Locality in focus marking:
An application of Graf's (2022) tier-based strictly local language to Likpakpaanl focus

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1 Introduction

Background:

- Besides minimalism, there are many different theoretical frameworks for syntax: Head-driven Phrase-Structure-Grammar (Pollard and Sag 1994), Lexical Functional Grammar (Bresnan 2001), Optimality Theory (Prince and Smolensky 1993), etc.

- A big question in linguistics, particularly in formal grammar research, is if all these different theories are equivalent in two points:

  1. Can they derive the same set of data?
  2. Are they equally complex (in a theoretical sense)?

This talk:

- In this talk, I will summarize Graf's (2022) suggestion for a tier-based strictly local tree language (TSL) for syntax that essentially argues that syntax (like phonology) only allows strictly local dependencies.

- Concretely, Graf presents a theory that derives island effects by intervention.

- Afterwards, I will present data from Likpakpaanl that show that the dependency between the clausal focus head and in-situ the focus marker resembles island effects and can be derived like an island effect.

- I further show that a TSL predicts that the focus marker in Likpakpaanl must be a head that merges with a DP rather than an adjunct that adjoins to a DP.

2 Focus marking in Likpakpaanl

2.1 Baseline

- Likpakpaanl (also known as Konkomba, see Schwarz (2009), Mabia, formerly Gur) is a language spoken by roughly 600,000 people in Northern Ghana.

- Focus is not marked by stress, but by the use of special focus particles and word order.

- Likpakpaanl has both an ex-situ and an in-situ focus strategy, where both strategies mark the focused constitutent by a particle, but the ex-situ strategy additionally moves the focused constituent plus the particle to the left periphery.[1]

(1)   a.   **ex-situ DO focus in Likpakpaanl**[2]
       Q: Ba   le   Adam fe   kɔr   fenna?
            what FOC Adam HEST.PST slaughter yesterday
            'What did Adam slaughter yesterday?'
       A: Ukɔla le   Adam fe   kɔr   fenna.
            fowl   FOC Adam HEST.PST slaughter yesterday
            'Adam slaughtered FOWL yesterday.'
       b.   **in-situ DO focus in Likpakpaanl**
       Q: Adam fe   kɔr   ba   fenna?
            Adam HEST.PST slaughter what yesterday
            'What did Adam slaughter?'
       A: Adam fe   kɔr   ukɔla le   fenna.
            Adam HEST.PST slaughter fowl   FOC yesterday
            'Adam slaughtered FOWL yesterday.'

- The focus marker in Likpakpaanl has the status of a phrasal clitic rather than a marker in a fixed position like in other Mabia languages (e.g. Dagaare and Dagbani, see Bodomo (1997); Issah (2018); Bodomo et al. (2020)).

- That is, the position of the marker is flexible and it is right-adjacent to the focused constituent, (2).

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[1]The examples were elicited with Samuel Owohaene Acheampong, a native speaker of Likpakpaanl. I am grateful for his input. Note that Likpakpaanl is a tone language. However, since the tones are mostly lexical and thus not central to the current argument, I choose not to indicate them in the data.

[2]List of abbreviated glosses: COMP – complementizer FOC – focus; HEST.PST – hesternal past; NC – noun class prefix; POSS – possessive prefix; PST – past tense; REL – relative clause operator; REL.DEF – relative clause definite marker; SG – singular

(2)   **In-situ focus marking of the indirect object**

     Q: Konja mee ŋma ki-gban?
           Konja beg who NC-book
           'Who did Konja beg a book from?'
     A: Konja mee Sam le   ki-gban (din).
           Konja beg Sam FOC NC-book today
           'Konja begged a book from SAM (today).'

(3)   **In-situ focus marking of the direct object**

     Q: Konja mee Sam ba?
           Konja beg Sam what
           'What did Konja beg from Sam?'
     A: Konja mee Sam ki-gban le   din.
           Konja beg Sam NC-book FOC today
           'Konja begged a BOOK from Sam today.'

2.2 Locality in focus marking

- Importantly, the marker has to follow a phrase in the finite clausal spine, which means it cannot attach to heads or to more deeply embedded constituents.

- (4) shows that in-situ focus marking of just the verb is impossible. Instead, the focus marker has to follow the object, even if just the verb is focused.[3]

- In fact, (4) would be ambiguous without a context: It can mean that there is either focus on just the verb or the entire VP, as in (5).

(4)   **In-situ V focus in Likpakpaanl**

     Q: Adam nan ŋa ukɔla ba?
           Adam PST do fowl what
           'What did Adam do to a fowl?'
     A: Adam nan [$_{VP}$ kɔr   (*le) ukɔla] *(la).
           Adam PST   slaughter FOC fowl   FOC
           'Adam SLAUGHTERED a fowl.'

(5)   **In-situ VP focus in Likpakpaanl**

     Q: Ba le   Adam nan ŋa?
           what FOC Adam PST do
           'What did Adam do?'
     A: Adam nan kɔr   ukɔla la.
           Adam PST slaughter fowl FOC
           'Adam SLAUGHTERED FOWL.'

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[3]Note that a sentence final *le* changes to *la*, which is, however, purely superficial.

- Further, the focus marker cannot appear inside of arguments.
- In (6), just the possessor is focused, but it is impossible to have the focus marker appear between the possessor and the possessum. This is also true if there is more than one possessor level. Instead, it follows the entire phrase, see (7).
- Similarly, the focus marker cannot appear inside of relative clauses, which are non-finite in Likpakpaanl, see (8) and (9).

(6)   **In-situ possessor focus in Likpakpaanl, one level of embedding**

   Q: Mary kɔr ŋma aa-kɔla?
       Mary kill who POSS-fowl
       'Whose fowl did Mary slaughter?'
   A: Mary kɔr [DP Peter (*le) aa-kɔla   ] *(la).
       Mary kill   Peter FOC POSS-fowl   FOC
       'Mary killed PETER'S fowl.'

(7)   **In-situ possessor focus in Likpakpaanl, two levels of embedding**

   Q: ŋma aa-ninkpan aa-kɔla   Mary nan kɔr?
       Who POSS-sister POSS-fowl Mary PST slaughter
       'Whose sister's fowl did Mary slaughter?'
   A: Mari nan kɔr   [DP [DP Peter (*le) aa-ninkpan] aa-kɔla   ] *(la)
       Mary PST slaughter   Peter FOC POSS-sister POSS-fowl FOC
       'Mary slaughtered PETER'S sister's fowl.'

(8)   **In-situ focus inside a relative clause, one level of embedding**

   Q: A   kan u-ja   u   nan kɔr   unaa n'   aa
       you see NC-man REL PST slaughter cow REL.DEF Q
       'Did you see the man who slaughtered the cow?'
   A: Aayi, n nan kan [DP u-ja   [Rel u   nan kɔr   ukɔlu (*le) na]]   *(la)
       No   I PST see   NC-man   REL PST slaughter fowl FOC REL.DEF FOC
       'No, I saw the man who slaughtered a FOWL.'

(9)   **In-situ focus inside a relative clause, two levels of embedding**

   Q: A   nyi [DP u-pii   [Rel u   nan kan [DP u-ja   [Rel u   nan kɔr
       2SG know   NC-woman   REL PST see   NC-man   REL PST slaughter
       u-naa   na   ]]]] aa?
       NC-cow REL.DEF   Q
       'Do you know the woman who saw the man who slaughtered a cow' ?
   A: Aayi, n   nyi [DP u-pii   [Rel u   nan kan [DP u-ja   [Rel u   nan
       No   1SG know   NC-woman   REL PST see   NC-man   REL PST
       kɔr   u-kɔla   (*le) na   ]]]] *(la).
       slaughter NC-fowl FOC REL.DEF   FOC
       'No, I know the woman who saw the man who slaughtered a FOWL.'

- However, if there is a full finite clause embedded in a nominal argument, e.g. a complement clause inside a relative clause as in (10), focus marking inside the argument becomes possible.

(10) **In-situ focus inside a finite clause inside a relative clause**

Q: A kan [$_{DP}$ u-ja [$_{Rel}$ u len [$_{CP}$ ke Peter kɔr ukɔla na
2SG see NC-man REL say COMP P. slaughter fowl REL.DEF
]]] aa?
   Q
'Did you see the man that said that Peter slaughtered fowl?'

A: Aayi, n kan [$_{DP}$ u-ja [$_{Rel}$ u len [$_{CP}$ ke John *(le) kɔr ukɔla
no I see NC-man REL say COMP J. FOC slaughter fowl
na]]] (*la).
REL.DEF FOC
'No, I saw the man that said that JOHN slaughtered fowl.'

- There must be a dependency between the focus marker *le* and a high head in the clausal spine of a finite clause, which can be disrupted in different contexts, most noticeably by a DP barrier.

- Following a fairly common assumption about focus, we can assume a functional head FOC in the C-domain of the clause (see e.g. Rizzi (1997); Frascarelli and Hinterhölzl (2007)), which only occurs in finite clauses.

- Since there seems to be no obvious focus movement in the in-situ focus strategy, it is plausible to describe the dependency between FOC and *le* as an agreement relationship, which is depicted in (11) as it is (fairly) standardly done in minimalist syntax.[4]

(11)
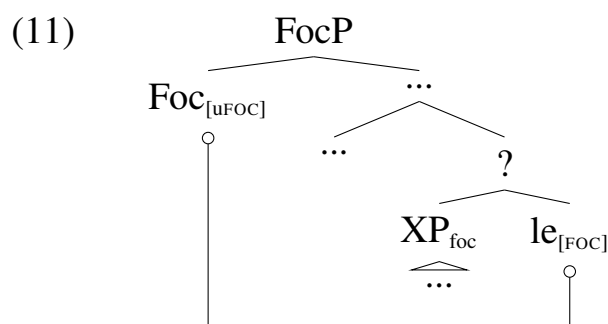
- If correct, the lack of embedded *le* can be boiled down to a DP-island effect. The effect can then be analyzed along the lines of section 4.3. in Graf (2022).

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[4]Another possibility would be to assume a covert movement here, but I refrain from discussing this possibility.

2.3 Outline

- In the rest of this talk, I will present Graf's (2022) analysis of island effects as a violation of strict locality in syntax.

- Such a strictly local syntax is not too powerful.

- Afterwards I will apply the framework to Likpakpaanl focus marking.

- Based on the analysis, I argue that *le* is best understood as a head that takes a DP as its complement.

- In order to understand Graf (2022), I will provide an introduction to formal grammar and to understand the basic conceptual issue that Graf (2022) tackles.

3 Background: Formal Grammar and the Chomsky Hierarchy

- The Chomsky Hierarchy is a containment hierarchy of classes of formal grammars from least restrictive (most powerful) theories to most restrictive (least powerful) theories.

- In general, the least powerful (while still empirically adequate) theories (formal grammars) should be used to formalize natural language.

3.1 Formal Grammars

- Formal grammars are defined to derive formal languages.

- Natural languages can be abstractly viewed as a formal language: When we do linguistic theory we describe natural languages as formal languages.

- Formal language theory is a branch of applied mathematics.

- **Formal grammars consist of four sets:**

  1. A finite set of terminal symbols (e.g. "words" in a minimalist syntax theory).
  2. A finite set of non-terminal symbols (e.g. phrasal labels in a minimalist syntax theory)
  3. A start symbol (which is one of the non-terminal symbols, e.g. CP in a minimalist syntax theory)
  4. A finite set of production rules (rules that describe the relation between the symbols).

- A typical notational convention is that terminal symbols appear in lower case letters, while non-terminal symbols are in upper case.

(12)   **Example: Christmas Song Grammar (CSG)**[5]

     a.   *Finite set of terminal symbols: Song lyrics*

       t1: | Cut your pizzas into twelve |

       t2: | That way three get four slices each |

       t3: | Equality is not out of reach |

       t4: | So come on people let's make twelve slices famous |

       t5: | So on December 12th we can cover the night with twelve slices |

       t6: | There are big problems in the world |

       t7: | Nothing's gonna happen |

       t8: | If we don't try to make a change |

       t9: | There's an issue right in front of us |

       t10: | That we refuse to see |

       t11: | That's when you cut a pizza into eight slices |

       t12: | It can't be shared by three |

     b.   *Finite set of non-terminal symbols: Song parts*

       N1: | Intro |

       N2: | Verse |

       N3: | Chorus |

       N4: | Bridge |

     c.   *Starting symbol*:

       N1: | Intro |

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[5]In honor of the ten year anniversary of probably the best Christmas song ever made: "*Do they know it's Pizza*?" (Axis of Awesome, `https://www.youtube.com/watch?v=9_sMmuKPrnY`).

   d. *Finite set of production rules: Song writing*

R1: $N1 \longrightarrow N2 \; N3 \; N4 \; N3$

R2a: $N2 \longrightarrow t6 \; N2$

R2b: $N2 \longrightarrow t7 \; N2$

R2c: $N2 \longrightarrow t8 \; N2$

R2d: $N2 \longrightarrow t9 \; N2$

R2e: $N2 \longrightarrow t10 \; N2$

R2f: $N2 \longrightarrow t11 \; N2$

R2g: $N2 \longrightarrow t12$

R3a: $N3 \longrightarrow t1 \; N3$

R3b: $N3 \longrightarrow t2 \; N3$

R3c: $N3 \longrightarrow t3$

R4a: $N4 \longrightarrow t4 \; N4$

R4b: $N4 \longrightarrow t5$

- With the CSG, we can produce different songs.
- All songs have the structure *Verse – Chorus – Bridge – Chorus* because of R1.
- The rules R2a–R4b formulate which song lines belong to which song part, but the order is not uniquely determined.
- The rules R2g, R3c, and R4b say in which line the song parts end.

(13)   **A possible song**

   a. *Verse*

     t9:   There's an issue right in front of us

     t10:   That we refuse to see

     t11:   That's when you cut a pizza into eight slices

     t12:   It can't be shared by three

   b. *Chorus*

     t1:   Cut your pizzas into twelve

     t3:   Equality is not out of reach

   c. *Bridge*

     t5:   So on December 12th we can cover the night with twelve slices

   d. *Chorus*

t2: | That way three get four slices each |

t3: | Equality is not out of reach |

(14)   **An impossible song**
     a. *Chorus*
         t1: | Cut your pizzas into twelve |

         t2: | That way three get four slices each |

         t1: | Cut your pizzas into twelve |

         t3: | Equality is not out of reach |

     b. *Bridge*
         t4: | So come on people let's make twelve slices famous |

         t5: | So on December 12th we can cover the night with twelve slices |

Understanding questions:

1. What rules are violated in (14)?

2. What is the shortest possible song that can be generated by CSG?

3.2 The Chomsky Hierachy

- The Chomsky Hierarchy classifies formal grammars into different types depending on their generativity power.

Grammar	Languages	Automaton	Rule constraints	Example
Type-0	recursively-enumerable	Turing machine	$\gamma \longrightarrow \alpha$	any language
Type-1	context-sensitive	Linear-bounded non-deterministic Turing machine	$\alpha A \beta \longrightarrow \alpha \gamma \beta$	$L = \{a^n b^n c^n | n > 0\}$
Type-2	context-free	Non-deterministic pushdown automaton	$A \longrightarrow \alpha$	$L = \{a^n b^n | n > 0\}$
Type-3	regular	Finite state automaton	$A \longrightarrow a$ and $A \longrightarrow aB$	$L = \{a^n | n > 0\}$

(15) **Chomsky-Hierarchy**
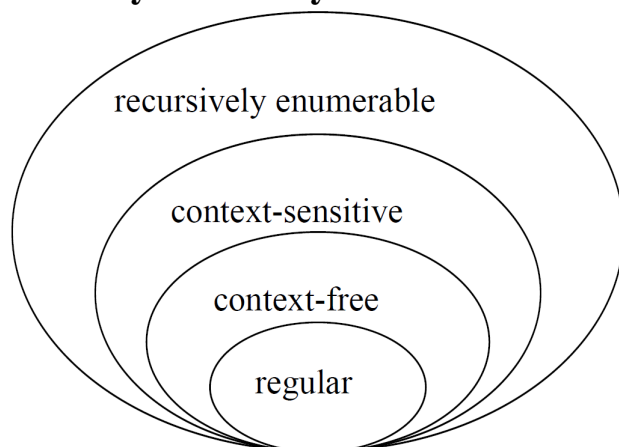
Understanding question:

1. What is the type of the CSG (recursively-enumerable, context-sensitive-context-free, regular)?

- The phonology of natural languages is assumed to be regular.
- The syntax of natural languages is assumed to be (at least) mildly context-sensitive: Context-free means that there cannot be crossing-dependencies, but only nested dependencies, see (16) (cf. Pesetsky (1987)).

(16) $[_{CP}$ What$_2$ do $[_{TP}$ you$_1$ $[_{vP}$ t$_1$ like $[_{VP}$ ... t$_2$?]]]]

- But since Shieber's (1985) observation about Swiss German, we know that not all natural syntax is context-free, see (17).

(17)   a.   ... mer d'chind em   Hans   es   huus lönd   hälfe aastriiche
                  ... we   the   children.ACC the.DAT Hans the   house.ACC let   help

                  paint
                  '... we let the children help Hans paint the house.'
         b.   mer d'chind em Hans es huus lönd hälfe aastriiche

4 Graf's (2022) TSL

4.1 Tier-based strictly local languages

- As mentioned above, a formal grammar for phonological (and morphological) dependencies is a regular Type-3 grammar.

- However, in many respects this is still not restrictive enough to adequately describe natural language phonology.

- Most phonological phenomena can be generated by just two subtypes of regular grammars: strictly local grammars (SL) and tier-based strictly local grammars (TSL).

- SL and TSL say that dependencies can only affect adjacent elements.[6]

- Segmental assimilation of sounds, for example is strictly local and can be derived by an SL, see (18).

(18)   **Place assimilation in German: strictly local**

      a.   /liːbn/ $\longrightarrow$ [liːbm]
      b.   /ʃlɛːkn/ $\longrightarrow$ [ʃlɛːkŋ]

- Suprasegmental phenomena, like tone and stress can be strictly local when we look at the tonal or stress tier, see (19) for an instance of the Obligatory Contour Principle: Adjacent identical tones are ungrammatical. This is strictly local on the tonal tier.

(19)   **Tone in Mende**

✓			*		
L	H		L	H	H
nda	vu	la	nda	vu	la

- In (19), we only need to compare *n*-grams (sequence of *n* items, i.e. tones) of length 2 to find out that the structure on the right is out.

- Similarly, principles like Culminativity (one primary stress per word) can be derived in TSLs: On the word stress tier, exactly one stress marker must occur.

(20)   **Word stress in tiers**
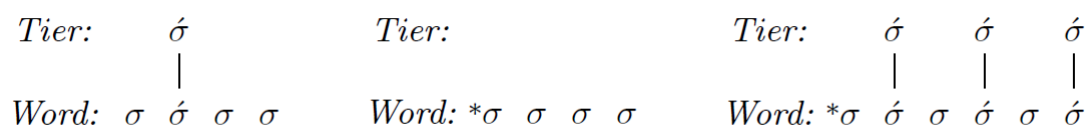
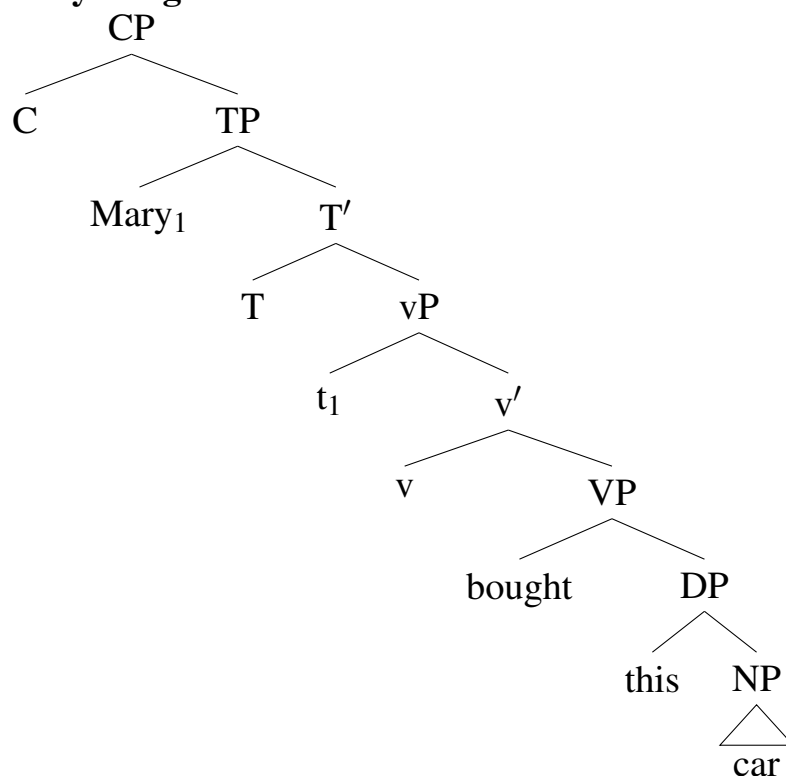| *Tier:*	σ́			*Tier:*					*Tier:*	σ́	σ́	σ́
Word:	σ σ́ σ σ			*Word:*	*σ σ σ σ				*Word:*	*σ σ́ σ σ́ σ σ́		

4.2 TSL for Syntax

- Graf (2022) assumes the Cognitive Parallelism Hypothesis, see (21).
- The consequence is that if phonology is subregular, then syntax should be too.
- However, phonology needs a string language, while syntax can be described by a tree language (hierarchical relationships).
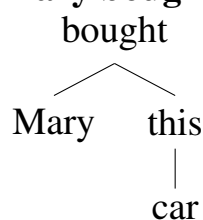
(21) **Cognitive parallelism hypothesis**
Distinct language modules have the same complexity.

- Usually, syntactic trees represent a constituent structure.
- This can be the result of a derivation in minimalist theories/grammars, (22).
- Alternatively, syntactic structures can be represented in terms of the dependencies of their elements (23).
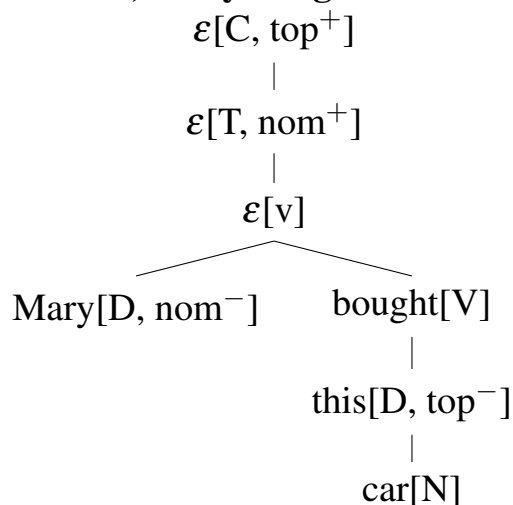
(22) **Mary bought this car.**

```
            CP
          /    \
         C      TP
              /    \
          Mary₁     T′
                  /    \
                 T      vP
                      /    \
                    t₁      v′
                          /    \
                         v      VP
                              /    \
                          bought   DP
                                  /   \
                                this   NP
                                        △
                                       car
```

(23) **Mary bought this car.**

```
        bought
        /    \
     Mary    this
              |
             car
```

- We can include notations for movement (and thereby linearization) by adding features.

- In (24), a movement feature $[F^-]$ is a goal feature of the moving head, while $[F^+]$ is a attracting feature of the landing site.[7]
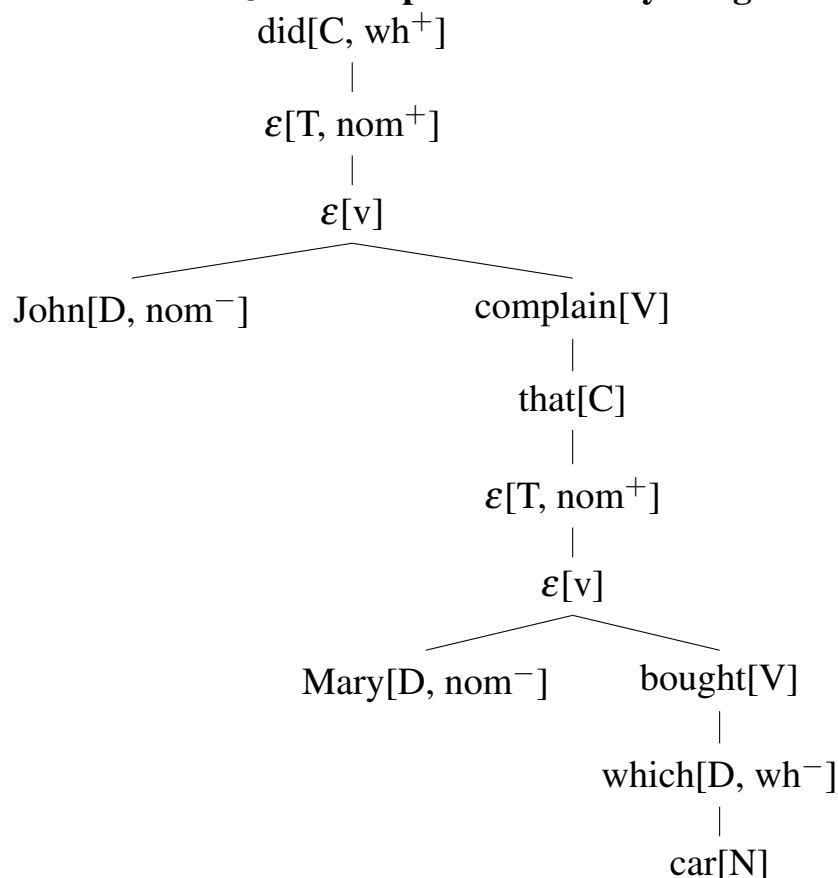
(24)　　**This car, Mary bought.**

$$\varepsilon[C, \text{top}^+]$$
$$|$$
$$\varepsilon[T, \text{nom}^+]$$
$$|$$
$$\varepsilon[v]$$

Mary$[D, \text{nom}^-]$　　bought$[V]$
$$|$$
this$[D, \text{top}^-]$
$$|$$
car$[N]$

- For movement the following rules in (25) hold. These are all fulfilled in (26).

(25)　　**A simple movement system**
   a. Every lexical item has 0 or more negative movement features. (Movement features are unordered.)
   b. If l is a lexical item with negative movement feature $[f^-]$, then its f-match is the lowest lexical item that properly dominates l and carries $[f^+]$.
   c. Every lexical item carrying $[f^-]$ must have exactly one f-match.
   d. Every lexical item carrying $[f^+]$ is an f-match for exactly one lexical item.

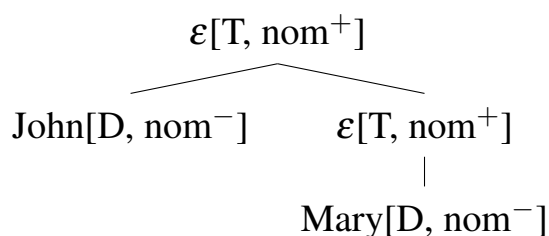[7]This is a standard notation in minimalist grammars.

(26) **Which car did John complain that Mary bought?**

$$\text{did}[C, wh^+]$$
$$|$$
$$\varepsilon[T, nom^+]$$
$$|$$
$$\varepsilon[v]$$

John[D, nom⁻]   complain[V]
$$|$$
that[C]
$$|$$
$$\varepsilon[T, nom^+]$$
$$|$$
$$\varepsilon[v]$$
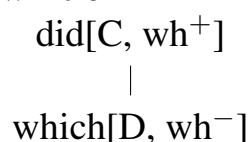
Mary[D, nom⁻]   bought[V]
$$|$$
which[D, wh⁻]
$$|$$
car[N]

- Graf (2022) assumes that we can do a tier-structure for movement features as well analogous to suprasegmental tiers in phonology.
- In phonology, tones, stress, and even vowels and consonants have all been proposed to occur on separate tiers.
- In syntax, movement features can all have their own tiers, see (27).
- Then we can easily define syntactic (movement) dependencies as strictly local, see (28).

(27) **Which car did John complain that Mary bought?**

  a. **nom-tier**

$$\varepsilon[T, nom^+]$$

John[D, nom⁻] $\varepsilon[T, nom^+]$
$$|$$
Mary[D, nom⁻]

  b. **wh-tier**

did[C, wh⁺]
$$|$$
which[D, wh⁻]

(28) **Constraints on f-movement tiers**

a. Every node carrying $[f^-]$ must be the daughter of a node that carries $[f^+]$.
b. Every node carrying $[f^+]$ has exactly one node among its daughters that carries $[f^-]$.

- So an a $[f]$-tier, one has to check the mother-daughter-relationship to see if the movement features match.
- This makes it strictly local.

4.3 Deriving island violations

- Assuming that on movement feature tiers, there can also be certain designated other materials, this could disturb the locality of the mother-daughter relationship.
- Concretely, there could be complementizers that are not on the wh-tier (like *that*), and others that occur on the wh-tier (like *because* etc.).
- This would make movement out of such clauses impossible, compare (27) and (29).

(29) ***Which car does John complain because Mary bought?**
wh-tier

$$\text{does}[C, wh^+]$$
$$|$$
$$\text{because}[C]$$
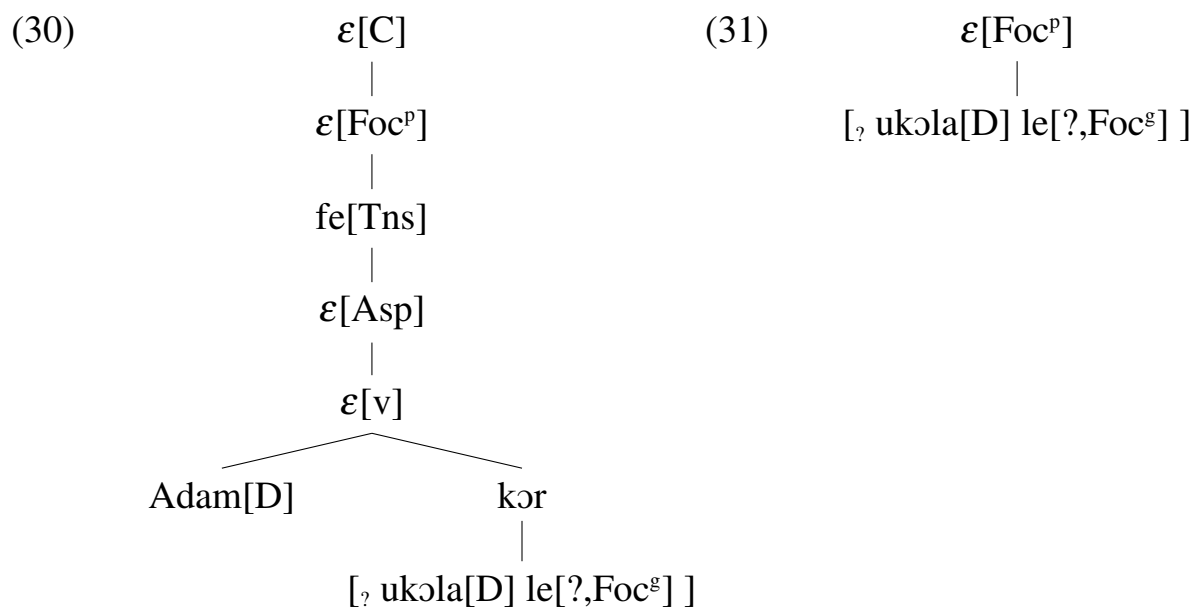$$|$$
$$\text{which}[D, wh^-]$$

5 Focus locality as an island effect

5.1 No focus inside of DPs

Observation:
The in-situ focus marker in Likpakpaanl cannot occur inside of DPs and it cannot mark the verb directly.

- So far, the dependencies in Graf's system, included only movement. If focus dependencies are agreement dependencies, we have to introduce agreement features into our grammar (for ideas on this topic, see Ermolaeva (2018)).
- For expository purposes, I will assume that there are agreement features $[F^p]$ on the probe and $[F^g]$ on the goal, which are quite similar to movement features except that they have no effect on linearization.[8]

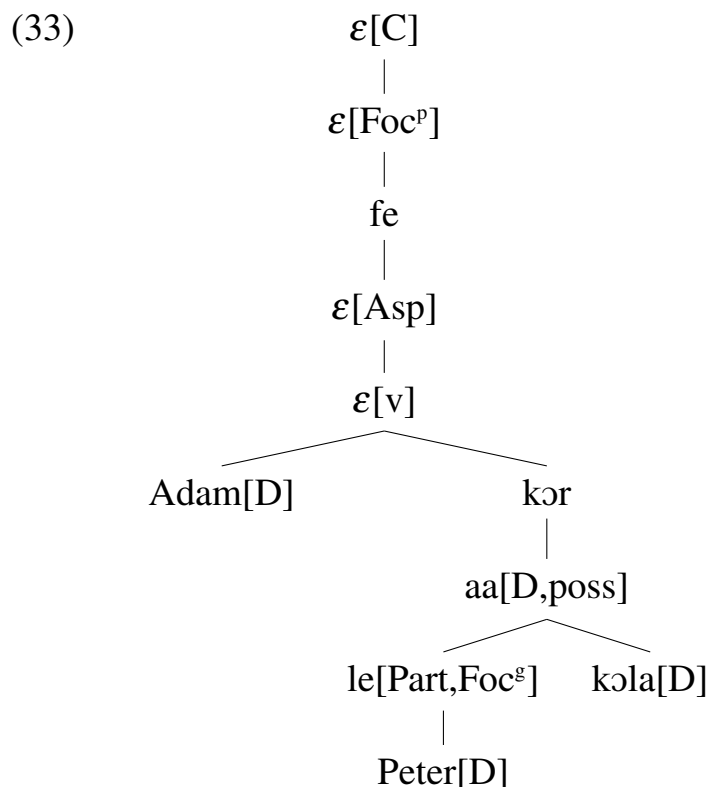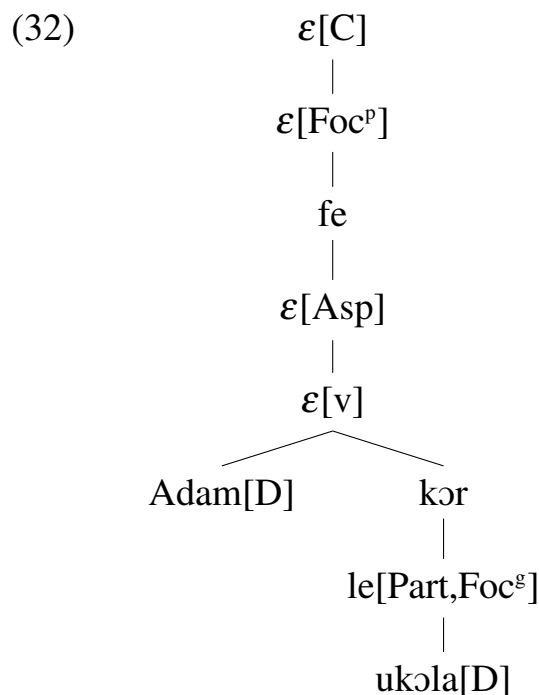[8]Again, for our cases here, this could also be perceived as covert movement. Nothing hinges on this.

- Given this, the dependency tree of a sentence like (1-b) would look something like in (30).
- The focus tier would look like (31).

(30)

$\varepsilon[\text{C}]$
|
$\varepsilon[\text{Foc}^\text{p}]$
|
fe[Tns]
|
$\varepsilon[\text{Asp}]$
|
$\varepsilon[\text{v}]$

Adam[D]   kɔr
|
[$_?$ ukɔla[D] le[?,Foc$^\text{g}$]]

(31)

$\varepsilon[\text{Foc}^\text{p}]$
|
[$_?$ ukɔla[D] le[?,Foc$^\text{g}$]]

- There are two possibilities how to treat *le*: Either it is the head or not. If it is not a head, it is either an adjunct or a complement to the noun. Since it has to be attached to phrases and not to nouns and since there is no plausible selection relationship, we can safely assume that it is an adjunct if it is not a head.

5.1.1 *le* is a head

- If *le* is a head, the dependency tree of the sentence in (1-b) would look like in (32) and the tree of a sentence with focus on the possessor and *le* right-adjacent to the possessor would have to look like in (33).

(32)

$$\varepsilon[\text{C}]$$
$$|$$
$$\varepsilon[\text{Foc}^{\text{p}}]$$
$$|$$
$$\text{fe}$$
$$|$$
$$\varepsilon[\text{Asp}]$$
$$|$$
$$\varepsilon[\text{v}]$$

Adam[D]   kɔr
$$|$$
le[Part,Foc$^{\text{g}}$]
$$|$$
ukɔla[D]

(33)

$$\varepsilon[\text{C}]$$
$$|$$
$$\varepsilon[\text{Foc}^{\text{p}}]$$
$$|$$
$$\text{fe}$$
$$|$$
$$\varepsilon[\text{Asp}]$$
$$|$$
$$\varepsilon[\text{v}]$$

Adam[D]   kɔr
$$|$$
aa[D,poss]

le[Part,Foc$^{\text{g}}$]   kɔla[D]
$$|$$
Peter[D]

- Similar to what Graf suggests for adjunct islands, we can assume that there are also other elements that show up on the focus tier.
- Most noticeably, we can assume that all D heads show up on the focus tier as well. This seems to easily derive the locality constraint of focus.
- The focus particle *le* must be the daughter of the Foc-head on the focus agreement tier (similar to the constraints on movement), see (34).
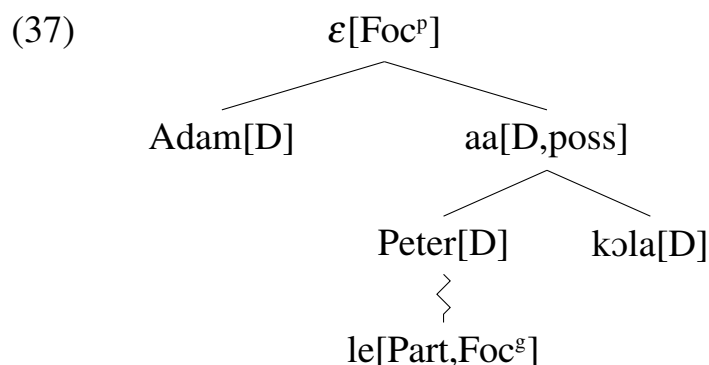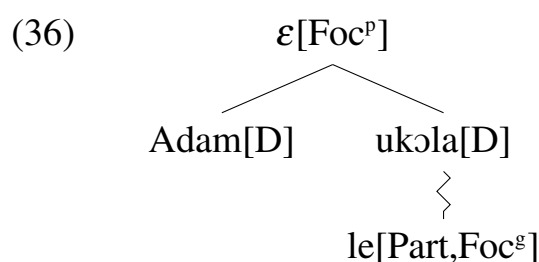- Thus, in possessor structures the possessive D-head intervenes, see (35).[9]

(34)

$$\varepsilon[\text{Foc}^{\text{p}}]$$

Adam[D]   le[Part,Foc$^{\text{g}}$]
$$|$$
Peter[D]

---
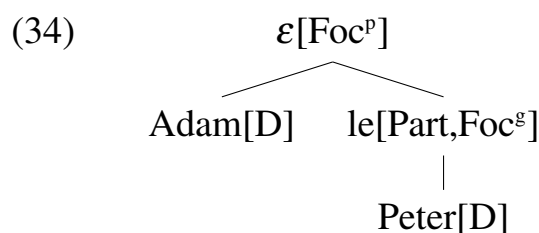
[9]Similarly, the D head of a noun phrase that is modified by a relative clause intervenes.

(35)

ε[Foc^p]

Mary[D]   aa[D,poss]

le[Part,Foc^g]   kɔla[D]
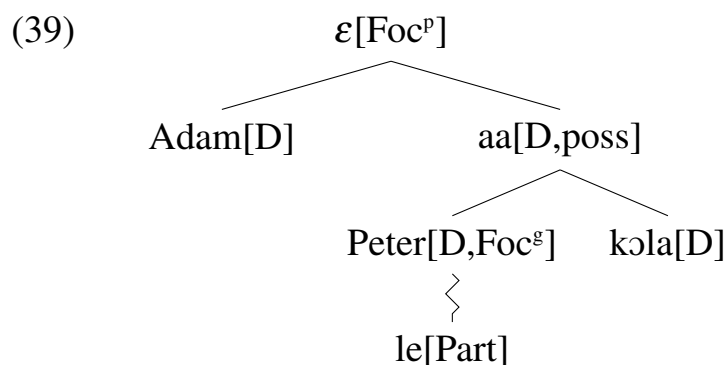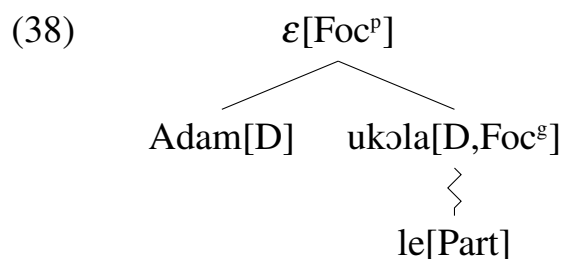
Peter[D]
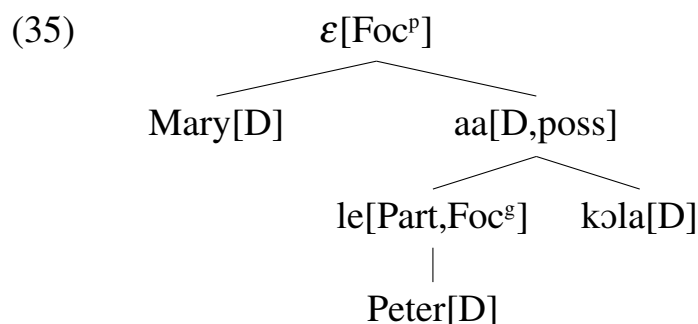
5.1.2 *le* is an adjunct

- Consider first the question of adjunction in a dependency tree.

- It is reasonable that adjuncts are dependents of the phrases they are adjoined to. For our purposes here, let us assume that adjunction is a separate operation (see e.g. Fowlie (2014); Graf (2014)) and thus the dependency of adjunct and adjoined-to category is different from the dependency created by selection.

- In the trees below I decide to represent an adjunction dependency with a squiggly line in order to distinguish it properly from selection.

- Thus the focus tier for (1-b) and (6) would look like in (36) and (37), respectively.

(36)

ε[Foc^p]

Adam[D]   ukɔla[D]

le[Part,Foc^g]

(37)

ε[Foc^p]

Adam[D]   aa[D,poss]

Peter[D]   kɔla[D]

le[Part,Foc^g]

- In the licit structure in (36), only one element can intervene; in the illicit structure in (37) it is more than one element.

- One caveat is that the locus of the focus feature might not be *le*, but the focused DP instead. Then, it becomes harder to distinguish the head from the adjunction analysis.

(38)

$$\varepsilon[\text{Foc}^{\text{p}}]$$

Adam[D]   ukɔla[D,Focᵍ]

le[Part]

(39)

$$\varepsilon[\text{Foc}^{\text{p}}]$$

Adam[D]   aa[D,poss]

Peter[D,Focᵍ]   kɔla[D]

le[Part]

- This means that so far, both analyses are in principle possible, depending on where the focus feature would sit concretely.

5.2 No focus marking on non-phrases

- The next restriction on the placement of focus markers concerns the impossibility to mark the verb directly.

- In contrast to the case above, this cannot be attributed to an island effect, as there is no obvious island. Phrasal objects, for instance, can be focus-marked in the VP.
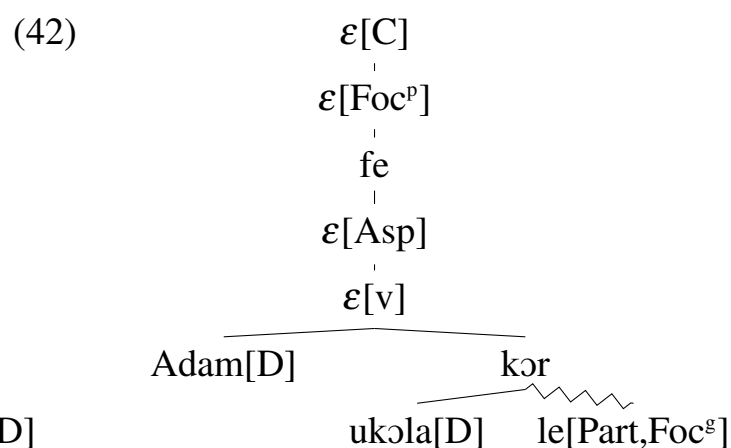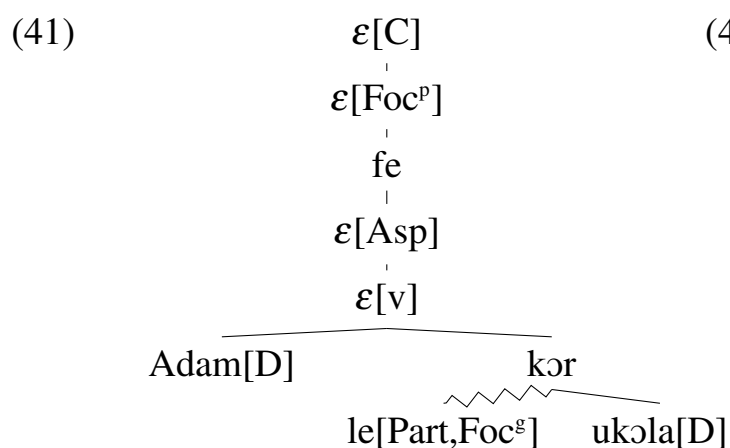
5.2.1 *le* is a head

- If we compare the dependency tree for a structure with narrow verbal focus and the tree for VP focus, we can observe that they must be the same, if *le* is a head, see (40).

- Further, if the head *le* always linearizes to the right of its dependent, it would have to show up to the right of the entire VP *kɔr ukɔla*, independent of whether just the verb or the entire VP is focused.

(40)

ε[C]

ε[Foc^p]

fe

ε[Asp]

ε[v]

Adam[D]   le[Part,Foc^g]

kɔr

ukɔla[D]
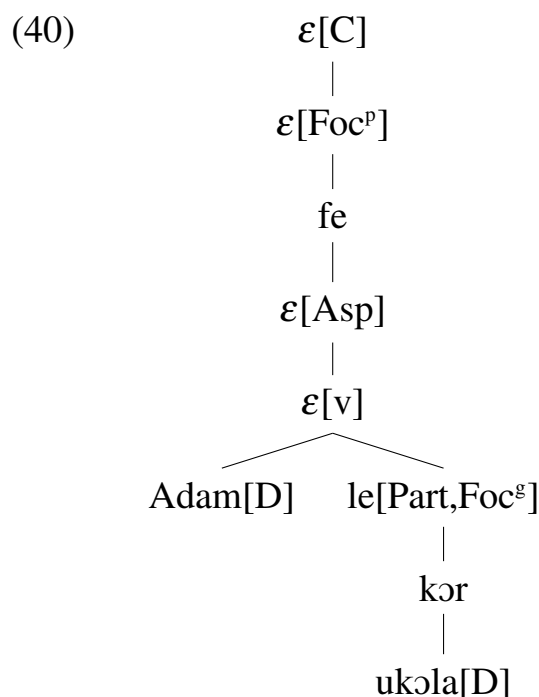
5.2.2 *le* is an adjunct

- In contrast, the adjunction analysis could potentially distinguish the two structures, therefore making the incorrect prediction that the focus marker should in principle be able to follow the verb.

- (41) could be the structure for focus just on the verb with *le* preceding the object.

- (42), on the other hand, could be the structure for focussing the entire VP.

(41)

ε[C]

ε[Foc^p]

fe

ε[Asp]

ε[v]

Adam[D]   kɔr

le[Part,Foc^g]   ukɔla[D]

(42)

ε[C]

ε[Foc^p]

fe

ε[Asp]

ε[v]

Adam[D]   kɔr

ukɔla[D]   le[Part,Foc^g]

6 Conclusion

- In this talk, I have summarized Graf's (2022) analysis of island effects based on a tier-based strictly local syntax.

- I applied the analysis to Likpakpaanl focus marking, where the distribution of the in-situ focus marker resembles island effects.

- Based on the TSL syntactic framework, I concluded that *le* must be a head that takes the DP as a complement and that it is not a particle that is adjoined to the DP.

- If this application is correct, the tree language used by Graf could be helpful to figure out the status of functional elements, thus adding a new potential diagnostic to the tool box of linguists.

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