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ENGLISH LEFT-PERIPHERAL CONSTRUCTIONS FROM AN LFG PERSPECTIVE

ABSTRACT
This paper investigates the syntactic and information-structural properties of certain English constructions where some discourse-prominent element is located left-peripherally: Topicalization, Clause-initial adjuncts and Left-dislocation. I show that these structures have different syntactic and information-structural properties which may be adequately represented in Lexical Functional Grammar.

KEYWORDS
English left-periphery; topicalization; adjuncts; left-dislocation; LFG

1. Introduction
The sentence peripheries are commonly viewed as the most prominent areas for the interaction of syntax and information structure. This is true not only in the so-called discourse-configurational languages (languages where the primary structuring force behind the order of constituents is their discourse/information-structural status), but also in configurational ones like English, where the phrase structure rules impose a more rigid hierarchy and constituent-order. The aim of this paper is to investigate some English left-peripheral constructions in which the order of constituents deviate from what is considered to be as “normal” word order, from the perspective of Lexical-Functional Grammar (LFG, see e.g. Bresnan et al. 2016).

1 This research was supported by the National Research, Development and Innovation Office (NKFIH), grant No. K 111918.
The non-canonical word order in each case has information-structural effects. That is, the dislocated constituent receives a specific discourse-function, which would not necessarily be the case if they occupied their canonical position. The structures under investigation are the following: (1) it illustrates its Topicalization (TOP), (2) shows a Clause-initial adjunct (CIADJ) and (3) demonstrates Left-dislocation (LD). (In every case, the names of the constructions should simply be viewed as convenient labels, not as theoretical/analytical commitments on my part.)

(1) John, I like.
(2) In New York, there is always something to do.
(3) John, I like him.

The structure of the paper is the following. In sections 2.1–2.3, I will provide an overview of the main syntactic and information-structural properties of the constructions under investigation. I will remain predominantly theory-neutral in these subchapters. In sections 3.1–3.3, I will present my view of how these constructions should be treated in LFG. Section 4 concludes the paper.

2. Properties of the structures under investigation

2.1 Topicalization

The term “Topicalization” (TOP) here is defined is used for those constructions where some semantically obligatory element, such as an argument or a predicate is fronted.2 (1) has already illustrated TOP with a direct object NP. However, TOP is not restricted to this functional-categorial constellation. As (4) shows it can occur with a range of functions and grammatical categories.

(4) a. To arrive in time, John at least tried.
   b. Surrender, John never will.
   c. Happy, John will never be.

Topicalization can be rightfully called a long-distance dependency, as the canonical position of the fronted element in principle may be embedded at arbitrary depth. (Stylistic and processing factors may put a limit to this though.)

(5) a. John, Mary said that she saw.
   b. John, Mary said that John believed that she saw.

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2 Although adjuncts may also be topicalized, they will be discussed separately. This is because they show more flexibility in their syntax and discourse status, as we will see in section 2.2.
Although the depth of the canonical position is unlimited, the path to the embedded position is constrained by syntactic factors. Dalrymple (2001, 392–394) discusses some of these. An intervening nonbridge predicate can disrupt the dependency.

(6) *John, Mary whispered that she saw.

Furthermore, island constraints also affect Topicalization. (7) illustrates this with a Complex Noun Phrase-island (7a), a subject-island (7b), and an adjunct-island (7c).

(7) a. *John, I doubt the claim that Mary saw.
    b. *John, that you saw surprised me.
    c. *John, we think that David laughed when we selected.

The belonging of the topicalized constituent to its canonical interpretational site can also be detected with its interaction with binding theory.

(8) a. Himself, John, likes.
    b. *Him, John, likes.
    c. His, mother, John, likes.
    d. *John, he, likes.

(8) is classic binding-theoretic data. The pattern in (8) is clear if it is assumed that the topicalized phrases in some sense are also tied to their canonical positions. Deploying multiple TOPs in a sentence leads to ungrammaticality. Combining them with questions leads to similar results.

(9) a. *An apple, John, I gave.
    b. *An apple, whom did you give?

Let us now turn to the information-structural properties of TOP. Despite its name, the construction is not about standard topics (Prince 1999). Instead, the topicalized constituent may actually have two distinct functions: it can be interpreted as some kind of focus or a topic of a particular kind.

Regarding the focus-like reading, Choi (1997), referring to Ward (1988), asserts that the fronted phrase actually refers to two discourse elements: one, a set or a scale, and two, a specification of a value or an element in that set or scale. In (10a) this would mean that the sentence evokes a set of dog names that one may chose and picks Fido from that set. The evoked alternative set is lacking in the non-preposed version (10b).

(10) a. Fido I named my dog.
    b. I named my dog Fido.

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3 There has been some debate in the literature about the grammaticality of multiple topicalizations. For a discussion about such cases, see Breul (2004, 199–205).
Zimmerman (2008) also notes that for a wh-question, a topicalized answer is acceptable if it is against the expectations of the hearer, not as a neutral answer (11A2). Being unexpected may be interpreted as being a surprising pick from a set of alternatives. That topicalized answers of the sort in (12A) are common in corrections is a derivative of this property.

(11) Q: What did you eat in Russia?  
A1: Caviar.  
A2: #Caviar I ate!

(12) Q: What did you eat in Russia? Pelmeni?  
A: (No,) caviar I ate!

If this is correct, then the focus-reading topicalization is actually one of Contrastive focus (for more on the typology of information-structural categories, see Neel- 

As for the topic-like reading, there are several signs that the fronted constituent does not behave like a standard topic. Phonologically, such sentences have a peculiar fall-rise intonation, not the falling one of simple topic-comment sentences. Syntactically, one may topicalize elements that may not serve as topics in a sentence under normal circumstances, like clauses or predicates. Such cases have already been illustrated in (4a-c). A topic-like information-structural category with a crucial difference that it does not require referential entities as exponents is Contrastive topic.

Putting this together, we may arrive at the conclusion that TOP is essentially a contrast-marker construction. 4

2.2 Clause-initial adjuncts

While clause initial adjuncts (CIADJs) like (2) may look like Topicalization on the surface to the superficial observer, a deeper investigation can reveal several crucial differences, both regarding syntax and information-structure.

From a syntactic point of view, an important distinction that we have to make is that adjuncts differ according to what we might refer to as their canonical site of origin. While certain adjuncts are “base-generated” at the left periphery and not connected to a sentence-internally, other adjuncts maintain connections to the inner parts of a sentence (Frey 2003). This is related to what part of the event expressed by the sentence these adjuncts modify. Following Frey (2003), I will refer to the first type of adjuncts as “frame” or “event external adjuncts”, while I will call the second type “event-internal adjuncts”. As an illustration, consider (13).

(13) a. In New York/These days/ Probably, there is always something to do.  
b. In the box/With a metal detector John found a hammer.

4 I follow Titov (2013) in seeing “contrast” as the availability of a contextually relevant “pragmatic set of alternatives”.
In (13a), *in New York/probably/these days* provides a spatial/temporal/attitudinal frame for the event. That is, they do not modify the contents of the event, but restrict the domain for which the claim holds. In comparison, *in the box* in (13b) specifies the place of the *hammer*, *with a metal detector* specifies the tool of the process. These provide more information about some internal part of the event. (13) shows that the event external-event internal distinction is not based on grammatical category or semantic type (as both *in New York* and *in the box* are locative PPs), but on interpretation. As we will see, this distinction has consequences for the syntax and information structure of these adjuncts.

Event-internal adjuncts show syntactic properties that liken them to TOP: they are sensitive to island-constraints (14a) and show principle C effects (14b).

(14) a. *In the box, we heard the claim that John had found a hammer.*
   b. *In Beni’s office, he lay on the desk.*

Haegeman (2003) also demonstrates that CIADJs interpreted at a distance (“long adverbial fronting” in her words) pattern with TOP (argument fronting) with respect to a number of syntactic phenomena (subject extraction, *that*-trace effects). These CIADJs also seem to follow TOP with respect to their distribution: only one may be present and they cannot co-occur with TOP, as in (15), see also Engels (2012, 172).

(15) a. *In the box, with a flashlight John found a hammer.*
   b. *[In the box/With a flashlight], a hammer [in the box/with a flashlight], John found.*

Frame/event external adjuncts display a dissimilar behavior in these respects. In (16) we find no island-effect or principle C violation (14b and 16b are from Frey 2003).

(16) a. *In New York, we heard the claim that there is always something to do.*
   b. *On Beni’s birthday, he took it easy.*

Unlike an event-internal CIADJ, these adjuncts may co-occur with TOP, either preceding or following it (17).

(17) a. *Probably, Linda, you have met.* b. *Linda, probably, you have met.*

Regarding information-structure, we first should note that any clause-initial adjunct may (but does not have to) be interpreted contrastively. It should be added that there are CIADJs which only allow the contrastive reading. For example, there are some...
adjunct-types that highly disprefer a neutral topic interpretation. For example, manner or measure adjuncts are often ungrammatical clause-initially. Example (18a) is from Ernst (2002). It improves if the adverb receives “strong contrastive stress” (Ernst 2002, 470), that is, if it is an instance of TOP with an adjunct (18b).

(18) a. *Tightly, she must hold on to the railing.
    b. TIGHTLY she must hold on to the railing.

I think the reason for this must be semantico-pragmatic rather than syntactic in nature. In particular, following Shaer (2004, 388), we may assume that “the degraded acceptability of a sentence containing a fronted adverbial may have its source in the difficulty of inferring the relation of the adverbial not only to its host sentence but also to previous discourse.” That is to say, although the CIADJ-construction would assign a topic interpretation to these adjuncts, they cannot assume this role.

Apart from cases like these, CIADJs are not necessarily interpreted as contrastive, unlike TOP. So (13) may be uttered without evoking alternatives in the discourse, e.g. it does not necessarily suggest that there are other places where one cannot do anything or there is another container where John found something other than a hammer. This carries over to the adjuncts of (16) and (17).

In accordance with Maienborn (2001) and Ernst (2002, 399–402) I regard these cases of CIADJs as topical entities. For instance, in (13a) New York serves as a frame-setter, which introduces a discourse topic, e.g. in a general discussion about cities. (13b) could be imagined in the context of a story, so the box is most likely the link to the previous discourse. Such discourse-linking is one of the primary functions of topics.

2.3 Left-dislocation
While on the surface only the presence of a pronoun distinguishes an LD like (3) (Johni, I like himi), from TOP, if we look deeper, a wide range of other differences surface. Let us take a look at some syntactic contrasts first. To begin with, in contrast with TOP, the clause-initial element in LD must be a nominal category. Examples like (19) are only acceptable in special circumstances, as opposed to the natural-sounding examples in (4).

(19) a. ?Surrender, we will never do so.
    b. ?Happy, Tom will never be like that.

Secondly, the constraining effects observed with TOP are absent in the case of LD.

(20) a. John, I doubt the claim that you like him.
    b. John, I whispered that I saw him.
Thirdly, the binding-patterns are also different.

(21) a. *Pictures of himself, John, likes them.
    b. Pictures of him, John, likes them.

Lastly, while in TOP, the case of the fronted constituent is always the one that it would get in its canonical position (21a), in LD, the two may be different (22b).

(22) a. Me/*I, John likes.
    b. Me, I like beer.

In principle, the connection between the left-dislocated element and the pronoun may be thought of as one involving syntactic or mere pragmatic dependency. The latter option seems more likely though, since there are examples where, given the proper context, there is no pronoun present in the construction (only an unlinked topic), like in (23). That is to say, the presence of the pronoun is a common, but not a defining characteristic of LD.

(23) Restaurants, this city is hopeless.

The relation between LD and TOP in a single sentence is not clear-cut. According to Grohmann (2003), LD always has to precede TOP, as in (24). Shaer (2009), on the basis of examples like (25), debates this.

(24) a. Mary, John, she likes.
    b. *Mary, John, he likes.

(25) a. Now this junk, my father, he was always collecting.
    b. Now my father, this junk he was always collecting.

Another debated issue is that to what extent LD may be regarded as a root-clause phenomenon. According to most accounts, LD is judged ungrammatical in subordinate clauses, but once again, the opposite claim is also present in the literature. Note that there is no debate about the embeddability of TOP or CIADJs (26b-c).

(26) a. ?John said that Mary, he likes her.
    b. John said that Mary, he likes.
    c. John said that in New York, there is always something to do.

Related to this is the fact that while TOP and CIADJs allow syntactic dependencies to arch over them (27b-c)5, LD blocks such phenomena (27a).

5 This is not entirely unrestricted though, see Browning (1996, 252–253).
(27) a. *How would you say that Robin, he would solve this problem?
   b. How do you think that this problem, Robin would solve?
   c. How do you think that in New York, Robin would behave?

At information-structure, LD is different from TOP in that LD is not contrastive. Based on corpus data, Gregory – Michaelis (2001) concludes that LD is a “topic-promoter”. It either introduces a completely new topic, or a subtopic of an existing discourse topic. This explains its infelicity with nonreferential entities in (19).

This concludes our description of the target-constructions. In the second half of this paper I present my view of what kind of LFG-approach could accommodate such properties.

3. LFG-based approaches to TOP, CIADJs and LD

3.1 An LFG view on Topicalization

From its properties (strict syntactic constraints), it seems clear that TOP should receive an analysis along the lines of standard long-distance dependencies, e.g. wh-questions.

The analysis I advocate is based on Dalrymple (2001, chapter 14). TOP’s sensitivity to islands and its “reconstruction” with respect to binding proves that a strong link with the canonical position should be maintained. This strong link is usually modelled as movement in Chomskyan frameworks: the topicalized phrase is base-generated clause-internally and it undergoes A-bar movement to some left-peripheral position (Spec/CP, Spec/TopP, etc.). LFG’s functional identification serves essentially the same purpose. It ensures that the topicalized element have two grammatical functions simultaneously at f-structure: an Unbounded Dependency Function (UDF) in the matrix clause and some other function in the canonical position. Functional identification accounts for the binding data, as the fronted element is fully present in the embedded f-structure as well.

As TOP does not trigger subject-auxiliary inversion (28a) and follows complementizers (28b), I assume that its position is adjoined to IP.

(28) a. *John, did I like.  
   b. *I think John, that I like.

The needed phrase-structure rules are shown in (30).

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6 In earlier stages of LFG, “extracted” or “dislocated” elements were assumed to have “grammaticalized discourse functions” like TOPIC or FOCUS. With the emergence of information-structure as an independent level of representation, the specific labels have been replaced by some generic f-structural category. UDF is suggested by Asudeh (2011). As a sentence may contain several UDFs, this function is treated as a set.
A couple of notes are in order regarding (29-30). XP stands for various phrase-structural categories, as illustrated in (4). TopPath is a shorthand for the possible path of identification. It specifies that the UDF may be identified with an arbitrarily deeply embedded grammatical function (GF) or as an untensed member of the adjunct set or as a GF in such an adjunct. The tense-restriction on adjuncts is necessary because according to Dalrymple (2001), the following contrast holds:

(31) a. ?That room, Chris teaches his classes in. (untensed locative adjunct)
    b. *Chris, we think that David laughed when we selected. (tensed temporal adjunct)

This specification covers all cases of argument and predicate fronting, as well as those cases of clause-initial adjuncts where the adjunct is interpreted contrastively. Hence, TOP with an adjunct (as in 18) is included in (29-30), as ADJ is also a grammatical function (GF).

In the second line of (30) we find a number of constraints on the TopPath. One is the above mentioned constraint on adjuncts. The \((\rightarrow \text{LDD} \neq -)\) notation is meant to capture the fact that nonbridge verbs block the association of the topicalized phrase with its canonical position. It should be decoded as: “the path does not contain an element which is negatively specified for the LDD (long-distance dependency) feature”. Nonbridge verbs are negatively specified in this respect. The \(\neg (\rightarrow \text{TENSE})\) notation is there to ensure that those verbs that realize their CP as an OBJ can also participate in TOP (see footnote 7). Such objects have a tense value. They contrast with objects acting as heads of complex noun phrases, which lack such a value. These are islands and cannot participate in TOP. These constraints exclude island-violating TOPs.

The annotation about information structure ensure that the topicalized phrase is interpreted as one of the contrastive categories. (Information-structural categories

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7 XCOMP and COMP are the grammatical functions of complement clauses. Clauses whose subjects are predicated from the outside (e.g. infinitival clauses of raising sentences, John seemed to be happy) are XCOMP, while (some) clauses hosting their own subject are COMPs (e.g. It seems that John is happy). Note that some that-clauses may also be OBJ (see Lødrup 2012 and references therein for more on this issue). These are tensed OBJs.

The meaning of the \* in the annotation is “zero or more”.
are sets, since a sentence or a discourse may contain more than one topic, contrastive topic, etc.)

The arrows in the annotations are “metavariabes”. ↑ refers to the mother-node’s functional structure, while ↓ refers to the node’s own f-structure. So ↓∈(↑UDF) in (29) should be read as “this node is an UDF in the functional structure of the IP”. As an example, Figure 1 shows the functional structure of a sentence like (1) (John, I like). The functional identity of the UDF with the object of like is represented with the line connecting them.

![Figure 1](image)

**Figure 1** The functional structure of John, I like

### 3.2 An LFG view on Clause-initial adjuncts

As the contrastive uses of Clause-initial adjuncts are covered by the analysis provided for TOP, this section is only concerned with non-contrastive CIADJs. It has been established earlier that CIADJs may be divided into at least two subcategories as far as their syntax is concerned. Frame-setters/event external adjuncts fully belong to the left periphery, while event internal adjuncts maintain ties to their clause-internal interpretational site. An alternative annotation is provided for the event-internal type in (32) and (33).

(32) IP → AdvP/PP IP

↓∈(↑UDF)

↓∈(↑AdjPath)

↓∈(↑TOPIC)

(33) AdjPath ≡ {XCOMP | COMP | OBJ }* ADJ

(→LDD ≠ −) (→TENSE)

Here the phrase-structural category is restricted to AdvP and PP, in order to prevent inappropriate categories being parsed as adjuncts (e.g. nominals in LD). The AdjPath is a modified version of the TopPath: it encodes similar restrictions (to capture the similar syntactic behavior of TOP and event-internal CIADJs) but is restricted to adjuncts. The one major modification is that there is no disjunction in the second half of the notation. This is because although “extracting” an argument out of an ad-
junct is possible (as in 31a), but “extracting” an adjunct from an adjunct is ungrammatical. (34 is to be construed as on the third floor being an adjunct for that room.)

(34) *On the third floor, Chris teaches his classes in that room.

If this configuration is not possible for the adjunct for distance or semantico-pragmatic reasons (as in 18a), they may be analyzed using the TOP annotation, introduced earlier.

Another difference is that these CIADJs are specified as elements of the TOPIC-set at information-structure.

Frame setter/event external adjuncts behave differently: as we saw earlier, they do not “reconstruct”, see the data in (16). This suggests that the integration of such adjuncts into the sentence is generally looser. According to standard approaches, such entities are “base-generated” in some high position of the syntactic tree. This high position could be some CP- or IP-adjoined position, or in designated TopP, depending on the details of the analysis. There is also an alternative approach. Shaer (2004), building on the ideas of Haegeman (1991), claims that clause-initial adjuncts are “syntactic orphans”: they are not integrated into the phrase structure. In other words, they are not proper parts of the sentence.

One of the main arguments of Shaer (2004) is that certain polarity items like ever in (35a) are not permitted even if a supposedly base-generated CIADJ would in principle license them. If the CIADJ is undoubtedly part of the sentence, as in (35b), the polarity item is grammatical.

(35) a. *Only in New York, John could ever have fun.
   b. Only in New York could John ever have fun.

However, Engels (2012), referring to Haegeman (1995), points out that the facts in (35) may have alternative explanations, e.g. the non-projection of the relevant feature of only outside the PP. Also, the complete exclusion of these adjuncts from the f-structure of the sentences would make their semantic association with the sentence problematic. I side with the more conservative approach.

So I propose that the following annotation is possible for such CIADJs.

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8 From the data in (35) one might conclude that inversion itself is crucial in licensing the polarity items, but heavy contrastive stress (TOP) may also mitigate ungrammaticality to a certain extent, as (i) shows. The significance of such data remains to be investigated in further work.

(i) ?ONLY IN NEW YORK, John could ever have fun.
These adjuncts are not “extracted”, they modify the sentence-level so they are not identified with any clause-internal function. As discussed, they are topics at information-structure.

### 3.3 An LFG view of Left-dislocation

Left-dislocation in English resembles CIADJs in that it seems to be loosely integrated into the sentence. It is unaffected by islands, induces no Principle C effects. Based on this, one might assume that an analysis like the one posited for CIADJs would be suitable for LD as well. However, I think it is undesirable to collapse the analysis of CIADJs and LD. The reasons are the following.

LD differs from CIADJs in a number of crucial ways. While some CIADJs are flexibly placed around TOP, LD seems to be marked in post-TOP positions. Although the data about flexibility and embeddability is not entirely straightforward, there is a contrast with TOP and CIADJs (as seen in 24-26), where there is no doubt about these. Another difference is that LD blocks syntactic dependencies reaching over it (see 27).

What this suggests is that for LD, the orphan-approach discussed earlier is a feasible option. This means that LD is a fully independent entity in relation to the host sentence. As such, if placed sentence-internally, it disrupts the inner structure of the host, degrading grammaticality.

This approach is feasible in LFG as the phonetic string in itself could be regarded as a representational level. It is the acoustic data, which the function $\pi$ maps to the constituent-structure (the level where constituency is represented) and the function $\beta$ maps to the prosodic structure (where intonation, stress, etc. are represented, see Mycock – Lowe 2013). As LD-constituents are an independent entities in the host string, they and the matrix sentence are mapped from the phonetic string to entirely different c- and f-structures.9 This is how their extra-sententiality could be captured10. This however does not exclude that they be represented at the information-structure and thus assume a topical role in the discourse.

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9 The f-structure of left-dislocated element would be rather fragmentary (John in 3 would be a bare PRED), but some sort of analysis for fragments are independently needed for constructions like vocatives (John, what did you see?) or elliptic answers (A: What may I serve you? B: Tea.).

10 A reviewer notes that in (i), there is agreement between the left-dislocated phrase and a sentence-internal pronoun, and this could argue for a syntactic connection. I disagree. What we see in (i) is only a general matching restriction on the features in a pronoun-antecedent relationship. This holds across sentences. That is, (i) calls for an intra-sentential agreement process no more than (ii), i.e. it does not.

(i)  a. This picture of him, John likes it/them. b. These pictures of him, John likes it/them.

(ii) Q: Has John seen this picture of him? A: No, he hasn’t seen it/them.
4. Conclusion

As a result of the discussion in 3.1-3.3, the following phrase structure of the English left-periphery emerges. Topicalized entities and event-internal CIADJs share a single IP-adjoined position, while frame/event-external adjuncts are positioned around the aforementioned slot. These latter nodes are iterable since such topical CIADJs may be stacked:

(37)  Clearly, yesterday, in London, we had a great time.

![Figure 2](image-url) The English left periphery

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