weather verbs lack an argument and that, for instance, (*es*) *regnete* denotes the set of situations (in the past) in which it rains, then weather verbs have to be assumed to combine with a situation argument to arrive at a truth value. As is illustrated in (43), I propose that this situation argument constitutes <sub>S<sub>R</sub></sub> of Tense, introduced in Sect. 3.1 above.

- (43) a. *Es* regnete.  
       *It* rained  
 b.  $s_1$  (that is identified with the reference situation)  $\in$   
        $s \mid$  rains in  $s$   
 c.  $\lambda P(s, s_U). \iota s P(s, s_U)$  (meaning of *es*)

In (43), *es* expresses that a situation that is identified by Tense and linked to the utterance situation is an element of the set of situations in which it rained—a clear case of predication.

The only difference to predications like *John sang* is that in the former case the argument is of the situation type, while in the latter case the argument is of the individual type. The second difference concerns the fact that the argument of

<sup>11</sup> It seems to me, to take a recent issue as an example, that in a period or situation in which many people are sick from COVID, an answer like (i) is already quite natural, implying that these predicates pose special conditions on the reference situation (<sub>S<sub>R</sub></sub>).

(i) What is new?  
 It is possible that Mary is sick with COVID.

weather verbs is introduced by Tense, that is to say, by a temporal relation, while individual arguments are introduced via theta relations.

Again, Tense must be taken to express a relation between two situations, one identified with the utterance situation ( $s_U$ ) and the other functioning as the reference situation, the latter of which is arguably bound by *es*.

As with correlate-*es*, so-called expletive subject-*es* is analyzed as a weak demonstrative that combines with a predicate on situations (a property of situations). In this case, I propose that *es* is inserted in [Spec,TP] where it binds  $s_R$  of Tense. The latter typically has a propositionally specified content. This is evident with referential uses of Tense.

In particular, note that subject-expletive *es* is compatible with a referential reading of Tense, as is illustrated in (44). In (44),  $s_R$  and hence the event of raining is identified with the situation of John's going to the market.

- (44) Hans ging auf den Markt. Es regnete.  
*Hans went to the market. It was raining.*

As a weak demonstrative element, *es* has an existential impact on the assertion of the speaker. I thus assume that it is *es* from which the existential force of utterances like (45) comes.

- (45) a. Es gab einen Aufruhr.  
*It gave a riot*  
 'There was a riot'  
 b.  $\iota s. s < s_U$  & involves (s, a riot)

I will not enter here into discussing the complex issues of existential constructions and expletive elements. The reader is referred to Hazout (2004), Hartmann (2008) and Hinterhölzl (2019). In particular, I propose that existential constructions have the same type of *es* as weather verbs (for a similar approach see Felser and Rupp 2001). In other words, *es* is inserted in [Spec,TP], binding the reference situation of Tense that serves as an argument of the verbal predicate. The only difference between weather verbs and existential predicates concerns the fact that—while the former ones have no argument of their own—the latter ones do have a nominal argument that, due to its indefinite nature, cannot serve to anchor the predicate in the context, implying that an existential predicate can only be anchored via the event argument of the verb.

What determines then, when the reference situation of Tense serves as an argument of the verbal predicate or only serves to locate the verbal event? I propose that Aspect closes off the verb phrase by existentially binding the event argument of the verb by default. This has the effect that Tense and the reference situation only serve to locate the verbal event with respect to the utterance situation, as is illustrated in (46).

- (46) a. John was dancing  
 b.  $\exists e \text{ } \iota s$  [dance (John, e) & contain (e,s) & past (s,  $s_U$  )]

If Aspect were closing off a predicate like *regnen* (rain), the clause would lack a subject and the derivation crashes. If Aspect does not close off *regnen*, the verbal predicate of type (s,t) can be combined with the reference situation in T of type s. In this case, the reference situation serves as subject of the verbal predicate and must be lexically realized due to the setting of the pro-drop parameter, which will be introduced in Sect. 5.4 below.

In conclusion, both sentences involving weather verbs and existential sentences involve a predicate relation with a situation argument and constitutethetic judgments that are anchored to the context via the reference situation that is identified with respect to the utterance situation.

#### 5.4 V2-es or Vorfeld-es

In this section, I discuss the third type of *es*, which serves to satisfy the requirement of the V2 property of German matrix clauses. I am following here work proposing that V2-*es* is to be interpreted as a topic in the C-domain and thus serves to anchor the clause in the context (cf. Holmberg and Platzack 1985; Platzack 1987; Svenonius 2002; Biberauer 2010).

But differently from these works, I propose that V2-*es* is not base-generated in the C-domain in a topic position, but is inserted in [Spec,TP] as a means of last resort, if no other constituent is moved into (or base-generated in) the C-domain. This V2-*es* differs from the Subject-*es* in that it does not serve as an argument of the main predicate. Hence, it is not assigned Case. V2-*es*, however, assures—by binding the reference situation of Tense—that the sentence is interpreted as being about a situation. In other words, a clause with V2-*es* constitutes athetic judgment characterizing a situation.

We have argued above that a clause can also be anchored via the silent reference situation of Tense. Thus, a characterization of the V2 property in German is needed that assures that the relevant anchor is lexicalized. I cannot go into the particulars of such an account in the scope of this paper and refer the reader to Hinterhölzl (2017), who convincingly argues that the V2-property should be seen as a complex condition that consists of syntactic and phonological requirements (cf. also Haegeman 1996; Roberts 2004).

The advantage of this approach is that it allows for an account of the presence of *es* in the C-domain in terms of economy: *es* can only be inserted in [Spec,TP] and moved into the C-domain just in case no other constituent is topicalized or base-generated in the C-domain, as I will argue below.

Remember that we concluded in Sect. 3.2 that an SL-predicate can be anchored to the context either via a definite individual argument or via the reference situation. The constituent that anchors the judgement must then be moved into the C-domain in a position where Aboutness-Topics (cf. Frascarelli and Hinterhölzl 2007) are licensed.



If the subject is a definite DP, the latter can anchor the clause and serve as Aboutness-Topic of the utterance, as is illustrated in (47a). The sentence presents a statement about a specified individual. Alternatively, *es* can be inserted in [Spec, TP], binding the reference situation of Tense. The sentence presents a statement about a specified situation, and the DP *es* is hence moved into the C-domain to serve as Aboutness-Topic, as is illustrated in (47b).

- (47) a. Hubert Haider spricht.  
       *Hubert Haider speaks*  
       b. Es spricht Hubert Haider.  
       *It speaks Hubert Haider*

Also in this case, it can be said that *es* is not an expletive element devoid of meaning, since it has a decisive impact on the interpretation of the clause: while (47a) is a statement about an individual, (47b) constitutes a statement about a (specified) situation.

Let us go back for a minute to predicates that do not select for an argument of the individual type. Since IL-predicates cannot be anchored via the reference situation, their sentential argument must be the one that constitutes a definite situation, that is, a DP containing a weak or strong demonstrative element. *Es* in this case is obligatory, if the dependent clause constitutes new information, as is illustrated again in (48a). On the other hand, *es* appears optionally with SL-predicates, even if the embedded clause constitutes new information, as illustrated in (48b–c).<sup>12</sup>

- (48) a. weil \*(es) eine Schande ist, dass Peter nicht kommt  
       *because it a shame is that Peter not comes*  
       b. weil (es) klar ist, dass Peter nicht kommt  
       *because (it) clear is that Peter not comes*  
       c. A: Was ist klar? (*What is clear?*)  
       B: Klar ist (gewesen), dass Peter nicht kommt.  
       *Clear is that Peter not comes*  
       d. Peter kommt nicht. Das ist klar.  
       *Peter comes not. That is clear*

<sup>12</sup> An anonymous reviewer points out that the difference might also be due to the difference between a nominal and an adjectival predicate. (i) shows that this is not the case.

- (i) a. eine Schande ist \*(es), dass Peter nicht kam  
       *a shame is (it) that Peter not came*  
       b. ein Glück ist (es) dass Peter kommt  
       *a luck is (it) that Peter comes*  
       c. unmoralisch ist \*(es) dass Peter nicht kommt  
       *immoral is it that Peter not comes*

Rather than assuming that *es* is optional with predicates like *klar sein* ('be clear'), we can analyze (48b–c) in the present account in the following way: being SL, the predicate can be anchored either via the weak demonstrative element of its dependent clause or via its reference situation. In the latter case, the dependent clause constituting a DP can satisfy the subject requirement of the predicate in the main clause. Also here we see an economy condition at work: a definite CP is present but *es* is only spelled-out, if it is needed for anchoring the matrix predicate.

The data in (48b) is problematic for the standard approach in terms of a subject expletive: if a subject is required for formal reasons, it should be required in all cases and the presence of an expletive element should not be an optional phenomenon.

The data in (48b), however, receives a natural explanation in the present account in terms of anchoring. First note that the predicate *klar* ('clear'), having an argument of its own, is predicated of its sentential argument which constitutes a DP and thus satisfies the requirement for the presence of an appropriate subject. Thus, differently from the case of weather verbs, no subject-*es* is required. That the *es* in (48b) is an instance of correlate-*es* and does not constitute a subject inserted (as last resort) in [Spec,TP] is shown in (48d), where *es* is replaced by its strong variant *das* in a discourse anaphoric environment.

## 5.5 The Impersonal Passive and the pro-drop parameter in German

It is well-known that German allows for impersonal passives, where the only argument of the verb is suppressed on the surface. The sentence appears without an overt subject, raising the question what the predicate in (49a) is predicated of? *Es* is possible with impersonal passives but is of the *Vorfeld*-type, as is illustrated in (49b–c). This raises the question of how (49a) differs from cases of weather verbs.

- (49) a. Hier           wird           getanzt.  
           *here*         *gets*         *danced*  
       b. Es           wird           getanzt.  
           *it*         *gets*         *danced*  
       c. weil        (\**es*)         getanzt       wird  
           *because (it)*       *danced*       *gets*

The latter question is important, since we have rejected the status of *es* as a subject expletive, explaining the occurrence of *es* with weather verbs with the original idea behind the EPP-feature, namely the principle that every predicate needs a subject. I will argue that impersonal passives contain a silent subject (cf. Hinterhölzl 1995; Legate 2014), a small *pro* that has an impersonal reference akin to the impersonal pronoun *man* ('one') in German. In particular, Hinterhölzl (1995) argues that Tense in the participial clause (based on a bi-clausal analysis) in the passive is defective and that it is this property that is responsible for licensing an

empty impersonal pronoun in German, suggesting the instantiation of the pro-drop parameter in (50) for German.

(50) Pro-drop parameter (German):

Defective Tense licenses an implicit impersonal (subject) argument

The question why *es* is not obligatory in cases like (49a) is all the more relevant in the present account, since cases like (49a), being impersonal statements, can best be analyzed as characterizing a situation. At this point, it is important to note that the German impersonal passive can have two different readings.

A) It can have an episodic reading, where the implicit argument has an existential interpretation. In this case, the statement is anchored via the situation argument and the silent reference situation of Tense to the context. Note that *hier* ('here') in (49a) can be taken to specify the location of the reference situation of Tense. Alternatively, the statement can be anchored in terms of binding the reference situation by *es*. However, this is only necessary if no other element is topicalized to satisfy the V2-property of German main clauses.

B) It can have an IL-reading, in which case the implicit argument has a generic interpretation. In this respect, it is interesting to note that the impersonal passive of an active sentence like (51a) that is ambiguous between an IL-reading (51b) and a SL-reading (51c) systematically only allows for the individual reading (52a), while the presumed SL-reading involving a situation topic is expressed by the corresponding middle construction in German, as is illustrated in (52b).

- (51) a. In Österreich kann man gut Schifahren.  
*In Austria can one well ski*  
 b. Austrians ski well. (IL-interpretation)  
 c. When in Austria one can ski well. (SL-interpretation)
- (52) a. In Österreich wird gut Schi gefahren. (impersonal passive)  
*In Austria is well ski-gone*  
 'Austrians ski well.'  
 b. In Österreich fährt es sich gut Schi. (middle construction)  
*In Austria goes it itself well ski*  
 'Whoever comes to Austria can find good ski facilities there.'

In other words, the impersonal passive in (52a) constitutes a statement about individuals, in claiming that Austrians in general are good skiers, while the middle construction constitutes a statement about the skiing-situation in Austria which is generally a good situation. The interpretation of (52a) is a strong indicator that the passive in German does not involve an empty expletive, as is standardly assumed, since the meaning *Austrians ski well* in (52a) can be analyzed as being composed of a referential expression denoting individuals restricted to *people (who live) in Austria*.

Furthermore, I think it is important to note that the middle construction that characterizes a situation involves *es* in its subject position, while the impersonal passive that characterizes an individual lacks *es*. The explanation in the present account is of course that this is so since IL- predicates can only be anchored via their individual argument, while SL-predicates can be anchored also via their situation argument. I will leave for further research the question why *es* is obligatory in the latter case (this probably has to do with the presence of a generic operator binding the event argument of the verb).

## 5.6 Conclusions

In conclusion, I have argued that *es* is a weak demonstrative element that combines with predicates on situations. In particular, I have shown that *es* binds a content individual that is analysed as a propositionally specified situation in this account. The unified account of *es* is crucially based on an analysis of Tense as a predicate relating situations (rather than temporal individuals, like points of time or intervals).

The distributional properties of *es* are then argued to follow from a) the original EPP-principle, which requires that every predicate needs a subject (argument), b) an elaborated theory about how sentences can either be anchored as statements about individuals or as statements about situations, and c) the particular instantiation of the pro-drop parameter in (50). Taken together these assumptions allow a relatively simple account that derives both the obligatory as well as the optional occurrences of *es* in German from an analysis of its semantic contribution to the meaning of the sentence and its role in the anchoring of the sentence in the context.

In particular, the account predicts that a silent situation anchor is possible if the predicate contains another argument that qualifies as an overt or licitly covert subject. In other words, *es* is predicted to be obligatory, if either a) the predicate has no other overt argument (weather verbs) or b) the predicate has only another indefinite overt argument (existential or presentational predicates).

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## Declarations

**Competing interests** There are no conflicts of interest.

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