

**TWO FOR THE PRICE OF ONE:
AN LFG TREATMENT OF SENTENCE INITIAL
OBJECT *ES* IN GERMAN**

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Abstract

We present an analysis of sentence initial object *es* ‘it’ in German. The weak pronoun *es* may only realize such an object under specific information structural conditions. We follow recent work suggesting these conditions are exactly those that licence the use of the presentational construction, marked by a sentence initial dummy *es*. We propose that the initial objects are an example of function amalgamation, show that only objects that may also appear in the clause-internal postverbal domain can participate in this fusion and make this precise in LFG. We end the paper with a contrastive discussion.

1 Introduction

In this paper, we will be concerned with German sentences of the following kind:

- (1) a. [E]s haben keine Spinner angerufen.¹
it have no idiots called
‘No idiots have called.’
- b. [[B]itte im Sitzen pinkeln]₁, es₁ sieht keiner!²
it sees nobody
‘Please sit down to pee, nobody can see you do it!’

In (a) we have an example of the, rather common, presentational construction. It is flagged by the preverbal dummy *es* ‘it’ and licensed by information structural properties of the subject. The sentence in (b) is more remarkable: an object pronoun *es* occupies the preverbal position. The theoretical literature has commonly claimed that non-subject *es* cannot fill this position. As seen from the example, and as discussed below, this is too strong a statement. Instead, we will argue that German allows amalgamation of the presentational marking function and the object realization function into one occurrence of *es*. In these cases, we may observe an object pronoun *es* in the otherwise forbidden preverbal position.

Discussion of German clausal syntax is facilitated by the *topological model*, in which we divide the sentence into fields. In a declarative main clause, the finite verb is in second position and any other verbs are in the clause-final verb cluster. These fixed positions delineate the topological fields *Vorfeld*, one constituent in front of the finite verb, and *Mittelfeld*, between the finite verb and the verb cluster.³

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¹<http://www.talkteria.de/forum/topic-181017.html>

²First observed on a sign in the men’s bathroom at the linguistics department of the University of Potsdam. See also <http://www.shirtfactory24.de/products/de/Fun-Schilder/Tuer-Tor/Blechschild-Kloordnung-17x22cm.html>

(2)	<i>Vorfeld</i>	V_{fin}	<i>Mittelfeld</i>	<i>Verb cluster</i>
	Es	haben	keine Spinner	angerufen.

In Section 2, we discuss the distributional properties of the Vorfeld-bound presentational *es* and the (normally) Mittelfeld-bound object *es*, and show how in examples like (1b), properties of these *es*-es are combined. Section 3 then introduces our LFG analysis, making precise the intuitive notion of combining characteristics of Vorfeld and Mittelfeld *es*. Section 4 ends the paper with a discussion of open issues and function amalgamation in other languages.

2 The multiple uses of *es*

The form *es* is the third person singular neuter pronoun. It has a wide range of uses: it can act as a regular, thematic subject or object, as the correlative pronoun for extraposed subordinate clauses, as the subject of weather verbs and certain existential and psych verbs, and as a dummy argument in some idiomatic constructions. In addition, there is a placeholder *es*, which occurs in presentational constructions and impersonal passives. Here, we will consider this placeholder *es* (Section 2.1) and relate it to the role of *es* as an object pronoun (Section 2.2). Where relevant, subscripts will be used to distinguish different functions of *es*.

2.1 Placeholder *es*

The German presentational construction is characterised by a placeholder es_{vf} , which appears directly before the verb in main clauses (3a), in the *Vorfeld*. The same *es* can also occur in impersonal passives (3b).

- (3) a. Es sind immer noch keine Briefe für mich angekommen.⁴
 es_{vf} are still no letters for me arrived
 ‘There have still been no letters for me so far.’
- b. Es wurde jeden Abend gesungen und getanzt.
 es_{vf} was every night sung and danced
 ‘People were singing and dancing every night.’

Note that placeholder es_{vf} never determines agreement on the verb. In presentational constructions, the verb agrees with the (logical) subject of the sentence, *Briefe* ‘letters’ in (3a). Impersonal passives on the other hand are thematic-subject-less sentences, with the finite verb always in the third singular form.

Placeholder es_{vf} may be called an *expletive*, but note that it is not an expletive in the sense of a non-referential pronoun used to fill an otherwise empty argument slot. This is already evident from (3a), where no argument is missing. In addition, es_{vf} is set apart from expletive arguments by being strictly bound to the Vorfeld.

³The field after the verb cluster, the *Nachfeld*, will not be relevant in the present discussion.

⁴<http://www.bym.de/forum/bym-your-haushalt/439379-neue-bym-your-haushalt-cafe-hereinspaziert-49.html>

While the expletive subject of a weather verb (4a) can also appear after the finite verb (4b) or after a complementizer like *weil* ‘because’ in a subordinate clause (4c), *es_{vf}* is excluded from these positions (5a,b).

- (4) a. Es regnet nun schon seit Stunden.
 es_{vf} rains now already for hours
 ‘It has been raining for hours now.’
 b. Seit Stunden regnet es nun schon.
 c. ... weil es nun schon seit Stunden regnet.
- (5) a. Jeden Abend wurde (*es) gesungen und getanzt.
 b. ... weil (*es) immer noch keine Briefe für mich angekommen sind.

Instead, *es_{vf}* is commonly analysed as not being selected by the verb, but fulfilling a purely structural function (e. g., Berman, 2003): it serves to uphold V2.

Crucially for what follows in the rest of the paper, German presentational sentences are not limited to intransitive verbs, but also allow transitives (6).

- (6) Aber es wird sie leider keiner knuddeln.⁵
 but *es_{vf}* will them sadly nobody cuddle
 ‘Sadly, nobody will cuddle them.’

Even though there are consequently no clear conditions on which type of *verb* may appear in German presentational constructions, the class of possible *subjects* is information structurally restricted: *es_{vf}* may only occur if the subject is not an (aboutness) topic. For impersonal passives, this condition holds vacuously since they do not have a thematic subject. For presentational sentences, the restriction is illustrated by the mini-discourse in (7). After *Marie* is explicitly made an aboutness topic, it is possible to continue with canonical (7a), but not presentational (7b).

- (7) Let me tell you something about Marie.
 a. Marie kommt morgen zu Besuch.
 Marie comes tomorrow for a visit
 ‘Marie will come for a visit tomorrow.’
 b. #Es kommt morgen Marie zu Besuch.

According to Frey (2004), German is a discourse configurational language. He divides the Mittelfeld into a topic region preceding modal and speaker-oriented adverbs, and a comment region following them. In (8), the position of the subject is ambiguous; it could sit either in the topic or in the comment region. The presence of *leider* ‘unfortunately’ in (9) resolves this uncertainty. Followed by *leider*, the subject is topical (9a), while preceded by the adverb it is not (9b). We have tried to convey the perceived meaning difference through accent placement in the English translations in (9).⁶

⁵<http://www.kaninchenforum.de/kaninchenhaltung-allgemeines/11824-urlaub-hilfe.html>

- (8) Dieses Wochenende ist die Brücke gesperrt.
 this weekend is the bridge closed
 'The bridge is closed this weekend.'
- (9) a. Dieses Wochenende ist [_{topic} die Brücke] **leider** gesperrt.
 (About the bridge:)
 'This weekend, the bridge will be closed, unfortunately.'
 b. Dieses Wochenende ist **leider** [_{comment} die Brücke] gesperrt.
 (About what is going on in general:)
 'Unfortunately, this weekend the bridge will be closed.'

As a result of the information structural properties of the presentational construction, *es_{vf}* cannot cooccur with a subject in the topic region (10, cf. Frey's ex. 19).

- (10) Es spielt (erfreulicherweise) Max Greger (*erfreulicherweise) für
es_{vf} plays fortunately Max Greger fortunately for
 unsere Gäste.
 our guests
 'I am delighted that Max Greger will play for our guests.'

We add that this non-topicality constraint only applies to the subject. As evidenced by the position of the object pronoun *ihn* 'him' in (12), material other than the subject *is* allowed to be topical.

- (11) Es hat ihn zum Glück keiner nach seinem Ausweis gefragt.
es_{vf} has him luckily nobody for his passport asked
 'Luckily, nobody asked for his passport.'

All in all, we take *es_{vf}* to be a flag for clauses without a topical subject (Sells, 2005, for a similar view of Icelandic *það*). This is also in line with the predictions made by *topicality hierarchies* that have appeared in the literature in various forms (see e.g., Dunbar, 1983). Indefinite and quantified expressions, which rank very low on such hierarchies, can be considered inherently non-topical phrases. As such, they make very natural subjects in presentational sentences (12). On the other extreme, an unstressed personal pronoun, which we may consider to be inherently topical, cannot appear as a subject in such constructions (14a). Focussed pronouns can, however, as in (14b). Definite expressions are situated relatively high on the topicality hierarchy. They are possible, but marked subjects of presentational constructions (13a) and work best inthetic statements like (13b).

- (12) Es bleibt niemand zuhause.
es_{vf} stays nobody at home
 'Nobody is staying at home.'

⁶The adverb sitting between the topic and comment region can sometimes induce narrow focus on an accompanying constituent. For all sentences in this paper, the reader is asked to consider only readings in which the adverb takes sentential scope.

- (13) a. ?Es bleibt Otto zuhause.
 b. Es kam die Polizei.
es_{vf} came the police
 ‘The police showed up.’
- (14) a. *Es bleibt er zuhause.
 b. Es bleibt nur ER zuhause.
es_{vf} stays only he at home
 ‘It is only he who is staying at home.’

2.2 Object *es*

The direct object pronoun *es_{obj}* forms an exception in the German pronominal system in more than one respect (Cardinaletti and Starke, 1996). Here, we will focus only on its limited positional distribution. At first sight, *es_{obj}* is in complementary distribution with the placeholder *es_{vf}*: While *es_{vf}* only appears in the Vorfeld, *es_{obj}* seems to be excluded from just this position (15), from Travis (1984, p121), (16a). In contrast to *es_{obj}*, the masculine and feminine object pronouns are not subject to the same restriction (16b).

- (15) Er hat es / *Es hat er gegessen.
 he has *es_{obj}* / *es_{obj}* has he eaten
 ‘He ate it.’
- (16) a. Im Zoo haben sie jetzt [ein Eisbärenjunges]₁.
 in the zoo have they now a polar bear cub
 *Es₁ hat Otto schon gesehen.
es_{obj} has Otto already seen
 ‘At the zoo, they now have a polar bear cub. Otto has already seen it.’
- b. Im Zoo haben sie jetzt [einen Pandabären]₁.
 in the zoo have they now a panda bear
 Ihn₁ hat Otto schon gesehen.
 him has Otto already seen
 ‘At the zoo, they now have a panda bear. Otto has already seen it.’

Classification of *es_{obj}* as a weak pronoun, which cannot be topicalized, explains these and other facts about *es_{obj}* (Cardinaletti and Starke, 1996).

However, more recently it has come to be accepted that there are in fact valid, non-marginal instances of *es_{obj}* in the Vorfeld (Meinunger, 2007, and references therein). The probably most famous example (17) is from Lenerz (1994).

- (17) Ihr Geld₁ ist nicht weg, meine Damen und Herren.
 your money has not gone my ladies and gentlemen
 Es₁ haben jetzt nur andere.
es_{vf/obj} have now only others
 ‘Your money has not disappeared, ladies and gentlemen. It just belongs to others now.’

As illustrated by the following examples, $es_{vf/obj}$ can also cooccur with a dative object (18a), and can occupy the Vorfeld of subordinate V2 clauses (18b).

- (18) a. [Er] hat das ganze Geld₁ irgendwo verloren
 he has the whole money somewhere lost
 oder es₁ hat ihm jemand geklaut.⁷
 or $es_{vf/obj}$ has him.DAT someone stolen
 ‘He lost the entire sum somewhere, or someone stole it from him.’
- b. wir [könnten dir helfen]₁.
 we could help you
 aber: ich denke, es₁ wird keiner machen.⁸
 but I think $es_{vf/obj}$ will nobody do
 ‘We could help you, but I think nobody will.’

Meinunger (2007) notes that the conditions under which $es_{vf/obj}$ is licensed correspond to the conditions under which we can observe es_{vf} : the subject has to be non-topical. This explains why examples like (15) and (16a) are marginal or even ungrammatical: they contain subjects high on the topicality hierarchy. In contrast, the acceptable sentences (17) and (18) have inherently non-topical subjects. This effect is systematically illustrated in the minimal quadruple in (19): as the subject’s topicality increases from (a) through (d), acceptability dwindles.

- (19) a. Es hat leider niemand gehört.
 $es_{vf/obj}$ has unfortunately nobody heard
 ‘Unfortunately, nobody has heard it.’
- b. ?Es hat leider Otto gehört.
- c. ?*Es hat Otto leider gehört.
- d. *Es hat er leider gehört.

Why does $es_{vf/obj}$ place this information structural constraint on the subject? After all, the object pronoun es_{obj} does not impose any such restrictions. Then again, normal es_{obj} cannot occupy the Vorfeld, either. The placeholder es_{vf} , in turn, can appear in the Vorfeld and does introduce the non-topicality constraint; but it does not fill a slot in the verb’s argument frame. The fact that $es_{vf/obj}$ both brings along the information structural restriction and fills an argument slot suggests an analysis in which the two separate functions es_{vf} and es_{obj} are amalgamated into a single occurrence of es . The following section describes how an analysis like this can be implemented in LFG. The topic of function amalgamation is taken up again from a comparative perspective in Section 4.3.

⁷www.witzplanet.de/ddr.htm

⁸www.bodybuildingforum.at/threads/57831-Hilfe-bei-Ernahrungsplan

3 LFG Analysis

We have argued that $es_{vf/obj}$ is an amalgamation of es_{vf} and es_{obj} . Before we show how this idea can be implemented in LFG, we will discuss our background assumptions about German clausal syntax.

3.1 The German clause

We follow the work of Berman (2003) in assuming that the German clause is a CP. SpecCP corresponds to the Vorfeld of the topological tradition. In a V2 sentence, the finite matrix verb resides in C. We do not distinguish between subject-initial and other V2 clauses in terms of c-structure, as f-structure annotations alone are enough to allow a differential treatment of subjects and non-subjects in the Vorfeld. The basic rules for the C projection are as follows:

- (20) a. $CP \rightarrow XP \quad C'$
($\uparrow \text{SUB|UDF} = \downarrow$)
- b. $C' \rightarrow C \quad VP$

The constituent in SpecCP is either the matrix subject or involved in a long-distance dependency. Instead of using the traditional grammaticalized discourse functions TOPIC and FOCUS for the latter, we assume there is one unbounded dependency function UDF at f-structure (we use Asudeh's, 2011, terminology; a similar proposal was made in Alsina, 2008). Information structural distinctions are better handled separately. We will take this to happen at s-structure (see below).

Constituents in the German Mittelfeld may be either the subject of the highest verb or local dependents of any of the verbs in the same *coherence domain*, roughly, the verb in second position plus the verbs in the verb cluster (see Müller, 2002, Ch 2, for an overview and references). Verbs that allow embedded verbs to share the verb cluster and Mittelfeld are said to *construct coherently*. As a result of coherent construction, we cannot tell which verb an argument belongs to from position alone.

We deviate from Berman (2003) in assuming that the Mittelfeld and verb cluster are in a flat VP in CompCP (Kaplan and Zaenen, 2003; Forst and Rohrer, 2009). Following Kaplan and Zaenen (2003), dependents relate to their verb through a functional uncertainty equation. We introduce the label EXTENDED COMPLEMENT FUNCTION for this equation and will investigate its definition shortly. Note that ECF is merely a convenience label and is not an f-structure feature. The VP contains two stretches of (nominal) arguments, divided by the speaker-oriented sentence adverbs that mark the boundary between the topic and comment regions (Frey, 2004). Information structural information is located at s-structure, accessible through the σ -projection from f-structure (Dalrymple and Nikolaeva, 2011).⁹ The s-structure

⁹Our proposal does not depend on this exact implementation of information structure. Any setup that allows us to combine information structural hints from different sources (position in the sentence, lexical specification, construction type, etc) should do. We will keep the information structure

feature DISCOURSE FUNCTION allows us to specify whether material belongs to the topic or comment.

- (21) a. VP → XP* XP* XP* V'
- (↑ SUB|ECF) =↓ ↓ ∈ (↑ ADJ) (↑ SUB|ECF) =↓
- (↓_σ DF) = TOPIC (↓ ADV-TYPE) = SPOR (↓_σ DF) ≠ TOPIC
- b. V' → V' V
- (↑ (XCOMP)) =↓

For reasons of exposition, we do not consider any adjuncts in our grammar fragment other than the speaker oriented sentence adverbs.

Final in the VP is the verb cluster as a V'. The V' contains verbs that either project to the same f-structure as the c-structurally higher verb, e.g., when this is a perfective auxiliary, or to an XCOMP of other coherently constructing verbs.¹⁰

3.2 The Extended Complement Function

When Mittelfeld constituents are not subjects, they relate to their selecting verbs through the ECF equation, which we will define as follows:

- (22) ECF = XCOMP* (PREDLINK) GF—SUB

This definition is motivated by the data below. For space considerations, we focus on es_{obj} in our examples. However, bar the linear position of the argument in the Mittelfeld, the results carry over to non-pronominal objects and to obliques. The ECF only concerns non-subjects, as subjects are always attached to the highest verb. If a Mittelfeld constituent is the (understood) subject of an embedded verb, this is the result of control. Non-nominal complements, like CP COMPs, normally do not appear in the Mittelfeld. This fact is not captured by the current grammar fragment, but may be modelled in the c-structure rules in (21a).

The simplest Mittelfeld argument-verb dependency is when a constituent is the argument of the matrix verb or any of its co-heads. We give projection annotations as subscripts to indicate the relation between the whole clause and the verb-argument pair of interest.

- (23) a. Leider findet_{↑ es(↑_{OBJ})} keiner wieder.
 sadly finds es_{obj} nobody again
 'Unfortunately, nobody will find es_{obj} again.'

annotations to a minimum and refer the reader to the cited book for details of the architecture.

¹⁰We are aware that our flat VP with mixed subjects, complements and adjuncts does not adhere to the endocentric mapping principles (Bresnan, 2001). To assume instead that the postverbal material is an S and the verb cluster a VP would equally well fit our needs. However, Berman's (2003) structure, in which arguments *adjoin*, one by one, to the VP containing the verbal cluster is less attractive than a flat structure containing all arguments, as this makes it hard to introduce the split between topical and non-topical regions of the Mittelfeld without introducing a new phrase label

- b. Leider hat $es_{(\uparrow \text{OBJ})}$ keiner wiedergefunden $_{\uparrow}$.
 sadly has es_{obj} nobody found again
 ‘Unfortunately, nobody has found it again.’
- c. Jeder hat $_{\uparrow}$ $es_{(\uparrow \text{OBJ})}$ mal eilig.
 everyone has es_{obj} PART hurried
 ‘Everyone is in a hurry at some time or another.’

Note that (23c) is an expletive object pronoun in a verbal idiom headed by the verb *haben* ‘to have’.

A Mittelfeld object cannot come from a finite subordinate clause, whether complement or adjunct:

- (24) a. *Keiner hat $es_{(\uparrow \text{COMP OBJ})}$ bemerkt, dass ich gefunden $_{(\uparrow \text{COMP})}$ habe.
 nobody has es_{obj} noticed, that I found have
 Intended: ‘Nobody noticed that I have found it.’
- b. *Jeder hat $es_{(\uparrow \text{ADJ} \in \text{OBJ})}$ sich gefreut,
 everyone has es_{obj} been glad,
 weil ich wiedergefunden $_{(\uparrow \text{ADJ} \in)}$ habe.
 because I found again have
 Intended: ‘Everyone was happy, because I found it again.’

However, as mentioned above, it can be the object of an embedded verb in the same coherence domain, which are XCOMPs of any depth:

- (25) a. Leider konnte $es_{(\uparrow \text{XCOMP OBJ})}$ keiner wiederfinden $_{(\uparrow \text{XCOMP})}$.
 sadly could es_{obj} nobody find again
 ‘Unfortunately, nobody could find it again.’
- b. Wahrscheinlich möchte $es_{(\uparrow \text{XCOMP XCOMP OBJ})}$ keiner
 probably wants es_{obj} nobody
 wiederfinden $_{(\uparrow \text{XCOMP XCOMP})}$ können.
 find again can.INF
 ‘Probably, nobody wants to be able to find it again.’
- c. Leider haben $es_{(\uparrow \text{XCOMP OBJ})}$ ihn auch alle spüren $_{(\uparrow \text{XCOMP})}$ lassen.
 sadly have es_{obj} him too all feel let
 ‘Unfortunately, everyone let him know it, too.’

Example (25c) is an *accusative and infinitive*. The matrix object *ihn* ‘him.ACC’ controls the embedded subject; es_{obj} is the embedded object.

As for objects of non-verbal heads, we see that (predicative) adjectives can have an object in the Mittelfeld (see also Forst, 2006; Vincent and Börjars, 2010).

- (26) Da waren $es_{(\uparrow \text{PREDLINK OBJ})}$ alle schon ziemlich leid $_{(\uparrow \text{PREDLINK})}$.
 then were es_{obj} all PART rather fed up
 ‘By that time, everyone was pretty fed up with it.’

In contrast, objects of prepositions need to be realized in situ and cannot move out of the PP into the Mittelfeld.

- (27) a. *Keiner kommt $es_{(\uparrow OBL_{ohne} OBJ)}$ noch $[_{PP} ohne_{(\uparrow OBL_{ohne})}]$ klar.
 nobody manages es_{Obj} PART without VPART
 Intended: ‘Nobody can manage without it anymore.’
 b. *Keiner möchte $es_{(\uparrow ADJ \in OBJ)}$ noch $[_{PP} ohne_{(\uparrow ADJ \in)}]$ leben.
 nobody want es_{Obj} PART without live
 ‘Nobody wants to live without it anymore.’

These latter two examples now fall out from not allowing ADJs and OBLs in any expansion of the ECF equation. For the future, we might wish to explain them from German PP syntax in general, which does not allow preposition stranding.

3.3 The presentational construction

With our grammatical sketch of the German clause in place, we turn to the constructions at hand. The lexical entry for *es*, in all its uses, is as follows:

- (28) es NP $(\uparrow FORM) = ES$
 $\{(\uparrow PRED) = \text{‘pro’} \mid \neg(\uparrow PRED)\}$
 $\neg(UDF \uparrow)$
 $(\uparrow CASE) \in \{NOM, ACC\}$
 $(\uparrow AGR) = 3SG$

The disjunction for the PRED value allows its use as a referential pronoun or an expletive pronoun. Subject and object uses are allowed by the underdetermined case specification. The negative inside-out constraint $\neg(UDF \uparrow)$ lexically prevents *es* from entering such a long-distance dependency. Thus, in the CP in (20a), *es* can only appear as subject. As arguments in the VP are not assigned to UDF, *es* is free to realize subject or object there, in line with the observations of Travis (1984).

We model the presentational construction with a c-structure rule (Asudeh et al., 2008) that explicitly selects *es* in SpecCP. The constraint against topical subjects is also introduced here.

- (29) CP \rightarrow XP C' *(to be revised)*
 $(\downarrow FORM) =_c ES$
 $((\uparrow SUB)_{\sigma} DF) \neq TOPIC$

To see how this c-structure rule interacts with the rest of the sentence, consider the ungrammatical combination of presentational es_{vf} and a subject in the Mittelfeld topic region:

- (30) *Es spielt Max Greger erfreulicherweise für unsere Gäste.
 it plays Max Greger luckily for our guests
 Intended: ‘I am delighted that Max Greger will play for our guests.’

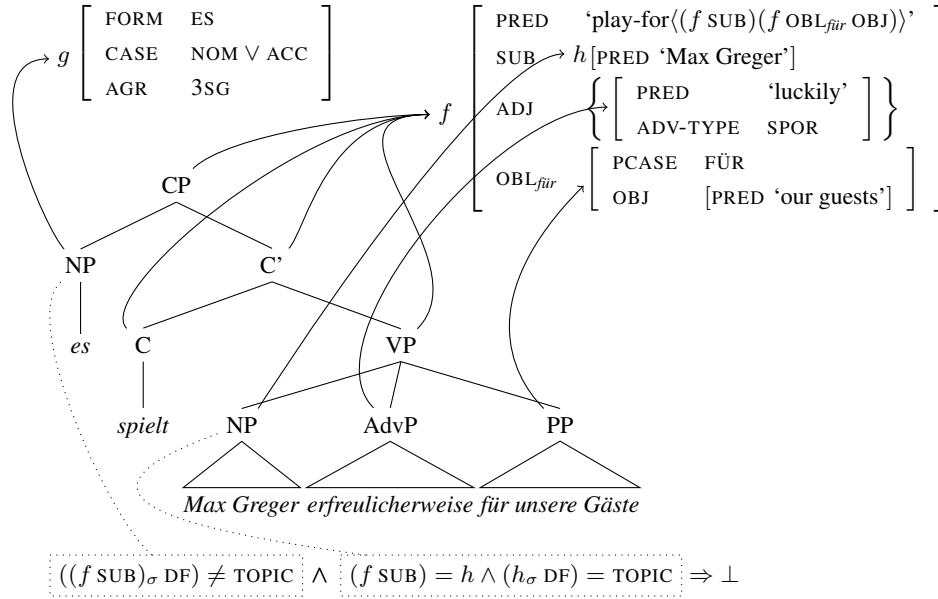


Figure 1: Structure and conflicting constraints for example (30).

The associated f - and c -structures are in Fig. 1. Note that the f -structure projected from es_{vf} , labelled g , is not integrated in the clausal f -structure f . The dummy es_{vf} is not selected by anything, is not assigned a grammatical function, and does not introduce a PRED. Thus, f and g are well-formed. Even valid uses of es_{vf} will project to a non-integrated f -structure. The information structural constraint against a topical subject is introduced in SpecCP, as per (29). The constraint talks directly about the subject of f , without referring to g at all. In Fig. 1, this constraint is given in the leftmost dotted box. At the same, the left periphery of the VP introduces two constraints, as per (21a): h is the subject of f and h is topical. These constraints are in the rightmost dotted box in the figure. The resulting conflict at s-structure is what rules out (30). In the absence of a speaker oriented sentence adverb, the topicality constraint on the subject in the VP can be avoided. S-structure information about the subject may also come from the lexicon or discourse to determine the felicity of the presentational construction, though (cf. Dalrymple and Nikolaeva, 2011).

3.4 Function amalgamation in the presentational construction

Finally, we turn to the task of modelling $es_{vf/obj}$. As we have shown in Section 2.2, this es combines the properties of flagging the presentational construction and realizing an argument. One question we have not dealt with, however, is exactly which heads may realize their objects as $es_{vf/obj}$. It turns out that the range of possibilities matches that of a Mittelfeld object. That is, a Vorfeld object es can be the object of anything within the same coherence domain. This is demonstrated in the sentences in (31)–(35), counterparts of the sentences in (23)–(27).

- (31) a. $Es_{(\uparrow OBJ)}$ findet \uparrow leider keiner wieder.
 $es_{vf/obj}$ finds sadly nobody again
 ‘Unfortunately, nobody will find it again.’
- b. $Es_{(\uparrow OBJ)}$ hat leider keiner wiedergefunden \uparrow .
 $es_{vf/obj}$ has sadly nobody found again
 ‘Unfortunately, nobody has found it again.’
- c. $[E]s_{(\uparrow OBJ)}$ hat \uparrow jeder mal eilig[.]¹¹
 $es_{vf/obj}$ has everyone PART hurried
 ‘Everyone is in a hurry at some time or another.’
- (32) a. * $Es_{(\uparrow COMP OBJ)}$ hat keiner bemerkt, dass ich gefunden $(\uparrow COMP)$ habe.
 $es_{vf/obj}$ has nobody noticed, that I found have
 Intended: ‘Nobody noticed that I have found it.’
- b. * $Es_{(\uparrow ADJ \in OBJ)}$ hat jeder sich gefreut,
 $es_{vf/obj}$ has everyone been glad,
 weil ich wiedergefunden $(\uparrow ADJ \in)$ habe.
 because I found again have
 Intended: ‘Everyone was happy, because I found it again.’
- (33) a. $Es_{(\uparrow XCOMP OBJ)}$ konnte leider keiner wiederfinden $(\uparrow XCOMP)$.
 $es_{vf/obj}$ could sadly nobody find again
 ‘Unfortunately, nobody could find it again.’
- b. $Es_{(\uparrow XCOMP XCOMP OBJ)}$ möchte wahrscheinlich keiner
 $es_{vf/obj}$ wants probably nobody
 wiederfinden $(\uparrow XCOMP XCOMP)$ können.
 find again can.INF
 ‘Probably nobody wants to be able to find it again.’
- c. $Es_{(\uparrow XCOMP OBJ)}$ haben ihn leider auch alle spüren $(\uparrow XCOMP)$ lassen.
 $es_{vf/obj}$ have him sadly too all feel let
 ‘Unfortunately, everyone let him know it, too.’
- (34) $Es_{(\uparrow PREDLINK OBJ)}$ waren alle schon ziemlich leid $(\uparrow PREDLINK)$.
 $es_{vf/obj}$ were all PART rather fed up
 ‘Everyone was pretty fed up with it.’
- (35) a. Es kommt keiner noch ohne $(\uparrow OBL_{ohne})$ klar.
 es_{vf} manages nobody PART without VPART
 ‘Nobody can manage without it anymore.’
- b. Es möchte keiner noch ohne $(\uparrow ADJ \in)$ leben.
 es_{vf} wants nobody PART without live
 ‘Nobody wants to live without it anymore.’

As remarked for its non-presentational counterpart, the *es* in (31c) is an expletive pronoun. However, this expletive is selected by the verb, and is not just a flag for the presentational construction. The grammaticality of the examples in (35)

¹¹<http://m.urbia.de/archiv/forum/th-1365744/-ueber-rote-Ampeln-laufen-obwohl-Kinder-daneben-stehen.html>

is explained by the fact that elision of *ohne* ‘without’ is particularly easy. These sentences are thus regular presentational sentences and, as indicated in the gloss, do not involve $es_{\text{vf}/\text{obj}}$.

Regarding head-argument dependencies, an $es_{\text{vf}/\text{obj}}$ behaves in the Vorfeld just as an es_{obj} in the Mittelfeld. Regarding the information structural constraints, we are looking at a presentational construction. An optional ECF assignment in the c-structure rule for the presentational construction models this amalgamation.

$$(36) \quad \text{CP} \rightarrow \quad \text{XP} \quad \quad \text{C}' \quad \quad (\text{replaces } 29)$$

$$(\downarrow \text{FORM}) =_c \text{ES}$$

$$((\uparrow \text{SUB})_{\sigma} \text{DF}) \neq \text{TOPIC}$$

$$((\uparrow \text{ECF}) =_{\downarrow})$$

4 Discussion: open issues and comparative perspective

We have claimed that German allows amalgamation of functional properties of different *es*-es into one Vorfeld occurrence of *es* and showed how this notion of combining properties can be made precise in a constructional LFG analysis. We end this paper by discussing open problems in the analysis of the German data and data from three other languages that potentially could be analysed in a similar fashion.

4.1 Incoherently constructing verbs

In our discussion of non-finite complements in the ECF definition, we have only considered bare infinitives and participles. Such complements are always constructed coherently. A third type of non-finite complement, *zu*-marked infinitives, are sometimes constructed coherently. When they are, they allow $es_{\text{vf}/\text{obj}}$ for their object, as in (37) with *scheinen* ‘to seem’, which takes a coherent *zu*-infinitive.

$$(37) \quad [\text{Ich lächle ein bisschen zu viel}]_1, es_1 \quad \text{scheint niemand zu bemerken.}$$

$es_{\text{vf}/\text{obj}}$ seems nobody to notice

‘I smile a bit too much, nobody seems to notice that.’¹²

Depending on the selecting verb, *zu*-infinitivals may also be constructed incoherently, that is, the embedded verb and its dependents are realized apart from the selecting verb, as in (38):

$$(38) \quad \text{Keiner hat dich gezwungen [es zu sagen].}$$

nobody has you forced es_{obj} to say

‘Nobody forced you to say it.’

On the basis of Dutch, Kaplan and Zaenen (2003) argue that incoherently constructed dependents are COMPs. If we assume this, the ECF equation predicts that an

¹²<http://www.theaterzeitung-koeln.de/archiv/akt29-januar-2012/aus-der-koelner-theaterszene/facebook-mit-anfassen/>

object of an incoherently combined verb cannot appear as $es_{vf/obj}$. This prediction appears to be correct, although the data is not as solid as with finite COMP.

- (39) ??Es hat dich keiner gezwungen zu sagen.
 $es_{vf/obj}$ has you nobody force to say
 ‘Nobody forced you to say it.’

A further complication with *zu*-infinitivals is the so called ‘third construction’, a (marked) construction in which one of the dependents of an incoherently combined verb appears in the Mittelfeld of the selecting verb.

- (40) Keiner hat dich das gezwungen zu sagen.
 nobody has you that forced to say
 ‘Nobody forced you to say that.’

More work establishing the data and investigating the third construction is needed to see how *zu*-infinitivals interact with $es_{vf/obj}$.

4.2 Multiple occurrences of *es*

Thus far we have argued that the constraints the presentational construction introduces are on the topicality of its subject. However, there are further cooccurrence restrictions on the rest of the sentence that do not fall under this characterization. First, consider the following data with an (optional) expletive subject.

- (41) a. Es regnet vielleicht.
 it rains perhaps
 ‘Maybe it rains.’
 b. Vielleicht regnet es.
 c. *Es regnet es vielleicht.
- (42) a. Es graut mir vor dem Abend.
 it horrifies me for the evening
 ‘I fear the night.’
 b. Mir graut (es) vor dem Abend.
 c. *Es graut es mir vor dem Abend.

The (a) sentences show the expletive subject in the Vorfeld. The (b) sentences show that *es* is selected and not just a Vorfeld *es*, as it can appear in the Mittelfeld. Note that in the case of *grauen* ‘horrify’, this subject is optional. As we take these subjects to be non-thematic, we would also have to assume that they are non-topical. However, if they are non-topical, it should be possible to use them in a presentational construction. The (c) examples above show that this is not the case: one cannot use unselected es_{vf} with these verbs.

It is unclear how to handle this properly at this point. A possible solution would be to constrain the subject to have a PRED value. This could either be done directly or by changing the constraint forbidding topical subjects into a constraint enforcing

the subject to be part of the comment. Unfortunately, this solution would cause problems for impersonal passives, which we also assume to lack a thematic subject, but which can be used in a presentational construction.

The challenges these expletive subjects pose are not limited to the presentational construction. Expletive subjects seem to pattern like other unstressed personal pronouns in the Mittelfeld, too: they appear in the topic region (43a). This is unexpected under the topic-comment division of the Mittelfeld. This appears to be specific to unstressed *personal* pronouns, and not any unstressed pronouns, as (43b) shows – the unstressed indefinite pronoun *wer* ‘someone’ is in the Mittelfeld comment region and occurs in a presentational construction.

- (43) a. Morgen wird es wohl / *wohl es regnen.
 tomorrow shall it PART rain
 ‘I guess it will rain tomorrow.’
 b. ... und es wird wohl wer vorbei geschickt.
 and *es_{vf}* is PART someone.NOM over sent.PRFPR
 ‘... and I guess they will send someone over.’¹³

Given the data in (43a), the impossibility of (41c) is perhaps less surprising: these expletive subjects follow the general correlation we saw between Mittelfeld positioning and the possibility of occurring in a presentational construction. Spelling out what the information structural properties of these subjects is and how this relates to our observations will have to remain a topic for future work.

A related but slightly different observation can be made about the object in a presentational construction. In the attested example below, we find a Mitteld *es_{obj}* together with presentational *es_{vf}*.

- (44) Sie sehen ja, wie er es hervorbringt. Bei dem Dichter sehen Sie es
 aber nicht.
 Of course, you see how he [the painter or sculptor] creates it [the admired
 artwork]. But in the poet’s case, you don’t see it.
 (*)Es hat es keiner gesehen.¹⁴
es_{vf} has *es_{obj}* nobody seen.
 ‘Nobody has seen it.’

The example is starred within parentheses to indicate that there is variation in the grammaticality judgements. On the one hand, the example is from edited text and other examples like it can easily be found. On the other, informal polling of native speaker informants suggests a low degree of acceptability for some. Note that *es_{vf}...es_{obj}* is possible in our grammar fragment, so we would predict (44) to be grammatical. It is the variation in its grammaticality that is problematic under our account.

¹³<http://www.mietrecht-hilfe.de/mietrecht-forum/kuendigung/1031-schimmel-nach-3-wochen-aber-3-jahres-klausel.html>

¹⁴From page 172 of Theodor Adorno, 1967, *Ohne Leitbild. Parva Aesthetica*, Suhrkamp.

The (for some) obligatory amalgamation of two *es*-es might be explained as a kind of syntactic haplology (Neeleman and Van de Koot, 2006), under which repetition of material is avoided for (prosodic) wellformedness reasons. Haplology is commonly restricted to functional material, and indeed, there is nothing remarkable about multiple *es*-es in a German sentence in general.

- (45) Es hat es nicht verdient.
 it has it not deserved
 ‘It/he/she hasn’t deserved it.’

However, haplology also normally applies to material that is adjacent. Our data thus poses a problem for an explanation from haplology. Not only are the two *es*-es not adjacent in (44), removing any pressure to leave one unexpressed, they *cannot* be adjacent, since that would violate V2. There are well-known (apparent) exceptions to V2 in German, but none is of the type needed for a deletion rule of the type ... *es* ~~*es*~~ ... to apply. For instance, *es*_{vf} plus another accusative pronoun in the Vorfeld is also ruled out:

- (46) *Es ihn hat keiner gesehen.
*es*_{vf} him has nobody seen
 Intended: ‘Nobody has seen him.’

An appeal to economy would be a more promising direction: if function amalgamation gives us the option to express with one *es* exactly as much as we would express with two *es*-es, pronouncing both would be uneconomic. The strength of such a theory relies, however, on finding the right notions of ‘economy’ and ‘expressing’. In LFG, the Principle of Economy (Bresnan, 2001) would appear to suggest itself. However, c-structure terminals and preterminals are exempt from this principle, so it would not have anything to say about repeated material in a sentence, at all. If we were to broaden the application of the Principle of Economy, the whole presentational construction would become suspect: The construction involves ‘extra’ material (i.e., *es*_{vf}) to express exactly the same f-structure as its non-presentational counterpart. Even the information about the information structural properties of the subject is not contributed as such by the presentational construction, as this is information already supplied by the lexical, discursive or positional properties of the subject. The fact that the presentational works best with subjects that are clearly non-topical, such as negatively quantified subjects, underlines this.

The economy intuition might be better captured in an Optimality Theoretic setting, where constraints that promote flagging a marked situation (such as lacking a topical subject) and keeping separate information separate (and thus not using one *es* for two purposes) interact with economy constraints that give rise to function amalgamation. Under such a model, we would expect there to be a correlation between liking *es*_{vf/obj} and disliking *es*_{vf}...*es*_{obj} for a native speaker, which is a testable hypothesis.

4.3 Comparison to other languages

We end with a brief discussion of similar phenomena in Dutch, Swedish and Polish, and the potential for carrying over our analysis to these languages.

Dutch The concept of function amalgamation of the kind that we have argued for in this paper was already introduced for the Dutch existential construction by Bech (1952). Dutch has an existential construction marked by the weak adverbial pronoun *er* ‘there’ appearing in the Vorfeld or preceding the subject in the Mittelfeld. This construction is licensed with impersonal passives or when the subject is indefinite. In one of its other uses, *er* may realize the object of an adposition, when this object has floated leftward of its head into the Mittelfeld. Since *er* is a weak pronoun, *er_{obj}* is normally banned from the Vorfeld, just like *es_{obj}* in German. A further parallel with the German data is that when the conditions for an existential construction are met, *er_{obj}* can appear in the Vorfeld. This is illustrated in (47). The grammaticality of the sentence varies with the definiteness of the subject, indicating that the Vorfeld *er* not only realizes the object of *op* ‘on’, but also flags the existential construction.

- (47) Er staat een handtekening van mij / *mijn handtekening op.
er_{ex/obj} stands a signature of me my signature on
‘My signature is on it.’

Further discussion and analysis of this construction can be found in Odijk (1993), Bouma (2000), and Neeleman and Van de Koot (2006). Our LFG model should carry over to a great extent. Aside from the mentioned fact that *er_{ex}* is not Vorfeld-bound, a difference with the German data is that three different *er*-s (objective, locative, partitive) may be combined with *er_{ex}*. Also, because *er_{ex}* may appear in the Mittelfeld, repeated mentions of *er* could in principle be adjacent, so that haplogogy might be an explanatory factor in some of these data (Odijk, 1993).

Swedish Clausal subjects in Swedish can either be realized clause initially (in-situ) as in (48a) or clause finally (extraposed) as in (48b). In the latter case, a correlative pronoun *det* ‘it’ is used as a preliminary subject. However, as shown in example (48b), from Engdahl (2007), realizing the object of extraposed clause *det* ‘it’ now becomes optional, even though in (a) it was obligatory (see also Engdahl, To appear).

- (48) a. [Att du sa *(det)] var dumt.
that you said *det_{obj}* was stupid
‘It was stupid (of you) to say it/so.’
b. Det var dumt att du sa (det)
det_{corr} was stupid that you said *det_{obj}*
c. Därför var *(det) dumt att du sa *(det)
therefore was *det_{corr}* stupid that you said *det_{obj}*
‘That is why it was stupid of you to say so.’

It appears to be possible to long-distance bind the embedded object *det* from the front of the clause and have it act as a preliminary subject for the matrix clause at the same time. Example (48c) shows that this is restricted to the sentence initial position for unbounded dependencies, as the sentence internal subject position after the verb cannot participate in such function amalgamation – both *det*-s must be realized in this case.

The Swedish data are different from the German and Dutch in that there is no (obvious) information structural marking involved. However, given the strong positional restrictions of the effect, it should be possible to analyze the Swedish data with the help of a dedicated c-structure rule or annotation, too.

Polish Finally, we will consider the reflexive clitic *się* in Polish, which can be involved in rather elaborate function amalgams. A basic example is in (49), from Kupść (1999). The sentence contains two inherently reflexive verbs requiring *się*. However, only one reflexive clitic is needed to meet the needs of both verbs.

- (49) Boję się głośno roześmiać.
 fear.1SG.INH *się*_{inh} loudly laugh.INF.INH
 ‘I’m afraid to laugh loudly.’

Since Polish has clitic climbing, it is hard to pin this sharing effect down to a specific c-structure position. A lexical treatment, where reflexive verbs carry optional control equations passing *się* on to embedded verbs may be more appropriate for these data than a construction-based implementation. See Kupść (1999) for an HPSG-based lexical account.

The example in (50), *idem*, shows two further challenging aspects of the Polish reflexive clitic. First, Polish has a reflexive impersonal construction that is marked by *się* (Kibort, 2008, for an LFG analysis). As the example shows, one *się* for *powinno* ‘should’ both marks it as impersonal and supplies the required inherent reflexive. Thus, *się* can not only fulfil the same role for different verbs, but also different roles for one verb. In fact, multiple *się*-s for one verb are not allowed.

- (50) Po tych lekach powinno mu się zacząć
 after these pills should.INH.IMP him.DAT *się*_{imp/inh} begin.INF
 udawać mniej obawiać spotkać ze znajomymi
 succeed.INF.INH less fear.INF.INH meet.INF.INH with friends
 sprzed wojny.
 from before war
 ‘As a result of these pills, he should begin to succeed to be less afraid of meeting with friends from before the war.’

Secondly, *się* in (50) is the reflexive marker for a total of four inherently reflexive verbs. This is also a reason a constructional account is not attractive for the Polish data. We would need an arbitrary number of c-structure annotations to distribute the one reflexive clitic over all embedded inherently reflexive verbs. A lexical control

analysis would probably fare better in this respect, too, as it is possible to chain the reflexive from one verb to another, irrespective of where and how often the reflexive was realized.

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