

Null Expletives and Embedded Clauses

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Under Review: *Syntax*

Abstract. This article is an examination of CP-linked null expletives, i.e., null non-thematic subjects in the context of an embedded clause in Logoori, a Kenyan Bantu language. Logoori morphologically distinguishes between two null expletive subjects in its subject agreement paradigm (Gluckman and Bowler, 2016b). Based on morphological, syntactic, and semantic evidence, we argue against the postulation of a null (pro)nominal element (e.g., *pro_{expl}*). Instead, CP-linked null expletives are shown to be syntactically best analyzed as a direct result of T agreeing with the embedded clause. Our account situates the formal semantics of Gluckman and Bowler (2016b) into a plausible syntactic framework. We illustrate how the account proposed for Logoori extends to other kinds of CP-linked null expletives in other languages, including other null subject languages, partial null subject languages, and non null subject languages.

1. Introduction

Null expletive subjects present a unique challenge for syntactic theory due to the lack of phonological and semantic content. The presence or absence of a null expletive can only be inferred through independent syntactico-semantic diagnostics. This paper takes up the question by addressing one sub-type of null expletive subject: CP-linked expletives, that is, null expletives that appear in the presence of a clausal argument.¹ The paper sheds light on both the syntactic status of null ex-

We would like to thank ...

¹This expletive is sometimes called “Extraposition-*it*” or “Anticipatory-*it*” both of which implicate a particular theoretical analysis. I will use the terminologically neutral “CP-linked” expletive through this paper, following Williams (1980); Postal and Pullum (1988). See extensive discussion in Rosenbaum (1967); Emonds (1976); Stowell (1981); Hoekstra (1983); Thráinsson (1979); Moro (1997); Cardinaletti (1997); Svenonius (2002); Camacho (2013); Vikner (1995); Bennis (2005); Takahashi (2010) among many others. Note that I mean the term “CP-linked expletive” to be distinct from the term “CP-expletive”, which are expletive arguments generated in the C-domain. I discuss the relationship between these ideas in section 8.

pletives, and their semantic contribution. I argue that CP-linked expletives in Null Subject (NS) languages do not constitute a case of *pro_{expl}*, i.e., a null pronominal element. Rather CP-linked null expletives are cases of a direct agree-relation between T and the embedded clause (Vikner, 1995; Halpert, 2016).

The principle data comes from Logoori, a Luhia (Bantu) language. What makes Logoori interesting with respect to CP-linked null subjects is that it descriptively has two of them, exemplified in (1). I call the subject agreement morphology in (1) *expletive agreement* (EA) markers.²

- (1) a. **ga**-lol-ek-a ndii Sira a-zi-i
6SM-see-AC-FV that 1Sira 1SM-go-FV
 ‘It looks like Sira left.’
- b. **e**-lol-ek-a ndii Sira a-zi-i
9SM-see-AC-FV that 1Sira 1SM-go-FV
 ‘It looks like Sira left.’

The basic issue, to be fleshed out in detail below, is that the EA-markers must reflect agreement with *something*; it is the goal of this paper to determine what exactly. Is there a dedicated *pro_{expl}*, or do the EA-markers reflect agreement with some other element? The issue is complicated by the fact that the EA-markers appear to be contributing meaningful content. As described in Gluckman and Bowler (2016b), there are subtle semantic distinctions between the sentences in (1), suggesting that whatever is triggering the subject marking in (1), it is not semantically vacuous.

The general claims of this paper are as follows. First, I wish to establish that EA-markers in

²Logoori (also Luragooli, Maragoli) is a Lacustrine Bantu language (JE 41) spoken primarily in Kenya, but also parts of Tanzania and Uganda. It has approximately 600,000 speakers, and appears to have at least two major dialectal distinctions.

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|----------------------|------------------------------|----------------------|-----------------------|
| • 1-21 : noun class | • CLF : classifier | • FV : final vowel | • REC : reciprocal |
| • AC : anticausative | • COMP : comple- mentizer | • LOC : locative | • PL : plural |
| • APPL : applicative | • COP : copula | • HAB : habitual | • PST : past |
| • ASP : aspect | • FOC : focus marker | • MOD : modal | • SM : subject marker |
| • AUG : augment | • FUT : future | • OM : object marker | • TNS : tense |

Logoori are “CP-linked.” I provide confirmation of this in [section 3](#) and throughout the paper by showing that they only appear in the context of a (selected) clausal argument; they do not reflect a “general” expletive strategy in Logoori, rather their distribution is restricted. Second, the EA-markers do not reflect an agreement relationship with a null (pro)nominal element in the matrix clause, nor do they reflect default agreement (cf, [Carstens 2005](#)). This evidence comprises the core diagnostics in [section 5](#). I instead conclude in [section 6](#) that EA-markers arise as a result of a relationship between T and the clause itself (as propose in [Halpert 2016](#) for Zulu). This leads to a prediction about whether the subject position can be filled by non-expletive element, which I show to be borne out in [section 7](#). Finally, I situate the findings in the larger typology of null expletives, showing that the analysis here is consistent with CP-linked (null) expletives in NS languages cross-linguistically, [section 8](#). The particular morpho-syntactic properties of Logoori allows us to deduce the relationship between T and the clausal argument.

Along the way, I also make two corollary observations. The first concerns the category of clausal arguments in Bantu languages. In comparison with what is shown for the distantly related Bantu language Ndebele in [Pietraszko \(2018\)](#), as well as what is argued for Zulu in [Halpert \(2016\)](#), we observe that languages may utilize different strategies in the structural composition of clausal constituents. Some languages treat clauses as DPs (Ndebele), while others treat them as CPs (Logoori). Our study therefore highlights the diversity of strategies even within a language family.

Second, study here provides an explicit relationship between the syntax and semantics of EA-markers. Building on the observations in [Gluckman and Bowler \(2016b\)](#), who provide a semantic analysis of Logoori’s EA-markers, I situate their formal semantics into a more plausible syntax, showing that syntactic and semantic formalisms echo each other. Again, the result has larger implications for a cross-linguistic understanding of CP-linked expletives, and their semantic status. I suggest in [section 8](#) that the EA-markers in Logoori are a particular morpho-syntactic instantiation of the general category of CP-expletives, as discussed in [Platzack \(1987\)](#); [Biberaruer \(2010\)](#) among others.

2. Overview of Logoori

Typical of Bantu languages, Logoori is heavily *pro*-drop and has neutral SVO word order. Also typical of Bantu languages, Logoori has an extensive noun class system reflected primarily in the nominal morphology, verbal agreement, and adjectival concord [Table 1](#).³ In the Bantuist tradition, the noun classes come in pairs, where the even classes are generally the plural forms of the preceding odd classes.

| Class | Prefix | Subject Agreement | Concord | Example |
|-------|--------------|-------------------|--------------|-----------------------------|
| 1 | <i>m(u)-</i> | <i>y-/a-</i> | <i>m(u)-</i> | msomi, ‘student’ |
| 2 | <i>va-</i> | <i>va-</i> | <i>va-</i> | vasomi, ‘students’ |
| 3 | <i>mu-</i> | <i>gu-</i> | <i>gu-</i> | musaala, ‘tree’ |
| 4 | <i>mi-</i> | <i>ji-</i> | <i>ji-</i> | misaala, ‘trees’ |
| 5 | <i>li-</i> | <i>li-</i> | <i>li-</i> | libarabandi, ‘loquat’ |
| 6 | <i>ma-</i> | <i>ga-</i> | <i>ga-</i> | mabarabandi, ‘loquats’ |
| 7 | <i>ki-</i> | <i>ki-</i> | <i>ki-</i> | kitabu, ‘book’ |
| 8 | <i>vi-</i> | <i>vi-</i> | <i>vi-</i> | vitabu, ‘books’ |
| 9 | <i>e-</i> | <i>e-</i> | <i>ki-</i> | enyumba, ‘house’ |
| 10 | <i>zi-</i> | <i>zi(n)-</i> | <i>zi-</i> | zinyumba, ‘houses’ |
| 11 | <i>lu-</i> | <i>lu-</i> | <i>lu-</i> | lugano, ‘rock’ ⁴ |
| 12 | <i>ka-</i> | <i>ka-</i> | <i>ka-</i> | kanyumba, ‘little house’ |
| 13 | <i>tu-</i> | <i>tu-</i> | <i>tu-</i> | tunyumba, ‘little houses’ |
| 14 | <i>vu-</i> | <i>vu-</i> | <i>vu-</i> | vutambe, ‘height’ |
| 15 | <i>ku-</i> | <i>ku-</i> | <i>ku-</i> | kuzia, ‘to go/going’ |
| 21 | <i>gu-</i> | <i>gu-</i> | <i>gu-</i> | gunyumba, ‘big house’ |
| 22 | <i>ji-</i> | <i>ji-</i> | <i>ji-</i> | jinyumba, ‘big houses’ |

Table 1: Noun classes in Logoori

Nouns are grouped into classes generally along semantic lines. For example, nouns in 1/2 are humans; nouns in 3/4 are generally trees; 5/6 includes all fruits. But there are exceptions. For instance, *mupira* ‘ball’ is a 3/4 noun. Relevantly for the discussion below, nouns in class 6 include mass terms like *amaaze*, ‘water,’ as well as the plurals of class 5: *linyonyi* / *manyonyi*, ‘bird / birds.’ Class 9 includes many animals, e.g., *esimba*, ‘lion.’ Most recent borrowed terms fall into

³I omit two other contexts that morphologically distinguish the different classes. The ASSOCIATIVE morpheme reflects the different noun classes; in all cases is identical to the verbal subject agreement. The object markers on the other hand sometimes have distinct forms; we briefly discuss these in [subsection 5.3](#).

⁴Class 11 forms plurals in class 10, e.g., *zingano*.

class 9/10 as well, e.g., *ebasi / zibasi*, ‘bus, busses.’

The fact that the two EA-markers in Logoori are class 6 and 9 appears to be arbitrary — at least synchronically. I will not comment on the historical source of the EA-markers. But it is worth noting that related Luhia languages use alternative markers as the EA-markers (including class 8 and class 5).

3. Expletive subjects in Logoori

Gluckman and Bowler (2016b) observe that class 6 and class 9 subject agreement can be used in expletive contexts, as demonstrated in (1) above. They demonstrate that both EA-markers occur with a range of verbal predicates. In fact, any predicate that can occur with an embedded CP can also occur with an EA-marker. The choice between EA-markers broadly correlates with a difference in speaker certainty. (See discussion Gluckman and Bowler 2016b:1068.)⁵

Class 9 *e-* : The speaker is “weakly” committed to the truth of the embedded proposition.⁶

Class 6 *ga-* : The speaker is “strongly” committed to the truth of the embedded proposition.

In their use, the actual contribution of the EA-marker is sensitive to the lexical class of the embedded verb. With verbs of perception, class 9 *e-* indicates that the speaker has relatively little sensory evidence for P, while class 6 *ga-* indicates a lot of sensory evidence. With emotive factives, *e-/ga-* reflect the strength of the emotional effect of P on the speaker. With verbs of belief, the choice reflects how strongly the speaker believes P. With modals like *kunyala* ‘to be able,’ the difference roughly correlates with the distinction between “possibility” (class 9) and “probability” (class 6).

For example, (1b) is felicitous in a context in which the speaker did not actually see Sira leave, but rather heard about it second-hand from a perhaps unreliable source. (1a), on the other hand,

⁵It is worth noting that the EA-markers do not distinguish among CP-embedding verb classes for any other factor, e.g., factivity, implicativity, etc.

⁶I will confine discussion to unembedded EA-markers. Gluckman & Bowler observe that the perspective shifts to the local attitude holder in embedded contexts, and is not indexically aligned to the speaker. This does not affect the syntactic analysis presented later.

is felicitous if, say, the speaker saw that Sira’s belongings has all been packed up and taken away, and he found a bus ticket for Nairobi left among Sira’s things.

Gluckman & Bowler propose to analyze the EA-markers as realizations of (or possibly the reflex of agreement with) a choice function which combines with the modal base introduced by the embedding predicate.

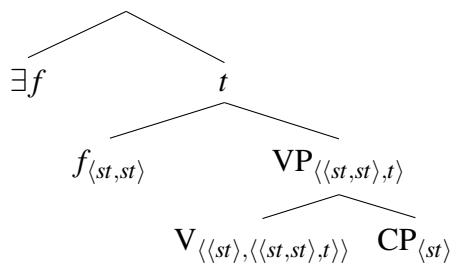
(2) a. $\llbracket \text{Modal Verb} \rrbracket^{w, OS, MB, ah} =$

$\lambda P_{st} \lambda f_{st, st}$: OS is appropriate for MB and f is a choice function.

$\forall w' [w' \in f(\text{BEST}_{OS(ah, w)}(\text{MB}(ah, w))) \rightarrow P(w') = 1]$

(Gluckman and Bowler, 2016b:1069)

b.



Gluckman & Bowler’s proposal is that *e-* and *ga-* differ in the size of the set of worlds that they select. *ga-* selects a non-proper (non-empty) subset of the best worlds in the modal base. This amounts to universal quantification: in all of the best worlds in the modal base, P is true according to the speaker. *e-* selects a proper (non-empty) subset of the best worlds in the modal base. This in effect amounts to existential quantification: in at least one of the best worlds in the modal base, P is true according to the speaker. *e-* and *ga-* are assumed to be in competition, leading to the calculation of an implicature. If the speaker has chosen *e-*, then they must not have meant *ga-*, i.e., there are some worlds in the best worlds according to the speaker in the modal base in which P is not true. This leads to the calculated implicature that the speaker is “weakly” committed to the truth of the embedded proposition, i.e., s/he can plausibly imagine worlds in which P is not true.

This paper will not assess the semantics of the EA-markers as proposed by Gluckman & Bowler. I will assume that their analysis provides the correct truth conditions. The goal of this

paper is to situate the semantics, whatever they might be, into a syntactic theory. This is desirable because subject agreement is uniquely a property of the syntax. It is sensitive to syntactic information (e.g., locality and c-command). I assume that this type of agreement reflects a syntactic need for the head that bears agreement features (assumed here to be T) to express those features. I wish to answer the question as to how exactly T comes to bear these features.

With this in mind, I would like to point out a missed generalization in Gluckman and Bowler's analysis: there is nothing that restricts the EA-markers to appearing in the presence of a CP. Any and all CP-embedding verbs can appear with EA-markers, and the markers are found whether the CP is a subject or an object.^{7,8}

- (3) a. ndii Sira a-zi-i ga-geny-a
that 1Sira 1SM-go-FV 6SM-surprise-FV
'That Sira left is surprising.'
- b. ga-geny-a (ndii) Sira a-zi-i
6SM-surprise-FV that 1Sira 1SM-go-FV
'It's surprising that Sira left '
- (4) a. ndii Sira a-zi-i e-geny-a
that 1Sira 1SM-go-FV 9SM-surprise-FV
'That Sira left is surprising.'

⁷It will not be relevant below whether the CP sits in the canonical subject position (e.g., spec-TP), or whether it sits in some other (higher) projection (Ross, 1967; Koster, 1978; Stowell, 1981; Adger, 2003).

⁸We note that in Logoori, EA-markers are restricted to environments with finite clauses.

- (i) *e-/ga-nyal-ek-a kuhiza zisimba
9SM-/6SM-be.possible-AC-FV 15hunt 10lion
[prompt: 'It's possible to hunt lions.']

This varies across Luhia languages and even across speakers; many languages and speakers permit EA-markers with non-finite clauses as well. Though we will not address this type of variation, it is possible to attribute it to independent properties of finite and non-finite clauses in general. Pending further investigation, we put aside this distinction. We also note that Logoori does not permit predicate adjectives with non-thematic subjects. Only a nominal property (a "property concept" Francez and Koontz-Garboden 2015) is permitted, in which case agreement with the noun is obligatory. See further discussion in section 6.

- (ii) vu-ar-i vuhimu ndii Sira a-zi-e Nairobi
14SM-COP-FV 14difficulty that 1Sira 1SM-go-SBJV Nairobi
'It was important that Sira go Nairobi'

- b. e-geny-a (ndii) Sira a-zi-i
 9SM-surprise-FV that 1Sira 1SM-go-FV
 ‘It’s surprising that Sira left’

In theory however, the only prerequisite for a choice function, and hence EA-markers, is a modal base. On Gluckman and Bowler’s analysis, we expect to find *e-* and *ga-* in many more contexts than we actually do. Empirically, the semantic analysis sketched above leads to two problematic sets of data. First, when there is no selected CP argument, EA-markers are not permitted. (See additional data in [subsection 5.9](#).)

- (5) *Zingo ni zi-goot-a ga-/e-la-geny-a
 10leopard COMP 10SM-win-FV 6SM-/9SM-FUT-surprise-FV
 [trying: ‘If (AFC) Leopards win, it would be surprising.’]⁹

There is no reason to rule out EA-markers in (5) — indeed, this same predicate naturally appears with EA-markers when the CP clause is an argument, (3) and (4).

This replicates what is observed in Greek in [Iatridou and Embick \(1997\)](#), who point out that referential *pro* cannot be anteceded by a clause.

- (6) *An ftasume arya *pro* θa tromaksi tin Maria
 if arrive.1PL late *pro* FUT scare the Mary
 ‘If we arrive late, it will scare Mary.’ Greek, ([Iatridou and Embick, 1997:58](#))

The second empirical issue that the semantic analysis raises is more language-internal (or at least Bantu-internal). Logoori permits what [Mountjoy-Venning and Diercks \(2016\)](#) calls *hyper-raising without agreement*. (See also [Halpert’s \(2016\) optional agreement](#) in Zulu.) Hyper-raising, a phenomenon widely discussed in Bantu languages, is A-raising out of a finite clause ([Nunes, 2008](#)). In the case of hyper-raising without agreement, the subject of the raising-verb does not trigger agreement on the raising verb; instead one of the EA-markers appears. Compare the examples in (7) and (8). I assume that syntactically, the examples in (7) and (8) differ in whether the

⁹AFC Leopards are a Kenyan (primarily Luhia) football/soccer team.

complement of the matrix verb is a full clause or not.¹⁰

- (7) a. Imali a-fan-a ndii ni murwaye
 Imali 1SM-seem-FV that COP 1sick
 ‘Imali seems to be sick.’ (Lit: ‘Imali seems that is sick.’)
- b. Imali ga-/e-fan-a ndii ni murwaye
 Imali 6SM-/9SM-seem-FV that COP 1sick
 ‘Imali seems to be sick.’ (Lit: ‘Imali seems that is sick.’)
- (8) a. Imali a-fan-a murwaye
 Imali 1SM-seem-FV 1sick
 ‘Imaali seems sick.’
- b. *Imali ga-/e-fan-a murwaye
 Imali 6SM-/9SM-seem-FV 1sick
 ‘Imaali seems sick.’

What prevents the choice function from being available for agreement in (8), when it is perfectly compatible with (7)?

Though I return in subsection 5.9 to additional expletive contexts, the take-away from the two sets of data above is simply that *e-/ga-* are not available in other contexts lacking an argumental CP which potentially could license a non-thematic subject, or any other environment which involves modal quantification. More broadly, even given the formal semantics in Gluckman & Bowler, we still wish to explain why EA-markers have a syntactically restricted distribution.

4. Hypotheses

We will consider five analytical hypotheses. Hypothesis 1 essentially transposes the general architecture of what Gluckman & Bowler propose onto the syntactic analyses suggested in Cardinaletti (1990); Vikner (1995); Bennis (2005); Ruys (2010). These authors entertain the idea that (some) expletives associated with CP clauses are introduced as (quasi-)arguments of the main-clause verb,

¹⁰I put aside diagnostics for determining whether (7) illustrates hyper-raising or whether it illustrates copy-raising, i.e., binding of null *pro* in the lower clause. The point goes through under either interpretation. What is important is that whatever mechanism that permits EA-markers with (7) is not available with (8).

which then promote to the subject position.¹¹ This is sketched in (9).

Hypothesis 1 : EA-markers reflect agreement with an argumental pronoun in the matrix clause.

(9) [verb it] CP → it [verb *t*] CP adapted from Vikner (1995:234)

Under this analysis, *it* in Logoori is the choice function, which can be either class 6 or class 9. Importantly, this hypothesis suggests that the EA-marking and the CP are independent; there is no inherent link between them. Moreover, it attributes the appearance of the EA-markers to selection. Certain predicates will select the choice function as a (quasi-)argument. Initial evidence against this analysis comes from the data we've already seen in (5) and (7)/(8). Because the EA-markers are formally severed from CPs, there is nothing that restricts their distribution outside of contexts in which CPs appear.

Next, we consider the hypothesis that CPs are embedded in a nominal layer.

Hypothesis 2 : CPs are Complex-NPs.

This hypothesis proposes that we are dealing with a complex-NP or pronominal structure, e.g., ... *knows it/the fact that*... (cf, Lees 1965; Rosenbaum 1967; Kiparsky and Kiparsky 1971; Stowell 1981; Takahashi 2010; Kastner 2015 among others). Schematically this is sketched in (10). (In either case, the (pro)nominal may have moved to the subject position.)

¹¹Among other things, the analyses differ on whether the expletive is an internal or external argument of the embedding verb. I will not address this in Logoori, though I point out that nearly all the CP-embedding verbs appear with the detransitivizing affix *-Vk*, identified in Gluckman and Bowler (2016a) as an anticausative affix. This would suggest that the EA-markers cannot be marking agreement with an external argument, as the general function of *-Vk* is to demote external arguments. Note that there are also differences between models in how the CP merges, in particular whether it is an argument or adjunct. As I show below, since extraction is always possible out of a CP in the presence of EA-marking, it is unlikely that they are adjuncts (*contra* e.g., Bennis (2005)). (See also footnote 15.) All authors also permit some expletives to be "true" expletives, unlinked to any thematic position, merged in spec-TP. Adopting this approach for Logoori's EA-markers severs the link between not only CPs and the EA-markers, but also any meaningful differences that the markers themselves introduce, and so I will not pursue it here. Finally, one canonical diagnostic for quasi-argument status of expletives is whether they can control PRO (e.g., *It snowed after PRO raining all day*). CP-expletives lack this property (**It looked like Sira arrived, after looking like he wouldn't*). This turns out to be a difficult diagnostic to apply in Logoori because clausal adjunction strategies all involve what appear to be fully inflected clauses, equivalent to *It looked like Sira arrived after it looked like he wouldn't*. Pending further investigation, I put this particular diagnostic aside.

(10) $[_{TP} T [_{VP} V [_{DP} \text{pro}/DP [_{CP} C \dots]]]]$

Hypothesis 2 predicts that we expect to find syntactic and semantic evidence for a silent (pro)nominal element. Such evidence would include whether overt (pro)nouns can appear in the structure, a semantic meaning that is associated with a (pro)nominal argument, and syntactic effects of having a (pro)noun present. For instance, if these are complex-NPs, then we should expect to find island effects. More generally, if CPs can always be associated with a silent nominal element, we should expect CPs to distribute like nouns (cf, [Thráinsson 1979](#)).¹²

Hypothesis 3 adopts the idea from [Moro \(1997\)](#); [Vikner \(1995\)](#) that the CP is not embedded inside of a D-layer, rather it forms a small clause with a (pro)nominal element.

Hypothesis 3 : Complements to embedding verbs are small clauses.

(11) $[_{TP} T [_{VP} V [_{SC} \text{pro}/DP [_{CP} C \dots]]]]$

Like hypothesis 2, the small clause hypothesis predicts that we should find evidence for a silent (pro)nominal element. It differs from hypothesis 2 in that CPs themselves are not expected to be able to distribute like DPs, since the small clause constituent it itself syntactically restricted to particular environments.

Hypothesis 4 holds that CPs are “bare,” and the EA-markers reflect a direct agreement relation with C or CP, as argued explicitly for Zulu in [Halpert 2012, 2016](#). (See also [Rackowski and Richards 2005](#)).

Hypothesis 4 : CPs are “bare” and agreement reflects a relationship between T and C (or CP) itself.

(12) $[_{TP} T [_{VP} V [_{CP} C \dots]]]$

¹²I note that I am collapsing a potential confounding factor, which is that there may be different “sizes” of null pronominal arguments, as suggested in [Holmberg \(2005\)](#), following work by [Déchaine and Wiltschko \(2002\)](#). The differences in pronominal sizes may be reflected in syntactic properties, e.g., in whether they can be arguments, and whether they can be referential. We will put aside this issue below, however, many of the arguments against silent pronouns below apply to pronouns of different sizes (e.g., coordination, object marking, referentiality).

The predictions for Hypothesis 4 are that we should find no evidence for a silent (pro)noun. Moreover, EA-markers should be sensitive to the presence of a (local) CP layer. That is, we expect to find evidence for a long-distance relationship between T and the CP, but do not expect to find evidence for a nominal layer involved in this relationship. Hypothesis 4 explicitly rules out that CPs may be directly embedded in a D layer (Pietraszko, 2018).

Hypothesis 5 holds that the EA-markers *ga-* and *e-* reflect different syntactic strategies, perhaps from among Hypotheses 1-4, but also including the possibility that one of the markers is simply default agreement.

Hypothesis 5 : The different expletives reflect different strategies, possibly including default agreement.

Hypothesis 5 predicts that Logoori looks, essentially, like Dutch. Dutch allows two expletives in CP-contexts, and it's known that the two expletive subjects in Dutch in (13) reflect different underlying structures, though opinions differ on what the two structures should be. (Cf, Hoekstra 1983; Rizzi 1986; Vikner 1995; Cardinaletti 1990; Bennis 2005; Ruys 2010 for discussion and variation across Germanic languages.)¹³

- (13) a. Het is gebleken dat Jan ziek is
it is appeared that John ill is
'It appeared that John is ill.'
- b. Er is gebleken dat Jan ziek is
there is appeared that John ill is
'It appeared that John is ill.' (Bennis, 2005:110-111)

The differences between *het/er* are reflected in the kinds of predicates that each associates with as well as various syntactic factors like whether the embedded clause is an island for movement. Thus, evidence for Hypothesis 5 would primarily come from the discovery that *ga-* and *e-* diverge in their distribution and properties. For instance, they might appear in different contexts, and

¹³See also Carstens and Mletshe (2015) for a proposal that expletive agreement in Xhosa involves a "last resort" mechanism.

interact with other syntactic processes in different ways.¹⁴

In the end, I will argue that Hypothesis 4, CPs are bare, best captures the data. There is no evidence for silent nominal or pronominal arguments, nor is there evidence that the expletives pattern differently. Moreover, the presence of an EA-marker is sensitive to the presence of a local CP which does not have nominal properties.¹⁵

In section 6 I return to the issue of the semantic analysis from Gluckman and Bowler (2016b) and illustrate how the proposed solution is in line with recent proposals concerning the semantics of clausal complements (Kratzer, 2006; Moulton, 2009), as well as Bantu-specific work on “logophoric” or “evidential” properties of Luhia CPs (Diercks, 2013). In light of this related work, I will also consider one variant of Hypothesis 2 which may salvage the possibility of a null “pronominal” argument, while still keeping the core insights from the discussion below.

Finally, I note that I am largely putting aside the extensive and interesting debate concerning the theoretical status of referential null subjects. Summarizing briefly, there are two competing views of the proper analysis of null arguments. On one view, argued for in Rizzi (1986); Cardinaletti (1997, 2004); Sheehan (2006); Holmberg (2005); Roberts (2010) among others, there is a null

¹⁴It is worth noting that, clearly, the EA-markers cannot *both* be default agreement, since they come with semantic and phonological distinctions. Something syntactic must trigger this difference for at least one of the markers.

¹⁵We might consider the possibility that post-verbal CPs are derived from a preverbal position by extraposition (Stowell, 1981). However, Condition C tests illustrate that this is not a possible derivation.

- (i) a. ga-hulel-a ku ye ndii Sira y-ar-i mu makosa
6SM-proven-FV to him/her that Sira 1SM-COP-FV in 6error
'It was proven to him_{*i/j}/her_k that Sira_i was guilty.'
- b. e-hulel-a ku ye ndii Sira y-ar-i mu makosa
9SM-proven-FV to 3SG that Sira 1SM-COP-FV in 6error
'It was proven to him_{*i/j}/her_k that Sira_i was guilty.'
- (ii) a. ndii Sira y-ar-i mu makosa ga-hulel-a ku ye
that Sira 1SM-COP-FV in 6error 6SM-proven-FV to 3SG
'That Sira_i was wrong was proven to him_{i/j}/her_k.'
- b. ndii Sira y-ar-i mu makosa e-hulel-a ku ye
that Sira 1SM-COP-FV in 6error 9SM-proven-FV to 3SG
'That Sira_i was wrong was proven to him_{i/j}/her_k.'

A post-verbal CP is subject to Condition C, while a preverbal CP is not. If the post-verbal CPs are derived from pre-verbal CPs, we would have no explanation of the binding effects.

pronominal element *pro*. This element acts like an overt element in being able to trigger agreement and undergo movement, but it has no phonological form (or it is deleted). The alternative view is that null subjects are not syntactically projected in the subject position. Instead, the properties of the agreement locus (typically T) are satisfied either by head-movement or through some non-local relationship — in current Minimalist work, Agree (Borer, 1986; Alexiadou and Anagnostopoulou, 1998; Barbosa, 1995, 2009; Platzack, 1987, 2004) among many others.

The data below do not comment on whether Logoori has *pro* or not. The claim is limited: I argue that it does not have *pro_{expl}*. Whether this in turn has implications for the analysis of null arguments in general is a separate question that falls outside of the scope of the present work.

5. Probing CP structure

The following sections provide relevant diagnostics bearing on the predictions made by the hypotheses listed in section 4.

5.1 Overt nominals

As a first pass, suppose that EA-marking was triggered by the presence of a noun, and the CP and noun form a complex-NP. As support for this hypothesis, we observe that there are nouns of class 9 and 6 which are grammatical as complements to many CP-embedding verbs.¹⁶

- (14) Sira a-many-i ingkova/amang’ana ndii Imali a-zi-i
 1Sira 1SM-know-FV 9fact/6news that 1Imali 1SM-go-FV
 ‘Sira knows the fact/news that Imali left.’

Moreover, it is possible to detransitivize many such predicates so that the noun promotes to the subject position.

- (15) ingkova/amang’ana e-/ga-many-ek-i ndii Imali a-zi-i
 9fact/6news 9SM-/6SM-know-AC-FV that 1Imali 1SM-go-FV
 ‘The fact/news is known that Imali left.’

¹⁶We note that, unlike what is reported for Ndebele in Pietraszko (2018), such CP complements to N do not need the Bantu associative morpheme between the noun and the CP.

Given (14), we might suggest that *e-/ga-* appear whenever one of these nouns is present in the structure, but silent (Kiparsky and Kiparsky, 1971).

The problem is that there are many such nouns, but not all of them are of class 6/9.

- (16) a. *lugano* ‘story’ (Class 11)
 b. *liveshi* ‘lie’ (Class 5)
 c. *ovukumo* ‘rumor’ (Class 13)
 d. *zingkova* ‘facts’ (Class 10)
 e. *ziganigani* ‘thoughts’ (Class 10)
 f. *zihanahani* ‘doubts’ (Class 10)
- (17) a. *rugano ru-many-ek-an-i ndii Imali a-zi-i*
 11story 11SM-know-AC-REC-FV that 1Imali 1SM-go-FV
 ‘The story is known that Imali left’
 b. *liveshi li-sover-ek-a ndii Imali a-zi-i*
 5lie 5SM-believe-AC-FV that 1Imali 1SM-go-FV
 ‘The lie is believed that Imali left.’

As (17) illustrate, such nouns obligatorily trigger subject agreement marking which matches the class of the subject. Class 6 or 9 is not possible in either example in (17).

Perhaps, though, the only possible silent nouns are of Class 9 and Class 6 (i.e., it’s always *ingkova* and *amang’ana*, or some other equally semantically bleached noun). The problem with this idea is that we have found no class 6 or 9 nouns that can appear either pre- or post-verbally for *all* possible predicates. For instance, no nominal form is permitted with EA agreement with the verb *kusovereka*, ‘to be believed.’

- (18) a. **ga-sover-ek-a amang’ana ndii Sira a-zi-i Nairobi*
 6SM-believe-AC-FV 6news that Sira 1SM-go-FV 9Nairobi
 b. **amang’ana ga-sover-ek-a ndii Sira a-zi-i Nairobi*
 6news 6SM-believe-AC-FV that Sira 1SM-go-FV 9Nairobi

- (19) a. *e-sove-rek-a inganagana ndii Sira a-zi-i Nairobi
 9SM-believe-AC-FV 9fact that Sira 1SM-go-FV 9Nairobi
- b. *inganagana e-sover-ek-a ndii Sira a-zi-i Nairobi
 9fact 9SM-believe-AC-FV that Sira 1SM-go-FV 9Nairobi

The availability of an explicit “propositional” nominal with a detransitivized verb and CP complement is subject to compatibility between the noun and the verb. In general, it’s always possible with emotive factives, and there is variable acceptability with verbs of perception and attitude reports. It’s never possible with modals. Crucially, not all combinations work, and so however we explain such examples cannot generalize to all contexts of EA-marking.

5.2 *Overt pronouns*

Alternatively, it may be that the silent element is a dropped (referential) pronoun *pro*_{6/9}. The discussion of overt nouns of course extends directly to the question of whether there is a dropped pronoun referring to one of the nouns in (16). This is not possible for the same reason discussed above, i.e., there are more noun classes than EA-markers, and some predicates resist referential subjects entirely.

Moreover, though Logoori has overt pronouns, they simply are never possible in these contexts, either in subject or object position.¹⁷

- (20) a. (*go) ga-many-ik-an-a (*go) ndii Sira a-zi-i
 6PN 6SM-know-AC-REC-FV 6PN that 1Sira 1SM-go-FV
- b. (*eyo) e-many-ik-an-a (*eyo) ndii Sira a-zi-i
 9PN 9SM-know-AC-REC-FV 9PN that 1Sira 1SM-go-FV

Still, overt pronouns are rarely used in argument positions in Logoori, and often carry additional

¹⁷See [Diercks and Green \(2018\)](#) for discussion of pronominal forms in Luyia. We note that it is possible in some cases to have demonstratives as subjects, but these necessarily have referential qualities and must refer to one of the nouns noted above in [subsection 5.1](#).

- (i) yago ga-many-ik-an-a ndii Imali a-zi-i
 6DEM 6SM-know-AC-REC-FV that 1Imali 1SM-go-FV
 ‘That (news) is known that Imali left.’

discourse information, e.g., topic/focus status. Thus, it may be that such pronouns are infelicitous in these contexts for independent reasons. I believe the additional tests below offer stronger evidence against a *pro* argument.

5.3 Object agreement

In Logoori, all definite *pro* objects are obligatorily marked on the verb through object marking. (Note that the object marker for class 9 is *ki-*.)

- (21) a. Sira a-lol-i manyonyi?
1Sira 1SM-see-FV 6bird
'Did Sira see the birds?'
- b. Ndiyo, Sira a-*(ga-)lol-i
Yes, 1Sira 1SM-6OM-see-FV
'Yes, Sira saw them (birds).'
- (22) a. Sira a-lol-i imbwa?
1Sira 1SM-see-FV 9dog
'Did Sira see the dog?'
- b. Ndiyo, Sira a-*(ki-)lol-i
1Sira 1SM 1SM-9OM-see-FV
'Yes, Sira saw it (dog).'

If there were a *pro* argument associated with the CP, we expect it to (obligatorily) trigger object marking, contrary to fact.

- (23) *Sira a-ga-/ki-sover-a ndii Imali a-zi-i
1Sira 1SM-6OM-/9OM-believe-FV that Imali 1SM-go-FV
'Sira believes it that Imali left.'

It does not matter whether the CP is itself elided; object marking is never triggered.

- (24) a. Sira a-ku-sinik-a na Imali a-(*ga-)many-i
1Sira 1SM-ASP-be.angry-FV and 1Imali 1SM-6OM-know-FV
'Sira is angry and Imali knows it.'

- b. Sira a-ku-sinik-i na Imali a-(*ki-)many-i
 1Sira 1SM-ASP-be.angry-FV and 1Imali 1SM-9OM-know-FV
 ‘Sira is angry and Imali knows it.’
- (25) a. ga-sover-ek-a ndii Imali a-soor-a avahi?
 6SM-believe-AC-FV-FV that Imali 1SM-hate-FV doctor
 ‘Is it believed that Imali hates doctors?’
- b. #Sira a-ga-sover-a
 1Sira 1SM-6OM-believe-FV
 ‘Sira believes it.’¹⁸
- (26) a. e-sover-ek-a ndii Imali a-soor-a avahi?
 9SM-believe-AC-FV-FV that Imali 1SM-hate-FV doctor
 ‘Is it believed that Imali hates doctors?’
- b. #Sira a-ki-sovera
 1Sira 1SM-9OM-believe-FV
 ‘Sira believes it.’

In addition to arguing against the presence of *pro* associated with CPs, these latter examples provide evidence that the CP itself is not of category D, as argued for Ndebele in Pietraszko (2018).

Of course, we should naturally ask why there is no expletive object-marking. Since *something* triggers expletive subject agreement, why can it not also trigger expletive object-agreement? The lack of expletive object-marking could be explained by the fact that the object markers in Logoori are not agreement proper, rather they’re clitics (Riedel, 2009; Sikuku et al., 2018). If cliticization requires the presence of a D feature that moves to/generates in *vP*, then we might conclude that the expletive subject agreement reflects agreement with something other than a DP — for instance, a CP.¹⁹

¹⁸We note that these are not ungrammatical utterances, since they could reflect agreement with a true noun, e.g., *amang’ana* ‘news’ or *ing’kova*, ‘fact.’ But they are infelicitous if such nouns are not discourse salient. Thus, in the contexts provided, they are not felicitous responses to the questions.

¹⁹Note that Halpert (2016:244, fn 5) comes to a similar conclusion in Zulu with respect to the lack of object marking for CPs in certain contexts, though the facts in Zulu are more complicated than Logoori.

5.4 Coordination

Another problem with claiming that CPs are embedded inside of D layers (with or without an associated *pro* or NP) comes from coordination. In short, we should expect to find that coordinated clauses trigger the same agreement as coordinated DPs. Two Class 9 arguments result in Class 10 agreement marking. This is demonstrated with the overt nominals in (27).²⁰

- (27) a. ?[inganagana ndii Imali a-zi-i] na [inganagana ndii Sira a-z-i]
 9fact that 1Imali 1SM-go-FV and 9fact that 1Sira 1SM-come-FV
 zi-n-geny-i
 10PL-1SG-surprise-FV
 ‘The fact that Imali left and the fact that Sira arrived surprised me.’
- b. zinganagana [ndii Imali a-zi-i] na [Sira a-z-i]
 10fact that 1Imali 1SM-go-FV and 1Sira 1SM-come-FV
 zi-n-geny-i
 10SM-1SG-surprise-FV
 ‘The facts that Imali left and Sira arrived surprised me.’

Coordinating two bare CPs cannot trigger class 10 agreement. Only either class 6 or 9 is possible.²¹

- (28) a. [ndii Sira a-lel-i] na [ndii Imali a-sek-i] e-geny-a /
 that 1Sira 1SM-laugh-FV and that 1Imali 1SC-cry-FV 9SM-surprise-FV
 ga-geny-a
 6SM-surprise-FV
 ‘That Sira laughed and that Imali cried is surprising.’
- b. *[ndii Sira a-lel-i] na [ndii Imali a-sek-i] zi-geny-a
 that 1Sira 1SM-laugh-FV and that 1Imali 1SC-cry-FV 10SM-surprise-FV

We note that it is also not possible to coordinate a bare CP and an overt nominal.

²⁰This diagnostic is moot with Class 6, since it’s already “plural,” i.e., Class 6+Class 6=Class 6. Note that not all propositional coordinations work for presumably semantic reasons. See Groat (1995); McCloskey (2001) for discussion of English data.

²¹Logoori has sporadic and ill-understood cases of “closest conjunct agreement,” i.e., agreement with the linearly closest coordinated element. This is almost exclusively found when the two noun classes are “incompatible.” As this is not the case here, there is no independent reason to think that the agreement facts can be attributed to whatever mechanism derives closest conjunct agreement in general.

- (29) *Sira a-sover-a ndii Imali a-zi-i na amang'ana ndii Maina
 1Sira 1SM-believe-FV that 1Imali 1SM-left-FV and 6news that 1Maina
 y-ashiamul-i
 1SM-sneeze-FV
 [prompt: '??Sira believes that Imali left and the news that Maina sneezed.']

Bare CPs cannot have the category of nouns.

5.5 *Semantics of overt nouns*

It is well known that there are semantic distinctions between sentences with embedded clauses containing explicit (pro)nouns, versus without (Vendler, 1972; Fine, 1982; Asher, 1993; Pietroski, 2000) and (Moltmann, 2013:124ff, 126ff) among others.

- (30) a. Sira y-ivar-i ing'kova ndii manyoni ga-buruk-ang-a
 1Sira 1SM-explain-FV 9fact that 6bird 6SM-fly-HAB-FV
 'Sira explained the fact that birds fly.'
- b. Sira y-ivar-i ndii manyoni ga-buruk-ang-a
 1Sira 1SM-explain-FV that 6bird 6SM-fly-HAB-FV
 'Sira explained that birds fly.'

As observed by Pietroski (2000:655), without a noun, an English sentence like (30b) may report a situation in which Sira is telling a child how birds migrate such long distances. In contrast, a sentence like (30a) may report a physical property of birds. (It is equivalent to *Sira explained why birds fly*). That is, the sentences are not truth-conditionally equivalent, as they are true in different contexts. The same contrasts exist in the Logoori equivalents.

We note that the difference is pervasive. Clausal complements with and without an associated noun — any associated noun — mean different things with the same verbal predicate (Kiparsky and Kiparsky, 1971). Whichever noun is chosen (*fact, proposition, news, idea*, etc) yields the same results *modulo* lexical differences in meaning.

With EA-markers, only one reading is possible, the reading that is equivalent to (30b), again suggesting that a silent nominal is not present. Finally, we should note that the differences persist

whether the noun is an object or subject of the embedding predicate. To the extent that (31) is possible, it can only have the meaning equivalent to (30a).

- (31) ?ing’kova y-ivar-ek-i ndii manyoni ga-buruk-ang-i
 9fact 9SM-explain-AC-FV that 6bird 6SM-fly-HAB-FV
 ‘The fact was explained that birds fly.’

5.6 Embedded questions

Embedded questions are not possible with overt nouns.

- (32) a. *Sira a-many-i lilivesha (ni vwaha) wa Sira aroombi
 1Sira 1SM-know-FV 5lie (FOC who) COMP 1Sira 1SM-push-FV
 ‘*Sira knows that the lie who Sira pushed.’
- b. *Sira a-many-i lisovera chyajila Imali ne-a-veh-a
 1Sira 1SM-know-FV 5belief why 1Imali COMP-1SC-lie-FV
 ‘*Sira knows that belief why Imali lied.’
- c. *Sira y-ivar-i lugano sia manyonyi ga-buruk-i
 1Sira 1SM-explain-FV 11story how 5bird 5SM-fly-FV
 ‘*Sira explained the story how birds fly.’

Embedded questions are possible in the presence of expletive agreement.

- (33) a. ga-/e-many-ek-an-a (ni vwaha) wa Sira a-roomb-i
 6SM-/9SM-know-AC-REC-FV (FOC who) COMP 1Sira 1SM-push-FV
 ‘It’s known who Sira pushed’
- b. ga-/e-many-ek-an-i chyajila Imali ne-a-veh-a
 6SM-/9SM-know-AC-REC-FV why 1Imali COMP-1SM-lie-FV
 ‘It’s known why Imali lied.’
- c. ga-/y-ivar-ik-i sia manyoni ga-buruk-i
 6SM-/9SM-explain-AC-FV how 6bird 6SC-fly-FV
 ‘It was explained how birds fly.’

It is likewise the case that embedded questions are not possible with associated pronouns cross-linguistically (cf, [Stroik 1996](#)). Assuming that this is true of Logoori as well, then the data in (33)

suggest that there is no (object) pronominal element.

- (34) a. John counted on (*it) what Mary would do.
 b. John figured (*it) out why Bill left.

5.7 *Island effects*

We further expect to find island effects if there's a silent nominal. Specifically, this should constitute a Complex-NP Constraint violation. The examples in (35) establish that Logoori observes the Complex-NP constraint,

- (35) a. Sira a-hol-i ovukumu ndii Imali a-lol-i Kageha
 1Sira 1SM-hear-FV 1rumor that 1Imali 1SM-see-FV Kageha
 'Sira heard the rumor that Imali saw Kageha.'
 b. *ni vwaha wa Sira a-hol-i ovukumu ndii Imali a-lol-i
 FOC who COMP 1Sira 1SM-hear-FV 1rumor that Imali 1SM-see-FV
 '*Who did Sira hear that rumor that Imali saw?'

The examples in (36) illustrate that the expletive agreements do not preclude the extraction out of the lower clause.

- (36) a. ni vwaha wa ga-many-ek-an-a Sira a-sor-a
 FOC who COMP 6SM-know-AC-REC-FV that 1Sira 1SM-hate-FV
 'Who is it known that Sira hates.'
 b. ni vwaha wa e-vor-ek-a ndii Sira a-sor-i
 FOC who COMP 9SM-know-AC-FV that 1Sira 1SM-hate-FV
 who is it said that Sira saw?

Again, though Logoori lacks overt pronominal clausal associates, this movement should likewise constitute an island violation if the clause forms a complex-NP *pro*.

5.8 Echo questions

Speakers can use the *wh*-word *-ndiki* as an echo question. When inflected for class features, the speaker is asking for a repetition of information. In all cases, the responder can use the class of the previously mentioned object, or can use an all purpose “default” class marker, class 7 *ki-*.

- (37) a. John, heenz-a manyonyi
 John, look-IMP 6bird
 ‘John, look at the birds.’
- b. mandiki / kindiki?
 6which 7which
 ‘Which thing (do you want me to look at)?’

In response to statements with clausal complements, only the default class 7 *kindiki* is possible.

- (38) a. e-/ga-sover-ek-a ndii Imali a-zi-i
 9SM-/6SM-believe-AC-FV that 1Imali 1SM-go-FV
 ‘It’s believed that Imali left.’
- b. *indiki / *mandiki / kindiki
 9which 6which 7which
 ‘What thing (is believed)?’

Along the same lines as what was proposed for object marking in [subsection 5.3](#), these facts would follow if the *wh*-expression *-ndiki* generally shares the features of the DP category that it replaces. If there is no DP-category, then a default marker is used. Not that this also provides evidence that neither *e-* or *ga-* has “default” status, since *ki-* seems to be the default category in other contexts.

5.9 CP-selection

If there isn’t a selectional relationship between the CP and the matrix predicate, then EA-markers are not possible. This is illustrated in [\(39\)](#) with *if*-clauses, repeated from [\(5\)](#).

- (39) *zingo ni zi-goot-a ga-la-geny-a / e-la-geny-a
 10leopard COMP 10SM-win-FV 6SM-FUT-surprise-FV / 9SM-FUT-surprise-FV
 ‘If (AFC) Leopards win, it would be surprising.’

These facts in Logoori (and Greek) recapitulate the central observation, which is that the EA-markers are CP-linked, i.e., must appear in the presence of a CP clause. The ungrammaticality of (5) follows from the fact these sentences do not have a CP present.

We repeat the contrasts in Greek and Logoori in (40) and (41)

- (40) a. O Kostas ine panda arɣoporimenos
 the Kostas is always delayed
 ‘Kostas is always delayed.’
 b. Prazmatika. *Ke pro epise ton patera tu na tu ayorasi aftokinito
 indeed and pro convinced the father this MOD him buy car
 ‘Indeed, and it convinced his father to buy him a car.’

Greek, (Iatridou and Embick, 1997:58)

- (41) a. Sira ya-ku-gemer-a mbano
 1Sira 1SM-ASP-hold-FV 3knife
 ‘Sira held a knife.’
 b. *ga-/e-vol-el-i Maina ndii Sira y-a-l-i na magosa
 6SM-/9SM-tell-APPL-FV Maina that 1Sira 1SM-TNS-COP-FV with 6fault
 ‘It convinced Maina that Sira was guilty.’

It is likewise worth noting that there are no other expletive constructions in Logoori — null or overt. This is demonstrated with ambient and weather predicates in (42), and existentials in (43). The examples in (44) illustrate that Logoori also does not display the types of *subject-in-situ* constructions that are a known property of some Bantu languages (cf, Carstens 2005).

- (42) Ambient and weather predicates
 a. riova ri-val-a
 5sun 5SM-shine-FV
 ‘The sun is shining’ [Prompt: ‘It’s sunny.’]

- b. mbora e-kub-a
9rain SM-beat-FV
'The rain is beating' [Prompt: 'It's raining.']
- c. luuya lu-a-ku-kir-a
11heat 11SM-TENSE-ASP-be.plenty-FV
'The heat is plenty.' [Prompt: 'It's hot (out).']

(43) Existentials

- a. va-duk-i ho vasaza va-vaga
2SM-arrive-FV DEIC 2man 2three
'(Far over there) there arrived three men.'
- b. zi-duk-i yo zibasi zi-vaga
10SM-arrive-FV DEIC 10bus 10-three
'There arrived (some place) three busses.'²²

(44) In-situ subject

- a. ku-pheka uZinhle kahle
17SM-cook AUG.1Zinhle well
'Zinhle cooks well.'
- b. *e-/ga-/ku-deek-a Imali
9SM-/6SM-/17SM-cook-FV 1Imali

Zulu (Halpert, 2016:15)

These data further underline that *ga-* and *e-* are not independently available as expletive agreement. They are restricted in that they only appear in contexts in which there is a selected CP argument.

5.10 Default agreement

Finally, we consider whether *e-/ga-* should be analyzed as instantiations of the same morpheme, or whether they reflect different sources. In Dutch, the two expletive elements *het* and *er* can both occur with CP-selecting verbs, and can be distinguished along several syntactic lines. For instance, they exhibit selectional properties: some verbs select for both, while other verbs for one.²³

²²These existential constructions are likely best analyzed as instances of locative inversion, rather than "true" existentials. For discussion of the syntax of such sentences, see Diercks (2010, 2017).

²³Both expletives may also occur as expletives outside of CP contexts.

- (45) a. Het is gebleken dat Jan ziek was
it is appeared that Jan ill was
'it appeared that Jan was ill.'
- b. Er is gebleken dat Jan ziek is
there is appeared that John ill is
'It appeared that John is ill.' (Bennis, 2005:110-111)
- (46) a. het scheen dat Jan ziek was
it seemed that John ill was
'It seemed that John was ill.'
- b. *er scheen dat Jan ziek was
there seemed that John ill was
'It seemed that John was ill.' (Bennis, 2005:113)

We first note that there is no such distinction in Logoori. For all CP-selecting predicates, either *e-* or *ga-* are possible, with the discussed meaning differences.²⁴

Though there is disagreement as to how the Dutch facts should be modeled syntactically, all authors agree that the different expletive constructions have different source syntaxes. This is reflected in, among other things, syntactic processes like extraction. It is not possible to extract out of the lower clause when *het* is used, but it is possible when *er* is used.²⁵

- (47) a. *Wat is het gebleken dat Jan gezegd heeft
what is it appeared that John said has
'What does it appear that John said?'
- b. Wat is er gebleken dat Jan gezegd heeft
what is there appeared that John said has
'What does it appear that John has said.' (Bennis, 2005:111)

Again, we find no such distinction in Logoori, as the above sections have demonstrated.

²⁴Gluckman and Bowler (2016b:1080) observe three possible counter-examples. *kufunya*, 'to smell/taste' and *kuholeka*, 'to feel' are only compatible with *e-*, while *kugaasa*, 'to be perfect' is only compatible with *ga-*. There are plausible semantic reasons to differentiate these verbs. It is unsurprising that something meaning 'to be perfect' should be obligatorily associated with a strong speaker commitment (*ga-*). More interestingly, recent experimental evidence has suggested that predicates meaning 'taste/smell' are also semantically distinct from the other perception verbs (Kaiser, pear). It's possible that this particular semantics may reveal why they prefer *e-* as an EA-marker.

²⁵Actually, this appears to be construction dependent, and there are disagreements among authors about these facts (Bennis, 2005) vs. (Ruys, 2010).

It's important to point out that Logoori does distinguish the same “semantic” verb classes as Dutch (and English). For instance, distinct verb classes are related to a selected CP in different ways. Ruys argues that this in turn helps explain the distributions of *het/er*.

- (48) a. CP blijkt t_{CP} nu wel
 CP turn.out now truly
- b. *CP schijnt t_{CP} nu wel
 CP seems now truly

Ruys (2010:153)

Logoori makes the same syntactico-semantic distinction between verbs classes, but these distinctions do not correlate with the availability of either EA-marker.

- (49) a. ga-/e-fan-a ndii Sira a-zi-i
 6SM-/9SM-seem-FV that 1Sira 1SM-go-FV
 ‘It seems that Sira left.’
- b. *ndii Sira a-zi-i ga-/e-fan-a
 that 1Sira 1SM-go-FV 6SM-/9SM-seem-FV
 [intended: ‘*That Sira left seems.’]
- (50) a. ga-/e-many-ek-an-a ndii Sira a-zi-i
 6SM-/9SM-know-AC-REC-FV that 1Sira 1SM-go-FV
 ‘It’s known that Sira left.’
- b. ndii Sira a-zi-i ga-/e-many-ek-an-a
 that 1Sira 1SM-go-FV 6SM-/9SM-know-AC-REC-FV
 ‘That Sira left is known.’

Thus, the EA-markers cannot be claimed to be associated with particular verb classes. This argues against a “selectional” account of the EA-markers, where verb classes select for (particular) EA-markers. And it also provides evidence that the EA-markers are a general syntactic phenomena, whose source does not depend on the lexical verb or its semantics.

6. Proposal: Agreement with the clause

To summarize, we have found no evidence to suggest that there is a silent noun or pronoun in the structure. This conclusion is supported by morphological, syntactic, and semantic considerations. We therefore conclude that CPs are “bare” in the EA-marked examples. Moreover, we have not seen evidence that *e-/ga-* behave differently, as in Dutch. We therefore conclude that both EA-markers share a syntactic structure. A summary of the predictions that each hypothesis makes with respect to each diagnostic is provided in [Table 2](#). (Since Hypothesis 5 might include any of Hypotheses 1-4, it is represented as “default” in the table as the last remaining possibility.)

| | Quasi-arg <i>it</i> (Hyp 1) | CPs=DPs (Hyp 2) | Small clause (Hyp 3) | Bare CP (Hyp 4) | Default (Hyp 5) | Data |
|----------------------------------|--------------------------------|--------------------|-------------------------|--------------------|--------------------|------|
| Overt nouns possible? | no | yes | yes | no | no | no |
| Overt pronouns possible? | yes | yes | yes | no | no | no |
| Object marking possible? | yes | yes | yes | no | no | no |
| Noun meaning detectable? | no | yes | yes | no | no | no |
| Coordinated agr possible? | no | yes | no? ²⁶ | no | no | no |
| Embedded Qs possible? | yes | no | no | yes | yes | yes |
| Island effects observed? | no | yes | yes | no | no | no |
| EA with echo Qs? | no? ²⁷ | yes | yes | no | yes | no |
| EA possible without selected CP? | yes | yes | yes | no | yes | no |
| Differences between markers? | no | no | no | no | yes | no |

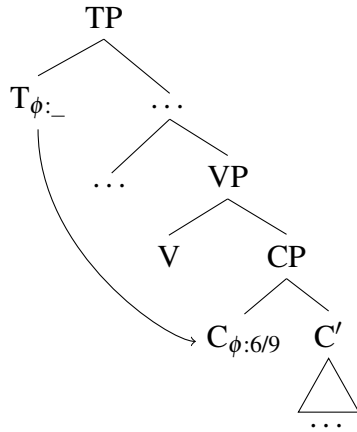
Table 2: Summary of predictions for each hypothesis relative to the diagnostics

This leads us to the following analysis: EA-marking reflects a direct agreement relation with the CP itself. This is sketched in [\(51\)](#) as agreement with the head C. C in turn comes in two varieties, one bearing class 9 features, and one bearing class 6 features. (See similar proposals in [Halpert 2016](#) and [Rackowski and Richards 2005](#).)

(51)

²⁷We might expect coordinated agreement to be possible with small clause arguments if its, a) possible to coordinate small clauses, and b), the ϕ -features of the noun “percolate” up to the small clause phrase.

²⁷It’s not clear whether Hypothesis 1 makes any predictions about whether EA markers should be available outside of verbal predicates, though if they are truly quasi-argumental, then we might expect that they cannot be questioned and so would not trigger EA-marking on a question word.



The proposal predicts that EA-markers should be sensitive to the locality of the CP. This prediction is borne out in the following data, which show that when the CP is embedded inside of another element that can potentially trigger agreement, like a predicative mass noun, then agreement must reflect the noun class of the mass noun.

- (52) vu-al-i vuhimu ndee Sira a-zi-i
 14SM-COP-FV 14importance that 1Sira 1SM-go-FV
 ‘It’s important that Sira leave.’

I understand mass terms like *vuhimu* to be *property-concepts*, which have a particular semantic and syntactic status (Francez and Koontz-Garboden, 2015). This data emphasizes not only that the agree relationship is downwards with a lower element, but that it is syntactic in nature, respecting locality.²⁸

The data are consistent with the proposal that CPs are not embedded under an associated nominal category. However, it may still be possible to salvage the idea that there are null expletive pronouns. While we have shown that the CP itself cannot be encased in a nominal projection, we could entertain the hypothesis that there is a pronoun that is *inside of* the CP clause, say in the clausal left-periphery. It is this pronominal element that enters a relationship with something in the main clause. Call this Hypothesis 2a.

²⁸It also indicates that CPs do not need to be “licensed” by entering into an overt agree-relation with any other element.

Hypothesis 2a : There is a *pro* argument inside of the CP domain.

(53) [TP T [VP V [CP *pro*_{6/9} C ...]]]

This idea is consistent with everything we've seen above, notably, the CP is not expected to have nominal properties because it isn't dominated by a D layer. And at the same time, there is expected to be a (syntactic) link between a CP and EA-agreement. Syntactically, I do not believe it is possible to tell the hypotheses apart. In both cases, we do not expect the CP to behave like a noun, and we also expect that EA-markers are tied to the presence of a (syntactically) local CP. However, there is independent morphological evidence from related Luyia languages that suggest that hypothesis 2a might be correct. Consider the case of *agreeing complementizers* in Lubukusu (Diercks, 2013).²⁹

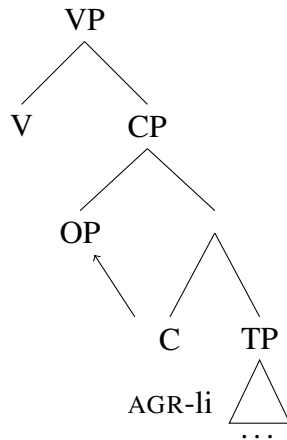
- (54) a. *baba-ndu ba-bol-el-a Alfredi ba-li a-kha-khil-e
 2SM-person 2SM-say-APPL-FV 1Alfred 2SM-that 1SM-FUT-conquer
 'The people told Alfred that he will win.'
- b. Alfredi ka-bol-el-a baba-ndu a-li ba-kha-khil-e
 1Alfred 1SM-say-APPL-FV 2SM-person 1SM-that 2SM-FUT-conquer
 'Alfred told the people that they will win.' Lubukusu, (Diercks, 2013:358).

Diercks (2013) shows that such complementizers reflect the ϕ -features of the "logophoric-center" (in his terms) of the embedded clause, and can correlate with difference "evidential"-like readings.³⁰ He formalizes this as an operator in the C-domain, which bears ϕ -features inherently (i.e., does not acquire them through a syntactic relation with some other element in the syntax). The complementizer agrees with this operator.

(55)

²⁹See also Kawasha (2007) for an overview of additional agreeing complementizers in Bantu languages. Agreeing complementizers have also been documented by the author in the Luyia languages Nyala East and Nyala West.

³⁰We note that there are non-agreeing complementizers in Lubukusu as well, including \emptyset , *mbo*, *bali*, *nga* and *oli*, which may occur with EA-markers. (See Diercks (2013:362) for discussion.) We may assume in those cases that the operator is still present, and so can be targeted for agreement, but the C head simply does not have an AGR-slot.



after (Diercks, 2013:372)

The agreeing complementizer is available with EA-markers in the main clause, and in fact, when both are present, they must match in ϕ -features.³¹

- (56) a. ka-lolekhana ka-li / *li-li Tegani ka-a-kwa
 6SM-seems 6SM-that 5SM-that 1Tegan 1SM-PST-left
 ‘It seems like Tegan fell.’
- b. li-lolekhana li-li / *ka-liTegani ka-a-kwa
 5SM-seems 5SM-that / 6SM-that 1Tegan 1SM-PST-left
 ‘It seems like Tegan fell.’ Lubukusu, adapted from (Diercks, 2013:385)

The analysis sketched above can be re-modeled based on Lubukusu so that EA-marking on the embedding predicate stems from agreement *with the operator*.³² Evidence that this agreement is downwards agreement, i.e., T agreeing with Op, and not upwards, i.e., Op agreeing with T, can be found in the following data, which illustrate that agreeing complementizers are in fact available *without an embedding predicate*. The following are complete utterances.³³

³¹Diercks reports (p. 401, fn 48) that there is speaker variation as to the availability of the agreeing complementizer with EA-markers. Though we have not found this as well, we are not surprised about the variability. There is quite a bit of speaker (and language) variation with respect to EA-markers in general. We also note that for some speakers Bukusu has more than two EA-markers, making use of class 8 *bi-* and class 9 *e-*.

³²Diercks (2013:xx) suggests that the expletive agreement derives from *pro_{expl}*, though he cautions that this is an assumption and that the issue is murky. See also discussion in Diercks et al. (2017) for additional arguments that Op does not get its ϕ -features from the subject of the higher clause.

³³The non-agreeing complementizers *bali* and *mbo* are both possible in matrix utterances as well, as is a complementizer which has 1sg agreement features (*ndi* > *n-li*). Each complementizer conveys particular meanings, which we put aside here.

- (57) a. ka-li Masika ka-a-chi-a Nairobi
 6SM-that 1Masika 1SM-PST-GO-FV Nairobi
 ‘Masika went to Nairobi’ (I’ve heard from two or three sources).
- b. li-li Masika ka-a-chi-a Nairobi
 5SM-that 1Masika 1SM-PST-GO-FV Nairobi
 ‘Masika went to Nairobi’ (I’ve heard from a single source).

(57) illustrate that the agreement that appears on the complementizer is not dependent on there being a EA-marker in a higher clause. Instead, (57) suggest the opposite conclusion: EA-markers that appear on verbal predicates are the result of agreement with (something in) the lower clause. Transposing this idea to Logoori, we might propose that Logoori also houses similar operators in the left periphery, but lacking an agreeing complementizer, the only morphological evidence for them are the EA-markers.

Thus, it may be possible to analyze EA-markers as agreement with a “pronominal” argument (Op). Still, I should emphasize that all these distinctions can also simply be encoded directly onto C; there is no need to posit the presence of a null pronominal element. That is, we might posit for Lubukusu that there is simply a large inventory of complementizers, including (morphologically simplex) *lili* and *kali*. For Logoori, there are two morphologically identical C heads *ndee* with different ϕ -features (which have null counterparts as well).

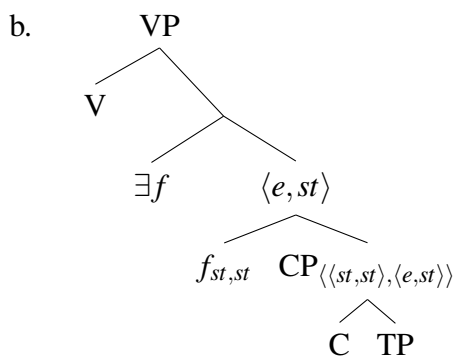
In fact, the semantic analysis of Gluckman & Bowler is also consistent with either syntax. Following Kratzer (2006); Moulton (2009, 2013); Hacquard (2010); Bogal-Albritten (2016), suppose that the complementizer, not the embedding verb, houses modal meanings. This is formalized in Kratzer/Moulton in the following way. They propose that CPs are formally descriptions of “contentful individuals.” CONT equates the individual argument with its propositional content.

- (58) a. $\text{CONT}(x_c)(w) = \{ w' : w' \text{ is compatible with the intentional content determined by } x_c \text{ in } w \}$
- b. $\llbracket \text{C} \rrbracket = \lambda p \lambda x_c \lambda w. \text{CONT}(x_c)(w) = p$
- c. $\llbracket \text{that Bob is a fraud} \rrbracket = \lambda x_c \lambda w. \text{CONT}(x_c)(w) = \lambda w' . \text{Sira left in } w. \quad \text{after (Moulton,$

2013:xx).

It is easy to see how the ideas from Gluckman & Bowler can be extended to this framework. For instance, adopting the ideas from Diercks (2013), we can postulate that Op is simply the choice function, which selects out of the worlds that CONT identifies.

(59) a. $\llbracket C \rrbracket = \lambda p \lambda f_{st, st} \lambda x_c \lambda w. f(\text{CONT}(x_c)(w)) = p$



Again, the choice functions differ in the size of the set of worlds they pick out. Op_6 selects a non-proper subset, asserting that all of the worlds that are compatible with the intentional content of x_c in w are p worlds. Op_9 simply asserts that some subset are those worlds are p worlds. Competition between the choice functions leads to the weak vs. strong meanings associated with the EA-markers.

In this way, the analysis from Gluckman & Bowler can be directly repositioned lower, into the clausal left periphery of the lower clause. Gluckman & Bowler's choice function can simply be understood as Dierck's logophoric operator, and the EA-markers are agreement with the choice function. Alternatively, I will point out that on this analysis, there is no need for a choice function at all, and all the semantics can be hardwired onto two different versions of C, reflected in their ϕ -features. The original motivation behind the choice function analysis in Gluckman & Bowler is to capture the fact that any modal verb can reflect either quantificational option, but the verbs themselves never alternate. Once we've transposed things to C though, there is no need to restrict ourselves, and we are free to postulate multiple functional heads C, each specified with different semantics — and crucially different ϕ -features.

Coming back to the main point, the data are not compatible with analyzing CPs as bearing, or being associated with, a nominal layer outside of the CP. The CPs are “bare” when they are introduced in the main clause, and the EA-markers reflect a relationship directly with the CP.³⁴

7. Prediction: empty subject position

The analysis posits that the subject position remains empty in the presence of an EA-marker. This predicts that it should, in theory, be possible for something else to sit in this position. We find the prediction borne out in the case of *hyper-raising without agreement* (Mountjoy-Venning and Diercks, 2016). These are cases in which there has been A-raising out of the lower clause, but the subject agreement is one of the EA-markers.³⁵ These are cases of A-raising out of a finite clause in which the raising predicate does not agree in ϕ -features with the raised subject.

- (60) a. Sira ga-lol-ek-an-a ndii a-zi-i Nairobi
 1Sira 1SM-see-AC-FV that 1SM-go-FV Nairobi
 ‘It looks like Sira went to Nairobi.’
- b. libarabandi ga-lol-ek-an-a ndii li-ya-gond-a
 5loquat 6SM-see-AC-REC-FV that 5SM-ASP-rot-FV
 ‘The loquat looks like it’s rotten.’

³⁴One potential issue that arises is that Logoori does not in general permit subject-in-situ. Therefore, we might expect the movement is obligatory once an Agree relation has been established. However, there are instances in which subjects can remain lower than the verb, in particular in existentials. In these cases, the subject marker reflects the features of a post-verbal subject. See Diercks (2017) for details concerning existential constructions in Bantu.

³⁵Mike Diercks (p.c.) points out that the issue is not as clear-cut as (7) make it seem. The issue is that there is evidence for multiple subject positions in Luhia languages. Thus, it could be the case that the hyper-raising subject is sitting in a position that is distinct from a null expletive *pro*. It is possible to control for these factors by filling more positions. In (i), the raised subject is doubled by a pronoun (Diercks and Green, 2018) and sits below the adverb *haondi*. The entire sentence is embedded, controlling for any Root phenomena.

- (i) ?Maina a-vor-i ndii Sira haondi oyo ga-lol-ek-an-a ya-yanz-a mabarabandi
 1Maina 1SM-say-FV that 1Sira maybe 1PN 6SM-see-AC-FV 1SM-like-FV 6loquat
 ‘Maina said that maybe it looks like Sira likes loquats.’

However, we should also note that proponents of a null expletive always have a “back-door:” We could simply assume that there is a “special” subject position that is dedicated to a (CP-linked) null expletive; no other argument can sit there. As far I can see, this idea is impossible to prove or disprove and so as a scientific hypothesis is not valid.

Putting aside the exact mechanism that derives how *Sira* gets to the front of the sentence in (7), such examples indicate that EA-markers are compatible with overt subjects, suggesting that an overt subject is not in competition with a null *pro*.

It is worth considering Halpert's (2016) explanation for similar data in Zulu. In her analysis, T agrees twice. First, T accesses the CP, but because there is a general ban on bare CPs occupying the subject position (spec-TP) in Zulu, the CP cannot satisfy T's EPP, and so T continues to probe, accessing the lower subject and raising it to spec-TP in the matrix clause. In Halpert's analysis, when the EA-marker in Zulu (class 17 *ku-*) appears without a nominal subject, *pro_{expl}* is inserted to satisfy the EPP. Thus, the relevant difference between what is proposed in Halpert (2016) and here is whether *pro_{expl}* is inserted in the absence of an overt promotion to the spec-TP position. Note though, that in either case, the agreement that appears on the embedding predicate reflects agreement with the CP proper; the issue is the status of the EPP. Must spec-TP have a specifier? Or can the subject position be empty?

We will not answer this question here — see Carstens (2005) for detailed discussion of the status of the EPP in Bantu and Biberaruer (2010) for a more cross-linguistic view. The purpose of this section is to show that it's possible to have both EA-markers and an overt subject at the same time, which illustrates that EA-marking cannot stem from agreement with something in the subject position. Whether the subject position merges an expletive element in the absence of an overt subject in order to satisfy a formal EPP constraint is a separate issue. It is, as far as we can tell, a theory-internal problem. There is no empirical support for such a null expletive pronoun.

8. CP-linked expletives in perspective

Having made the case that EA-marking in Logoori reflects a direct agreement relation with a CP, I now wish to turn to the cross-linguistic picture, asking whether the account above provides an explanation for other types of CP-linked expletives. Before doing so, two disclaimers are in order. First, it is important to recognize that any one language may have a number of potentially unrelated expletive “strategies,” which may nevertheless have identical morphological expression.

For instance, the English expletive *it* can be both a quasi-argument with weather predicates and a “true” expletive when CP-linked. There is no reason to think that such uses should have a shared analysis (cf Chomsky 1981, 1995). This idea carries to null expletives as well. Previous accounts of null expletives have recognized this by designating (at least) two distinct expletive *pro* elements, e.g., *pro_{expl-A}* from *pro_{explA}*, and equivalent (cf, Rizzi 1986).

Second, it will vary from language to language which configurations expletives will be overtly detectable. In Logoori, EA-markers are permitted only when there is no syntactic subject of a CP-embedded verb. In this context T is forced to agree with the lower clause. It is presumably simply a coincidence that weather-predicates do not similarly license expletive subjects, but there is nothing that would rule such a language out. (Indeed, Kinyarwanda is very likely to be a Bantu language that has both weather-expletives, as well as CP-linked expletives (Kimenyi, 1980).) Thus, the fact that a language may lack particular expletive constructions cannot be an argument for or against any one expletive analysis.

These disclaimers are important because I wish to restrict discussion where possible to CP-linked expletives. The analysis proposed above is meant to apply to cases of CP-linked null expletives, which are i) potentially distinct from other null expletives in a language, and ii) may be available or not in a language depending on arbitrary facts of the language. Thus, while the account extended above can explain cases of CP-linked null subjects in other languages, it is not meant to capture *why* some languages have null expletive CP-linked subjects, nor is it meant to capture *all* instances of null expletive subjects in a language.

Turning to CP-linked expletives in NSLs, the analysis provided above can be easily extended to other such cases. Greek, Spanish, etc, can now be analyzed as instances of T agreeing with a CP layer, rather than a null *pro_{expl}* or even T bearing a D feature to be checked. The relative paucity of inflectional morphology obscures the relationship between the clause and the locus of agreement. The analysis naturally explains the data from Iatridou and Embick (1997). Recall that in Modern Greek, a discourse proposition cannot antecede *pro*. This follows because there needs to be a local agree relationship between T and C. Similarly, the fact that non-selected clauses (*if*-clauses) cannot

be antecedents for *pro* follows from the same considerations: as non-selected arguments, they are not in the search domain (or otherwise targetable) by the Agree mechanism.

While Embick and Iatridou's analysis has been updated in recent theoretical modals distinguishing different sizes of DPs (see Camacho 2013:188 and discussion of Cardinaletti and Starke 1999), we believe that the present analysis improves on this general idea by foregoing the distinction between two different kinds of silent elements, e.g., *pro* and *pro_{expl}*, or different sizes of pronouns.

One consequence of the proposal is that clauses must be embued with ϕ -features. That is, the 3sg morphology that appears on verbs in the presence of a CP argument is a result of ϕ -feature agreement between the agreement locus and the clause head. The ability for clauses to have ϕ -features can be taken as a natural consequence Kratzer/Moulton's proposal that CPs describe individuals. If that is so, then we expect them to have properties of individuals, in particular, they should have ϕ -features, or be associated with a noun class. A natural question then is why 3sg is the specification that is chosen. The answer might simply be that this is an arbitrary choice; this is what Logoori suggests, since CPs do not trigger 3sg morphology, rather they trigger seemingly arbitrary class 6 and class 9 noun class morphology.

With respect to non-NSLs, our analysis raises the intriguing possibility that CP-linked expletives may involve movement of the expletive from inside of the lower clause. Specifically, CP-linked overt expletives may arise through an agree relation between T and an expletive generated inside of the embedded CP. This precise idea has been argued for by Stroik (1996),³⁶ who leverages the movement analysis sketched in (61) to explain a wide range of English data.

- (61) a. I should resent it_i greatly [t_i that you did not call]
 b. It seems [t_i that Sue left] (Stroik, 1996:237-238)

This would be in line with the possibility discussed in section 6 that there are operators/pronouns in the clausal left periphery, an idea that has further semantic support discussed below.

³⁶See also Sabel (2000) for compatible ideas.

More interestingly, I believe that the analysis sketched above may shed light on case of null expletives in the class of semi-NSLs, a class that includes both German and Icelandic. These are languages which do not, in general, permit null subjects, but do license them in particular configurations. Restricting discussion to German, null subjects are permitted in various contexts, including CP-linked contexts, but excluding weather-*it*.³⁷

- (62) a. Gestern regnete *(es)
yesterday rained it
'It rained yesterday.'
- b. Natürlich ist (es) gut, daß du gekommen bist
naturally is it got, that you come have
'Naturally, it's good that you came.' (Vikner, 1995:226)

The analysis suggested for Logoori above may apply here straightforwardly: T agrees with the clause, but is free to move some other element to the spec-CP (assuming that there is T-C movement in V2 languages). In that case, spec-TP remains empty, a conclusion that Biberaruer (2010) independently comes to.

It is also important to note that the analysis proposed above is supported by the fact that many expletive-like elements are quite high in clause, associated with the left periphery, making meaningful, though perhaps ill-understood, contributions. This is observed for instance in Greco et al. (2018a,b) who look at Finnish, Vietnamese, Dominican Spanish, and West Flemish, and conclude that the presence of an overt expletive marker correlates with different "speaker-related" (in their terms) meanings in these languages. We illustrate with Vietnamese.³⁸

- (63) (Nó) cháy cái nhà kho
NÓ burnt CLF house store
'A warehouse burned.' (Greco et al., 2018a:77)

³⁷To be clear, there are two distinct sub-types of semi-null subject languages. Icelandic permits null subjects in more environments than German, in particular, Icelandic permits null quasi-referential subjects (weather-*it*), while German does not. See extensive discussion in Rizzi (1986); Vikner (1995); Biberaruer (2010) and references therein.

³⁸See also discussions in Silva-Villar (1998); Holmberg and Nikanne (2002); Hinzelin (2006); Hinzelin and Kaiser (2006); Camacho (2013).

According to (Greco et al., 2018a) “*nó* narrows down the contexts in which the sentence is appropriate in terms of speaker-related epistemic specificity” (Greco et al., 2018a:77). This is also consistent with the well-known idea that there are *CP-expletives*, i.e., expletive elements which are situated in the CP (rather than TP or lower). This analysis is well-established for Icelandic and related Germanic languages (Platzack, 1987; Holmberg and Platzack, 1995; Svenonius, 2002; Biberaruer, 2010). The general idea is that such expletives sit in the Topic phrase in the left periphery. Importantly, it is worth noting that for those Germanic languages in which CP-expletives are proposed, they are always diagnosable in “extraposition” contexts, (Camacho, 2013:46); (Vikner, 1995:226ff) (as well as possibly other contexts, too).

While we do not wish to provide a semantic analysis of such phenomena in these languages, nor do we wish to draw too tight a parallel between Logoori and the languages discussed by Greco *et al* without a more thorough syntactic and semantic investigation, the facts are certainly in line with the proposal for an element in the C-domain as proposed above. In Logoori, this element is null, but can be detected through interaction with an agreement locus in a higher clause. In Lubukusu, the morphological evidence comes from agreement with the complementizer itself (as well as agreement in the higher clause). Other languages, like Vietnamese, and possible Icelandic, have grammaticalized this element as a distinct word, whose distribution is subject to language-internal considerations.

9. Conclusion

This article has discussed the how non-thematic subjects of CP-embedding verbs are derived in NSLs. I have argued that agreement morphology that appears in the presence of non-thematic subjects is due to a direct agreement relationship with the embedded clause, rather than a (pro)nominal argument, *pro_{expl}*. More generally, the analysis of Logoori provides a simple and intuitive way to derive CP-linked null expletives cross-linguistically

One element of the analysis that I’d like to highlight is that fact that CP-linked null expletives are deserving of study in their own right. This issue is often over-looked in other (null expletive)

languages simply because the morphological expression of the null expletive subject happens to overlap with the expression of other null expletives. The data from Logoori illustrates that this may be an oversimplification, and that different classes of expletive subject may have different sources, which result in identical surface forms. This idea is generally accepted for the class of overt expletive subject, but seems less well established for null expletive subjects.

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