

**CLITIC-LEFT DISLOCATION VS. SCRAMBLING:
COMPARING THE LINEARIZATION PROPERTIES OF GERMAN AND GREEK
EXPERIENCER VERBS**

Anne Temme, *Humboldt University of Berlin*
anne.temme@posteo.de

Elisabeth Verhoeven, *Humboldt University of Berlin*
elisabeth.verhoeven@hu-berlin.de

Abstract

This article compares the linearization properties of experiencer objects in German and Greek. Taking the difference in the accounts for experiencer objects in these languages as a starting point, Greek is analyzed as a language showing clear evidence that accusative experiencers are quirky subjects while in German there is no conclusive evidence that accusative experiencers differ from accusative patients. This article presents facts about linearization from acceptability data and spontaneous speech production which contradict previous accounts. In contrast to German, Greek displays no evidence that accusative experiencers differ in their behavior in linearization from accusative patients. These facts are not being traced back to a difference in the status of experiencers but to the different properties of the left periphery in these languages.

Keywords: experiencer, psych-effect, German, Greek, clitic left dislocation, object-fronting

1. Introduction

Object-experiencers are known to show exceptional syntactic properties across many languages, which prompts the idea that the special status of experiencers is universally expressed in a specific grammar (see for instance Landau 2010). The syntactic behavior of experiencer objects deviates from that of canonical objects in diverse languages, which manifests itself in peculiarities concerning binding, extraction/ islandhood, reflexivization and argument linearization amongst others. For decades, a large amount of research in this field has dealt with the identification and derivation of these so-called psych-effects. Theoretical as well as recent experimental research is trying to find out in what way and why experiencers are special. The present article contributes to this purpose by comparing two languages, German and Modern Greek, regarding the psych-effect on word order.

Greek and German represent a promising pair for comparison as both languages exhibit the same classes of experiencer predicates and are both known to show word order flexibility as a psych-effect. Thus, even though Greek and German object-fronting must be licensed by contextual factors, experiencer objects may occur clause-initially without further licensing.

Syntactic accounts of the psych-effects vary in these two languages. Previous work on Greek relates the exceptional behavior of non-nominative experiencers to their quirkiness compared to canonical objects, an analysis that has been presented for dative as well as accusative structures (Anagnostopoulou 1999 and Landau 2010). In contrast, German preposed non-nominative experiencers are not analyzed as quirky subjects. Furthermore, many depictions of German do not assume the same structure for dative and accusative experiencers.

In the present article, we compare German and Greek based on new experimental and corpus data. We demonstrate that the differences in linearization between these languages do not necessarily imply that experiencer objects have a different status, but rather that they result from syntactic differences between these languages that independently hold true. Therefore, we characterize both languages in regard to their experiencer inventory and introduce previous research on psych-effects in section 2. In section 3, we discuss the results from a forced choice acceptability study on argument order permutations with experiencer object verbs, whereas in section 4 we report on corresponding corpus results. In section 5, we summarize our findings.

2. Previous research

2.1 Experiencers and psych-effects

Both German and Greek have three core classes of so-called psychological verbs, as defined in Belletti & Rizzi (1988). Class I contains verbs selecting nominative experiencers (*fear*-type verbs), Class II consists of transitive verbs with accusative experiencer objects (*worry*-type verbs) and Class III comprises intransitive dative-experiencer verbs (*appeal*-type verbs). In both languages, Class II sub-divides into verbs exhibiting purely non-agentive structures, e.g. German *interessieren* ‘interest’, *wundern* ‘wonder’ and Greek *endiaféro* ‘interest’, *paraksenévo* ‘intrigue’, and verbs alternating between agentive and non-agentive uses, e.g. German *ärgern* ‘annoy’, *verängstigen* ‘frighten’ and Greek *enoxló* ‘bother’, *fovízo* ‘scare’. Note that the abovementioned psych-effects only occur in non-agentive readings of experiencer object structures and therefore apply to dative experiencer and non-agentive accusative experiencer structures (cf. Arad 1998, Reinhart 2002 and Landau 2010). The structures below exemplify the relevant classes for German (1) and Greek (2). Note also that the use of inanimate subjects suppresses the agentive potential of the structures in the a-versions of (1) and (2). The b-versions represent the inherently stative dative experiencer structures.

(1) German

- a. *Die Möbel ärgern*
 the.NOM.PL.N furniture:NOM.PL.N bother:3.PL
den Lehrer.
 the.ACC.SG.M teacher:ACC.SG.M
 ‘The furniture bothers the teacher.’
- b. *Die Möbel gefallen*
 the.NOM.PL.N furniture:NOM.PL.N appeal.to:3.PL
dem Lehrer.
 the.DAT.SG.M teacher:DAT.SG.M
 ‘The furniture appeals to the teacher.’

(2) Greek

- a. *Ta épipla ton enoxlín*
 the.NOM.PL.N furniture:NOM.PL.N 3.SG:ACC.M bother:3.PL
ton daskalo.
 the.ACC.SG.M teacher:ACC.SG.M
 ‘The furniture bothers the teacher.’

- b. *Ta épipla tu arésun*
 the.NOM.PL.N furniture:NOM.PL.N 3.SG.GEN.M appeal.to:3.PL
tu dáskalu.
 the.GEN.SG.M teacher: GEN.SG.M
 ‘The furniture appeals to the teacher.’

For German, it has been observed that O<S is the most natural order for dative experiencers, whereas the object-initial order occurs less frequently with accusative experiencers and is not accepted as ‘neutral’ (Kempen & Harbusch 2003; Haupt et al. 2008; Bader & Häussler 2010; Lamers & de Hoop forthc; Lamers & de Schepper 2010). Studies in speech comprehension show that the dative<nominative order in German does not provide evidence for reanalysis effects (Bornkessel et al. 2003, 2004). Furthermore, important arguments are in favor of dative experiencers bearing inherent case, while this is a rather marginal view for accusative experiencers in German. Most certainly, however, datives are analyzed as non-subjects, i.e. they lack some of the crucial subject properties compared to prototypical quirky experiencers in Greek or Icelandic (cf., e.g., Bayer 2004).

For Modern Greek, there are no observations concerning differences between dative and accusative experiencer verbs. Instead, both experiencer-types are analyzed as quirky subjects (Anagnostopoulou 1999, Landau 2010), i.e. they bear inherent case and exhibit most of the relevant subject properties. Concerning the basic order of the arguments, the intuitions reported in Anagnostopoulou (1999) and Landau (2010:81f) take accusative-/dative-first orders to be contextually neutral orders for both accusative and dative experiencer verbs. However, these intuitions could not be replicated in experimental and corpus studies on accusative experiencer verbs (Verhoeven 2009a, 2009b, 2014), which rather indicates an advantage for accusative<nominative for experiencer object verbs in contrast to canonical transitive verbs or experiencer subject verbs, but no overall higher frequency of this order in comparison to the nominative<accusative order.

In Landau’s (2010) tripartite typology of quiriness, Greek belongs to the languages with clear evidence for quirky properties; see (3). German seems to be a mid-level language that aligns itself between Dutch and English. Similar to English, German does not display quirky experiencers; however, German clearly differs from English (4b) and French (4c), since dative<nominative orders are not ungrammatical, but in fact favored (4a).

- (3) Greek, Icelandic, Faroese >>
 Italian, Spanish, Dutch >>
 English, French, Hebrew

- (4) a. German
Dem Hans gefällt die Musik.
 the.DAT.SG.M John.DAT appeal.to:3.SG the.NOM.SG.F music
 ‘The music appeals to John.’
 b. English
 **To John appeals the music.*
 c. French
 **A Jean plait la musique.* (Belletti & Rizzi 1988:339)

Observations in previous research suggest a typological difference between German and Greek. In Greek, accusative and dative experiencers are subjects bearing inherent case, whereas German experiencers are objects with either structural or inherent case (presumably depending on morphological case). Furthermore, German exhibits a dative/accusative asymmetry with respect to the fronting-behavior, which can be attributed to a structural difference between the two argument types or to more general case-related properties, i.e. accusative being the default case for canonical objects, whereas dative is predominantly used to encode applied arguments (goals, possessors, benefactives, etc.).

Several attempts have been made to explain the special properties of experiencer object structures, differing according to the linguistic layer from which the specific psych-effects are derived, i.e. the lexical-conceptual, syntactic or discourse-related layer. In most accounts, the source of the psych-effects lies in the basic structure of psych-verbs, which affects the derivation of object-experiencer structures. Thus, the psych-effects are either attributed to the lexical-thematic (e.g. Pesetsky 1995) or to the syntactic properties of the corresponding verb classes (e.g. Belletti & Rizzi 1988, Landau 2010). Event-based approaches assume that the prominence of an argument in relation to the prominence of the sub-events denoted by the predicate is responsible for the different syntactic representations of experiential structures, i.e., although experiencers are lexically marked as internal arguments, they are centrally involved in the main event on the aspectual layer and therefore realized as object-marked subjects (Grimshaw 1990). Contrary to most current approaches, which assume that the exceptionality of experiencers originates from levels before the derivation, Sato & Kishida (2009) assume an obligatory movement to a point-of-view phase at LF. Such a designated phase for experiencers can also be applied to structures containing subjective or viewpoint perspectives in general, e.g. speaker-related evaluations.

An alternative view is that the psych-effects are traced back to the discourse properties of experiencer arguments. Experiencers are necessarily human and as such very likely to be the referents at issue in the discourse, which implies that they frequently occur as sentential topics. Topicalization may account for the word order properties of experiencers, i.e. for the intuition that they may be fronted without a contextual licensor. However, the discourse properties of experiencers cannot account for the psych-effects that relate to core syntactic properties, e.g. the possibilities of extraction.

As discussed above, it has been reported for German that dative experiencers frequently precede nominatives in neutral contexts, which does not apply to accusative experiencers. This asymmetry in linearization can be explained at once if we assume a syntactic difference between accusative and dative experiencers in German. Dative experiencers are structurally higher than the nominative stimulus, whereas this is not the case for accusative experiencers, which are derived like canonical objects (Sternefeld 1985; Grewendorf 1989; Fanselow 2000). The fronting peculiarities of accusative experiencers in contrast to accusative patients are then attributed to their natural topicality properties.

2.2 Linearization facts about German and Greek

In German and Greek, linearization is sensitive to the information-structural features of arguments, namely topic and focus. In regard to main clauses, topical objects are fronted in both languages. However, the involved syntactic operation is not the same. In Greek, non-nominative arguments are topicalized with clitic left dislocation that involves a co-referential clitic copying the fronted argument (Tsimpli 1995; Alexi-

adou and Anagnostopoulou 2000). Left-dislocated arguments occupy a left-peripheral position within the CP-layer that is associated with a topic feature in configurational accounts of the Greek left periphery. Clitic left dislocation (CLLD) is used for contrastive topics or topics serving as links to the common ground (Alexopoulou and Kolliakou 2002; Skopeteas and Fanselow 2009) or hanging topics (see Anagnostopoulou 1997; Grohmann 2003), but not for aboutness topics. Note that clitics do not only occur in combination with left-dislocated arguments. They are also legitimate with postverbal arguments ('clitic doubling'; CD in the following) and, according to Anagnostopoulou 1999, obligatory with experiencers.

Doubling of non-experiencers requires some level of familiarity of the doubled referent. It must be directly introduced in the preceding context, otherwise, e.g. if it is not introduced or only accommodative, doubling is not allowed. This is not required when doubling experiencer objects, which in turn leads to the conclusion that doubling constitutes a language-specific psych-effect for Greek that is somehow related to the topicality of the element. This topicality can again be bridged by experiencers without previous mentioning (Anagnostopoulou 1999; Tantos 2005).

German is a V-final language. In declaratives, the finite verb moves to a higher position via V°-to-C° movement (Thiersch 1978; Den Besten 1989). The position preceding the finite verb (traditionally called 'prefield') is the specifier of the CP-layer and has to be filled (in declaratives) by exactly one constituent. Movement to spec,CP does not require a particular trigger since this position must be filled. This operation is a case of formal movement that applies to the first eligible element of the thematic layer of the clause (traditionally called 'middlefield'). Under neutral conditions, the highest element within the thematic layer of the clause is the subject; accordingly, the subject appears most frequently in the spec,CP in declaratives (Frey 2004, 2006). However, the order within the thematic layer of the clause is very flexible and is determined by an array of factors, such as animacy, topicality, weight, etc. (Müller 1999, 2004). For instance, if a non-subject is a topic, then the non-subject topic is expected to precede the subject in the middlefield. In the corresponding declaratives, the non-subject topic appears in the prefield (instead of the subject).

3 Linearization preferences in forced choice data

3.1 Accusative experiencers

In Section 2, we saw that accounts of Greek syntax conclude that accusative experiencers are quirky subjects while the predominant view in German syntax is that accusative experiencers do not differ from canonical patients. On this background, the question is whether there is a difference between the examples in (5): (5a) involves an accusative experiencer fronted to the prefield of the German clause, which, according to standard assumptions in German syntax, is the specifier position of the complementizer phrase (spec,CP); (5b) involves a left dislocated accusative experiencer accompanied by clitic doubling.

- (5) a. *Den Schüler interessiert die Chemie.*
 the.ACC.SG.M pupil interest:3.SG the.ACC.SG.F chemistry
 'Chemistry interests the pupil.'
- b. *to maθiti ton enðiaféri*
 the.ACC.SG.M pupil.ACC.SG.M 3.SG.ACC.M interest:3.SG

i *ximía*.
the.ACC.SG.F chemistry.ACC.SG.F
'Chemistry interests the pupil.'

In order to assess the difference in (5), we conducted a comparative experimental study (see a detailed presentation of the experimental findings including statistical analyses in Temme & Verhoeven; forth.). Thirty-two native speakers of each language were asked to select the most appropriate order for the answers to a 'What is new?' question (each speaker received the task four times, each time with a different lexicalization). For the experimental material, we used sixteen experiencer-object verbs such as German *ärgern* and Greek *enoχλό* 'annoy', German *enttäuschen* and Greek *apogotevo* 'disappoint', etc. Possible answers included the experiencer-first order in (5) and the corresponding nominative-first order. The nominative arguments were consistently inanimates in order to exclude an agentive reading. As a control condition, we performed the same task with sixteen canonical verbs that may have inanimate subjects and animate objects, e.g. German *behindern* and Greek *emboðizo* 'hinder', German *abholen* and Greek *paralamváo* 'pick up'.

The results of this study reveal an empirical situation that does not support the statements from previous research. German speakers selected the accusative-first order more frequently for experiencer structures (53 out of 128 trials; 41%) than for canonical transitive structures (25 out of 128 trials; 20%). In Greek, the frequencies of accusative-first order are identical for both verb groups (40 out of 128 trials; 31%). How do these findings fit the structural properties of the languages at issue?

These linearization facts do not necessarily reflect differences in the syntactic status of accusative experiencers between German and Greek. The properties of the syntactic operations underlying accusative fronting are crucially different in both languages, as already described in section 2.2. Left-dislocation requires a contextual trigger, which is not present in the 'What's new?' question. The context in particular should license the use of an argument as a topic in order for this argument to be left dislocated. This contextual requirement equally holds for experiencer and patient accusatives. Hence, the construction in (5b) is not congruent with the all-new context; the fact that the speakers selected this construction in 31% of the trials is an artifact of the forced choice task. The informative result shows no evidence for a distinction between experiencers and patients in this construction.

The German prefield is filled by the highest eligible element in the middlefield (see details in section 2.2). Contrary to clitic left dislocation, the operation leading an XP to spec,CP is an instance of formal movement and does not require a particular discourse feature (the prefield is just obligatorily filled in declaratives). The order in the German middlefield is sensitive to several factors, including thematic asymmetries. This is also reflected in the German experimental results: accusative experiencers appear in the German prefield more frequently than accusative patients. These observations lead to the conclusion that the difference between Greek and German in the linearization of accusative arguments does not relate to the syntactic status of experiencers but to the difference between the contextual requirements of clitic left dislocation in Greek and the contextual requirements of the German prefield.

3.2 Dative experiencers

In both languages, dative experiencers are regarded as arguments occupying a higher position in the hierarchical clause structure than the nominative arguments. The dative

constructions are illustrated in (6a) for German and (6b) for Greek. The morphological case of the experiencer is the genitive in Greek, which covers an array of typically dative functions, including the case of the indirect object and the case of non-accusative experiencer objects.

- (6) a. *Dem Schüler gefällt die Chemie.*
 the.DAT.SG.M pupil please:3.SG the.ACC.SG.F chemistry
 ‘The chemistry pleases the pupil.’
- b. *tu maθiti tu arési*
 the.GEN.SG.M pupil:GEN.SG.M 3.SG.GEN.M please:3.SG
i ximía.
 the.ACC.SG.F chemistry:NOM.SG.F
 ‘The chemistry interests the pupil.’

In order to examine the impact of case marking on linearization preferences, we replicated the experiment illustrated in section 3.1 with dative experiencers. We tested sixteen lexicalizations including simple dative verbs (e.g., Greek *arési* ‘appeal to’, *lípi* ‘miss’ or German *gefallen* ‘appeal to’, *wehtun* ‘hurt’) and periphrastic constructions with an experiencer argument (e.g., *mu fénete ikanopiitikó* ‘it seems satisfying to me’). Similar to the previous study, 32 native speakers were presented with an all-new context (question ‘What’s new?’) and were asked to choose from the dative-first linearizations in (6) and the corresponding nominative-first linearizations.

The results of the dative experiment reveal a significant difference in comparison to the accusative experimental results. German speakers selected the dative-first order in 87 out of 128 trials (i.e. 68%) while Greek speakers selected this linearization in 99 out of 128 trials (i.e. 77%). These linearization facts are in line with the view that the dative experiencer is higher than the nominative and hence surfaces in an early position in the linearization – in contrast to the accusative experiencer.

4 Linearization preferences in corpus data

The results reported in section 3 are in part surprising in respect to previous statements in the literature. Especially the fact that Greek accusative experiencers do not differ from accusative patients is not in line with the view that Greek is among the languages with clear evidence for quirky experiencers; see Landau (2010) and hierarchy in (3). In order to validate the speech production findings in the previous section, we should compare the obtained frequencies with preferences in corpus data. The following caveat is at issue concerning the interpretation of corpus data: the frequency of a construction in a corpus can be the result of the frequency of particular contexts. Regarding the data presented in the following, a frequent occurrence of experiencer arguments in an early position does not necessarily reflect syntactic properties since it may well reflect the frequency of contexts licensing the topicalization of experiencer arguments.

Word order frequencies with Greek EO verbs are reported in Verhoeven (2009a). This corpus study is based on data from the *Hellenic National Corpus* (extracted in 2008). The relevant aspects for the validation of the findings in section 3 are the word order frequencies of accusative patients, accusative experiencers, and dative experiencers, which are summarized in Table 1. The table presents the frequencies of preverbal or postverbal placement of lexical NP objects with different verb classes. ‘Ac-

cusative patients’ are the patients of canonical transitive verbs (the tested verbs are *spróxno* ‘push’, *vlápto* ‘damage’, *ðiorθóno* ‘correct’, and *θavmázo* ‘admire’). These verbs establish a baseline for the likelihood of orders with a preverbal object in Greek (10 out of 319 tokens; i.e. 3.1%). ‘Accusative experiencers’ refer to experiencer object verbs (the examined verbs are the non-agentive verbs *yoitévo* ‘charm’ and *provlimatízo* ‘puzzle’, and the \pm agentive verbs *tromázo* ‘frighthen’, *enoxló* ‘annoy’, *ksejeláo* ‘fiddle’, and *eksorjízo* ‘enrage’). The frequency of object-first order is not substantially different for accusative experiencers: we encountered 19 instances of preverbal objects in a total of 454 sentences (4.2%). These percentages confirm the observation from section 3 that the linearization preferences with accusative experiencers are not different from the corresponding preferences with accusative patients. A different behavior is attested for one accusative experiencer verb in Greek, namely *enðiaféro* ‘interest’ (24 tokens with preposed objects out of a total of 60 sentences with a lexical NP object; i.e. 40%). Finally, dative experiencers, measured here with *aréso* ‘appeal to’, show a different behavior, which is in line with the findings in section 3. In 223 cases of dative experiencers, we encountered 91 tokens with a preverbal dative (40.8%), which demonstrates that dative fronting is much more frequent than accusative fronting. Furthermore, Table 1 displays the number of preverbal and postverbal objects that occur with a co-referent clitic. These results show that clitics are very frequent in the presence of preverbal objects (70% with accusative patients; 68% with accusative experiencers; 52% with dative experiencers). When the object appears postverbally, clitic doubling is very rare (1% with accusative patients; 2% with accusative experiencers; 6% with dative experiencers). The low frequency of clitic doubling contradicts the central argument for the assumption that experiencers are quirky subjects in Greek, namely the intuition that clitic doubling is obligatory with experiencer-object verbs (Anagnostopoulou 1999 and Landau 2010).

Table 1. Word order frequencies in Greek

	postverbal object		preverbal object		total	%preverbal
	total	CLLD	total	CD		
accusative patients	309	7	10	4	319	3.1
accusative experiencers	435	13	19	1	454	4.2
dative experiencers	132	47	91	8	223	40.8

The corresponding information from a German corpus is summarized in Table 2 (data extracted from the IDS corpus, COSMAS-Database, Corpus *W-öffentlich*). ‘Accusative patients’ are the objects of ten different canonical verbs, e.g. *beeinträchtigen* ‘impair’, *behindern* ‘hinder’, *blenden* ‘blind’. Preverbal objects appear in 4.2% of the extracted tokens, a proportion that is very similar to the proportion of object-first clauses with Greek accusatives. ‘Accusative experiencers’ refer to a sample of twenty non-agentive and \pm agentive experiencer object verbs, such as *freuen* ‘give pleasure’, *wundern* ‘astonish’, *enttäuschen* ‘disappoint’, etc. The frequency of object-first order differs from canonical verbs (17% preverbal objects). Finally, experiencer datives are tested with ten verbs, e.g. *gefallen* ‘please’, *imponieren* ‘impress’, *auffallen* ‘catch so.’s eye’, etc. These verbs appear very frequently with a dative-first order (33%).

Table 2. Word order frequencies in German

	postverbal object	preverbal object	total	%preverbal
accusative patients	594	26	620	4.2
accusative experiencers	652	134	786	17.0

In concluding this, the frequencies in corpus data show the same pattern as surveyed in the controlled forced choice data. Accusative experiencers in Greek do not indicate different linearization preferences in relation to accusative patients, but they do so in German. In both languages, there is a strong effect of case such that dative experiencers appear in the left periphery more frequently than accusative experiencers.

5 Conclusion

The linearization preferences presented in this article show a major difference between accusative and dative experiencers. Dative experiencers in German and Greek frequently appear in left peripheral position – even without a contextual trigger as shown by the experimental facts. Accusative experiencers appear less frequently in the same configuration. In Greek, accusative experiencers of agentive and non-agentive verbs do not differ from accusative patients in linearization. There is a single verb that shows exceptional behavior, namely the verb *endiaféro* ‘interest’. The frequency of the accusative-first order with this verb is similar to the dative-first frequency with dative experiencers. It is possible that this particular verb has a different syntax, however, its properties are not generalizable for all non-agentive verbs in Greek. In German, accusative experiencers differ from accusative patients: corpus data show that experiencers occur more frequently in an earlier position in the clause than patients; the results from the forced choice study show that in neutral contexts German speakers select an experiencer-first order more frequently than the patient-first order.

The cross-linguistic difference between the accusatives may be traced back to the difference between clitic-left dislocation in Greek and the properties of the prefield in German. The German word order is more sensitive to thematic asymmetries since the word order in the German middlefield is determined by an array of triggers, including thematic asymmetries. This flexibility is also reflected in the prefield of declaratives. Clitic-left dislocation in Greek requires a contextual trigger and does not reflect thematic asymmetries of the type examined in this article. Datives show a different behavior in both languages. In corpora, they are attested very frequently in an early position in the clause; the forced choice data show that the dative-first order in German and Greek is preferred in neutral contexts. These findings are in line with the view that dative verbs are unaccusatives, i.e. the nominative (stimulus) is an internal argument (governed by the V) and the dative (experiencer) is a higher argument bearing inherent case.

References

- Alexiadou, Artemis & Elena Anagnostopoulou. 2000. “Greek Syntax: A Principle and Parameters Approach.” *Journal of Greek Linguistics* 1. 171–222.
- Alexopoulou, Theodora & Dimitra Kolliakou. 2002. “On Linkhood, Topicalization and Clitic Left Dislocation.” *Journal of Linguistics* 38(2). 193–245.
- Anagnostopoulou, E. 1999a. „On Experiencers.“ In A. Alexiadou, G. Horrocks, and M. Stavrou (eds) *Studies in Greek Syntax*. Kluwer, pp. 67-93.

- Arad, Maya. 1998. "Psych-notes." In *UCL Working Papers in Linguistics* edited by J. Harris & C. Iten, 203–223. University College London.
- Bader, Markus & Jana Häussler. 2010. "Word order in German: A corpus study." *Lingua* 120. 717–762.
- Bayer, Josef. 2004. "Non-nominative subjects in comparison." In *Non-nominative Subjects* edited by P. Bhaskararao & K.V. Subbarao, 49–76. Amsterdam & Philadelphia: John Benjamins Publishing.
- Belletti, Adriana. & Luigi Rizzi. 1988. "Psych-verbs and Θ -Theory." *Natural Language and Linguistic Theory* 6. 293–352.
- Bornkessel, Ina, Brian McElree, Matthias Schlesewsky, & Angela D. Friederici. 2004. "Multi-dimensional contributions to garden path strength: Dissociating phrase structure from case marking." *Journal of Memory and Language* 51. 495–522.
- Bornkessel, Ina, Matthias Schlesewsky, & Angela Friederici. 2003. "Eliciting thematic reanalysis effects: The role of structure-independent information during parsing." *Language and Cognitive Processes* 18. 268–298.
- Den Besten, Hans. 1989. *Studies in West Germanic Syntax*. Amsterdam: Atlanta.
- Fanselow, Gisbert. 2000. "Optimal exceptions." In *Lexicon in Focus* edited by Barbara Stiebels & Dieter Wunderlich, 173–209. Berlin: Akademie Verlag.
- Frey, Werner. 2006. "Contrast and movement to the German prefield". In *The architecture of focus* edited by V. Molnár & S. Winkler, 235–264. Berlin: Mouton de Gruyter.
- Frey, Werner. 2004. "A medial topic position for German." *Linguistische Berichte* 198. 153–190.
- Grimshaw, J. 1990. *Argument Structure*. Cambridge: MIT Press.
- Grohmann, Kleanthes. 2003. "Prolific Peripheries: A Radical View from the Left." PhD diss., University of Maryland.
- Haupt, Friederike S., Matthias Schlesewsky, Dietmar Roehm, Angela D. Friederici & Ina Bornkessel-Schlesewsky. 2008. "The status of subject-object reanalyses in language comprehension architecture." *Journal of Memory and Language* 59. 54–96.
- Kempen, Gerard & Karin Harbusch. 2003. "A corpus study into word order variation in German subordinate clauses: Animacy affects linearization independently of grammatical function assignment." In Thomas Pechmann & Christopher Habel (eds.), *Multidisciplinary approaches to language production*, 173–181. Berlin: Mouton de Gruyter.
- Lamers, Monique & Helen de Hoop. (forthc.). "Object fronting in Dutch." In Brian MacWhinney, Andrej L Malchukov & Edith A. Moravcsik (eds.). *Competing motivations in grammar and usage*. Oxford: Oxford University Press.
- Lamers, Monique & Kees de Schepper. 2010. "Argument linearization in Dutch and German: a multifactorial analysis." Paper presented at the Conference on Competing Motivations, Leipzig, November 24, 2010.
- Landau, Idan. 2010. *The Locative Syntax of Experiencers*. Cambridge: MIT Press.
- Müller, Gereon. 1999. "Optimality, markedness, and word order in German." *Linguistics* 37, 777–818.
- Müller, Gereon. 2004. Verb-second as vP-first. *Journal of Comparative Germanic Linguistics* 7(3). 179–234.
- Pesetsky, David. 1995. *Zero syntax: Experiencers and cascades*. Cambridge: MIT Press.
- Reinhart, Tanya 2002. "The Theta System: An Overview." *Theoretical Linguistics* 28(3), 229–290.

- Sato, Yosuke & Kishida, Maki (2009). "Psychological predicates and the point-of-view hyperprojection." *Gengo Kenkyu* 135: 123-150.
- Skopeteas, Stavros and Gisbert Fanselow. 2009. "Effects of Givenness and Constraints on Free Word Order." In *Information Structure: Theoretical, Typological, and Experimental Perspectives* edited by M. Zimmerman & C. Féry, 307–331. Oxford: Oxford University Press.
- Sternefeld, Wolfgang. 1985. *On Case and Binding Theory*. Diss., Univ. Konstanz.
- Temme & Verhoeven. (forthc.). Verb class, case, and order: A cross-linguistic experiment.
- Thiersch, Craig. 1978. *Topics in German syntax*. PhD diss. MIT.
- Tsimpli, Ianthi-Maria. 1995. "Focussing in Modern Greek." In Katalin É. Kiss (ed.), *Discourse Configurational Languages*, 176–206. Oxford: Oxford University Press.
- Verhoeven, Elisabeth. 2009a. Experiencer-object and object clitics in Modern Greek: Evidence from a corpus study. In *Proceedings of the 8th International Conference on Greek Linguistics* edited by M. Baltazani et al., 574-588. University of Ioannina, Ioannina
- Verhoeven, Elisabeth. 2009b. Subjects, agents, experiencers, and animates in competition: Modern Greek argument order. *Linguistische Berichte* 219, 355-376.
- Verhoeven, Elisabeth. 2014. Thematic prominence and animacy asymmetries. Evidence from a cross-linguistic production study. *Lingua* 143, 129-161.