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OVERT PRO IN GÃ*

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This paper presents data from Gã (Kwa, Niger-Congo language spoken in Ghana) that show that controlled subjects of non-finite predicates must be overt in this language. The presence of an overt pronominal subject in a non-finite embedded clause is surprising from the perspective of languages such as English and French, where such subjects must be covert (PRO). We provide evidence that the overt pronoun in Gã patterns with obligatorily controlled PRO (Hornstein 1999; Landau 2013) and argue for an analysis that adopts Kratzer's (2009) minimal pronoun. Unlike other instances reported in the literature, in Gã the overt PRO is not associated with focus and must be overtly realized. We compare Gã with two other Niger-Congo languages with overt PRO (Ewe and Bùlì) and explore the differences among these languages.

Keywords: Gã, control, PRO, infinitival predicates, minimal pronouns

1. Introduction

In English, non-finite clauses appear to lack an overt subject. Certain verbs select a sentential infinitival complement whose external argument must be coindexed with a matrix argument, as illustrated in (1) from English below.

(1) a. Cindy$_i$ remembered [PRO$_i$ to buy a book].
b. Cindy persuaded Mark$_i$ [PRO$_i$ to buy a book].

PRO is the null DP category theorized to take up the external theta role of the embedded infinitival verb and act as subject of the infinitival complement (Chomsky 1981). It can be bound by the main clause subject (subject control) as in (1a) or the main clause object (object control) as in (1b). This null category offers a principled solution for the Extended Projection Principle (EPP), which requires that all clauses have a subject, and the Theta Criterion, where each theta role must be assigned to one and only one argument.

In some West African languages like Ewe (Satik 2021), Bùlì (Sulemana 2019, 2021) and Gã, however, there is an obligatory overt pronoun where we expect a PRO.[1] Relevant examples are presented in (2)-(5).

(2) *Ewe* (Satik 2021:5)

Agbe$_i$	dzagbagba	be	yè$_i$-a	dzo.
Agbe	try	COMP	yè-POT	leave

'Agbe tried to leave.'

(3) *Bùlì* (Sulemana 2021:96)

Asouk$_i$	tìerì	*(wà$_{i/*j}$)	dā	gbaŋ
Asouk	remember	3SG	buy	book

'Asouk remembered to buy a book.'

[1] Unless otherwise indicated, all Gã data are from the first author and consultations with other native speakers of Gã. The first author elicited data through face-to-face and online interview sessions where participants were given English sentences to translate into Gã and were asked to provide grammaticality and semantic acceptability judgements for Gã sentences.

(4) *Gã*

Mìi-ɛ̀	táò	(nì)	*(mái)	nà	bò
1SG-PROG	want	COMP	1SG	see.INF	2SG

'I want to see you'

(5) *Gã*

Dìdái	súmɔ̀-ɔ̀ɔ̀	nì	*(éi)-nà	bò
Father	like-NEG	COMP	3SG-see.INF	2SG

'Father is reluctant to see you.'

In the above examples, the embedded overt pronoun is co-referential with the matrix subject. While in this article we focus on data from Gã, in Section 4.2 we return to Ewe and Bùlì.

PRO was originally posited to be phonetically null (Chomsky 1981). As mentioned above, in some languages an overt pronoun can appear in the position of PRO. This phenomenon has been discussed extensively by Rizzi (1982) and Cardinaletti (1999) for Italian, Raposo (1987) for European Portuguese; Szabolcsi (2009) for Hungarian and Modern Hebrew; Torrego (1998), Mensching (2000), and Alonso-Ovalle and D'introno (2001) for Spanish; and Corbalán (2018) for Brazilian Portuguese (see the examples in (6) and (7)). Outside of Romance languages, overt reflexive pronouns and some personal pronouns may occur in the position of PRO in Korean (Madigan 2008), as illustrated in (8).

(6) *Brazilian Portuguese* (Corbalán 2018:18)

Pedroi	quer	[**ele**i	chegar	infcedo]
Peter	wants	he.NOM	arrive.INF	early

'Peter wants to arrive early.

(7) *Spanish* (Corbalán 2018:18)

Juani	prometió	a	su	profesor	[hacer	**él**i	los	deberes]
John	promised	to	his	teacher	do.INF	he.NOM	the	homework

'John promised his teacher to do the homework by himself.'

(8) *Korean* (Madigan 2008:243)

Inhoi-ka	Jwuhi2-eykey	**caki**1/*2-ka	cip-ey	ka-la-ko	mal-ha-yess-ta
Inho-NOM	Jwuhi-DAT	self-NOM	home-LOC	go-IMP-C	tell-do-PST.DC

(lit.) 'Inho1 told Jwuhi2 SELF*1/2 to go home.'

In all of the above languages, the overt pronoun is optional and is used to indicate focus. This article adds to the literature on overt PRO by presenting data from Gã. Unlike the languages mentioned above, PRO is obligatorily realized as an overt pronoun in Gã and is not associated with focus (see Section 3). In this article, we demonstrate how this pronoun shares the signature properties of the obligatorily controlled PRO. We follow other authors (e.g., Madigan 2008, Landau 2013, 2016) and argue that PRO is a minimal pronoun (Kratzer 2009) that gets its features via binding by an argument in the matrix clause. Moreover, we suggest that the obligatory overtness of PRO in Gã is due to an EPP feature on Spec, TP. This paper therefore contributes to the literature on PRO and control and to the literature on the overt realization of normally covert phrases (Landau 2006, van Urk 2015). Moreover, we compare and contrast the Gã data with data from Ewe and Bùlì.

This article is laid out as follows: In Section 2, we introduce the reader to the syntax of Gã: the basic word order, the position of negation, aspect, and other morphology relevant to our analysis. Section 3 presents the data on the overt pronouns of infinitival predicates of Gã. We discuss the properties of the overt pronoun and present evidence that it is a subject (not an agreement marker) and that it is not a resumptive pronoun. In Section 4, we then demonstrate how the overt pronoun patterns with Obligatory Controlled PRO as described by Landau (2013). The analysis of the overt pronoun in

Gã as a minimal pronoun that receives its features via binding is presented in Section 5. We also argue against the movement analysis of control (Hornstein 1999) and discuss overt PRO in Ewe and Bùlì. While the Ewe facts are quite different (overt PRO is a logophoric pronoun), Bùlì and Gã bear striking resemblance. Crucially, Bùlì also has overt subjects in raising constructions. This discussion leads us to propose that the EPP on T in Bùlì has a phonological requirement that makes any material in the subject position obligatorily overt. In Gã, however, it is only the minimal pronoun that must be overtly realized. Section 6 concludes the paper.

2. Gã

In this section, we introduce the Gã language and the core syntactic and morphological properties relevant to this article. Gã belongs to the Kwa sub-group of the Niger-Congo language family. It is estimated that about 3.4% of Ghana's population (600,000 people) speak Gã as their first language (Lewis, Simons & Fennig 2015). Gã is a tonal language that has three major tonal variations: high tone, low tone, and mid-tone. There is lexical as well as grammatical tone; the latter shows distinctions in features such as tense and aspect. In this work, a high tone will be marked as [*á*], a low tone as [*à*], and a mid-tone as [*ā*]. Gã is a non-pro-drop language with an SVO basic word order, as illustrated in (9).

(9) Aku/**pro* mɪ̀ɪ̀-hè wòlò
Aku/*pro* PROG-buy book
'Aku is buying a book'/ '**pro* is buying a book'.

As example (9) shows, replacing the subject with a silent *pro* renders the sentence ungrammatical, hence an overt subject is obligatory. Turning now to the verb, all verbs in Gã are monomorphemic roots. Each verb root carries its lexical tone and may be preceded by a future, progressive, or a perfective prefix or followed by the habitual suffix. The default interpretation of a verb root is past tense. The example below illustrates different possible forms of the verb *yè* 'eat':

(10) Aku yè/**mìì**-yè/**bàá**-yè/ **é**-yè/ yè-**ɔ̀** àmádãã
Aku eat/PROG-eat/FUT-eat/PFV-eat/eat-HAB plantain
'Aku ate/ is eating/ will eat/ has eaten/eats plantain.'

There is no agreement on the verb, as shown in (11).

(11) Mì/Wɔ/Ò/Nyɛ/È/Amɛ̀ tèè skúl mrá
1sg/1pl/2sg/2pl/3sg/3pl go school early
'I/we/you/he/she/they went to school early.'

Finally, negation encodes tense and aspect in Gã as a portmanteau morpheme. This morpheme is realized as a suffix on the verb in finite clauses, as in examples (12-14).

(12) Habitual/Progressive
Aku hè-èè wòjii
Aku buy-NEG.PROG books
'Aku does not buy books.'

(13) Future
Aku hè-ŋ wòjii lɛ̀
Aku buy-NEG.FUT books DET
'Aku will not buy the books.'

(14) Perfective
Aku hè-kò wòjii lɛ̀
Aku buy-NEG.PFV books DET
'Aku did not buy the books.'

There is no infinitival morphology in Gã, but we claim that in control structures the embedded bare verb is non-finite. As a first point of comparison, the bare verb in Gã is interpreted as past tense (as noted above). In control contexts, however, the bare verb is interpreted as irrealis, not past (15).

(15) Aku kplɛ̃nɔ̀ nì é-hè wòlò
Aku agree COMP 3SG-buy.INF book
'Aku agreed to buy a book.'

Second, finite complement clauses in Gã appear with the obligatory complementizer *ákɛ̀* and the embedded verb can carry overt tense marking.

(16) Aku kɛ̀ɛ̀ ákɛ̀ **è** yè/**mìì**-yè /**bàá**-yè/**è**-yè/yè-**ɔ̀** amadãã
Aku say COMP 3SG eat/PROG-eat/FUT-eat/PFV-eat/eat-HAB plantain
'Aku said that she ate/ is eating/ will eat/ has eaten/eats plantain.'

In control clauses, the complementizer *nì* is obligatory and the verb cannot take any tense marking.[3]

(17) Aku kplɛ̃nɔ̀ nyɛ̀ nì é-hè/*é-bàá-hè/*è-hè wòlò
Aku agree yesterday COMP 3SG-buy.INF/3-FUT-buy/3-buy.PST book
'Aku agreed yesterday to buy a book.'

We take the absence of tense marking as evidence that the embedded predicate is non-finite. Finally, some authors (e.g. Dakubu 2004; Ameka & Kropp Dakubu 2008; Campbell 2017) claim that the embedded verb in control clauses is subjunctive. We see two reasons for not adopting this analysis. First, in subjunctive clauses there is a consistent high tone on the verb as well as on the subject pronoun, as seen in (18). In control clauses, however, the verb may carry a low tone (as in example (17) above and (19) below).

(18) É shí biɛ̀
3SG leave.SBJV here
'He ought to/needs to/should leave.'

(19) Mì-ɛ̀$_i$ táò (nì) má$_i$ shì biɛ̀
1SG-PROG want COMP 1SG leave.INF here
'I want to leave here.'

Second, in subjunctive clauses an embedded pronominal subject may be anaphoric or disjoint with a matrix argument, as illustrated by (20). As we will see in detail in Section 3.2, however, in control clauses the overt embedded subject pronoun must be interpreted as anaphoric with an argument in the matrix clause, as in (21).

[3] *Táò* 'want' is the only control verb where the complementizer is optional. This seems to be an idiosyncrasy with this specific verb. While *ákɛ̀* systematically appears with tensed clausal complements, *nì* is compatible with both tensed and non-finite complements.

(20) Aku$_i$ bàá-sùmɔ̀ɔ̀ nì **é**$_{i/j}$ **shí** wɔ̀
Aku FUT-like COMP 3SG leave.SBJV tomorrow
'Aku will like to leave tomorrow/ Aku will like her to leave.'

(21) Aku$_i$ bàá-sùmɔ̀ɔ nì **é**$_{i/j*}$ **shì** wɔ̀
Aku FUT-like COMP 3SG leave.INF tomorrow
'Aku will like to leave tomorrow.'

We therefore conclude that control clauses are not subjunctive. While the literature is not extensive, there is some work on control in the previous literature on Gã. Dakubu (2004), Ameka & Kropp Dakubu (2008), and Campbell (2017) propose that volitional verbs take subjunctive complements, where the embedded subject is also marked as subjunctive. As we have just seen, however, control complements do not pattern morphologically with subjunctives and the coreference properties are different. Korsah (p.c.) suggests what we are calling overt PRO is in fact an agreement affix that appears in embedded clauses under a matrix volitional verb. We return to Korsah's suggestion in Section 3.1.1. These earlier proposals do not investigate embedded clausal complements in detail; therefore, this paper fills a gap in the Gã literature.

3. The overt pronoun in Gã infinitival predicates

In this section, we present the overt pronoun data from Gã. For the purposes of this paper, the embedded subjects in Gã infinitival predicates will collectively be referred to as THE OVERT PRONOUN, representing the overt PRO phenomenon under discussion. We focus here on the core syntactic properties of the overt pronoun, which we argue appears in the subject position of the embedded infinitival. In Section 4, we will show how the overt pronoun patterns with obligatorily controlled PRO.

The examples in (22) illustrate the overt pronoun in the subject position embedded under three verbs: *táò* 'want', *híè-kã-nɔ̀* 'hope', and *mía-mì-híè* 'try'. The embedded verb appears in its bare root form; as mentioned above, we analyze this bare root form as the infinitive in this paper. In (22a) the complementizer is optional, in (22b,c) it is not (see footnote 3). Note that the pronoun itself is not optional and must be overtly realized.

(22) a. Mì$_i$-ĩ̀ táò (nì) *(**má**$_i$) nà bò
1SG-PROG want COMP 1SG see.INF 2SG
'I want to see you.'

b. Mì$_i$ híè-kã-nɔ̀ nì *(**má**$_i$) yà skúl gbì kò
1SG face-place-upon COMP 1SG go.INF school day certain
'I hope to go to school one day.'

c. Mì$_i$ mía-mì-híè nì *(**má**$_i$) ŋá shínàá lɛ̀
1SG squeeze-my-face COMP 1SG close.INF door DET
'I tried to close the door.'

In these sentences, the matrix clause contains a finite control verb that selects for an embedded infinitival, and we see an overt anaphoric pronoun in the subject position of the infinitive complement clause. The infinitive embedded subject is said to be CONTROLLED by the matrix subject because the former is understood as being coreferential with the latter.

The overt pronouns do not appear in first-person singular only. They can appear in other persons and in the plural. For example, (23a) shows *ò* '2sg', (23b) has *nyè* '2pl' and (23c) illustrates *ámé* '3pl'.

(23) a. Òi híè-kpã-nɔ̀ nì **ó**i kɔ̀ àspāátèrè lɛ̀
2SG face-stop-upon COMP 2SG take.INF shoe DET
'You forgot to pick (up) the shoe.'

b. Nyɛ̀i híè-kpã-nɔ̀ nì **nyɛ̀**i ŋá shínàá lɛ̀
2PL face-stop-upon COMP 2PL close.INF door DET
'You forgot to close the door.'

c. Gbekɛbiii lɛ̀ nyɛ́ nì **ámɛ́**i hè shĩá
children DET managed COMP 3PL buy.INF home
'The children managed to buy a home.'

On the other hand, the subject of the embedded infinitival must be a pronoun: it cannot be realized as some other kind of DP, such as a proper name, as illustrated in (24).

(24) a. *Ameelei kàí nì Ameelei/k-hè wòlò
Ameele remember COMP Ameele-buy.INF book

b. *Èi kàí nì Ameelei/k-hè wòlò
3SG remember COMP Ameele-buy.INF book

Finally, the overt pronoun is not emphatic or focussed, unlike what has been documented in languages such as Spanish and Korean (see Section 1). Emphatic and focussed pronouns in Gã are always realized in the objective case form. The example below illustrates the emphatic use, where the objective form of the pronoun *lè*, together with *dìéŋtsè* 'self', appears preceding the subject pronoun *è*.

(25) [Lèi dìéŋtsè] èi yè nìyenii lɛ
3.ACC herself 3.NOM eat food DET
'She ate the food herself.'

We do not attempt an analysis of this construction here, but we simply point out that the overt pronoun is never in the objective form and does not appear with *dìéŋtsè*. Focus in Gã can be expressed via placing the pronoun at the beginning of the clause, followed the focus marker *nì*. As with emphatic pronouns, the pronoun appears in the objective form. [4]

(26) Lèi nì èi jù shìká lɛ
3.ACC FOC 3.NOM steal money DET
'It is she who stole the money/She is the one who stole the money.'

Again, an analysis of focus is beyond the scope of this paper, but this example clearly illustrates the difference between a focussed pronoun and the overt pronoun that is under discussion.

The data presented above are examples of subject control, although instead of a PRO there is an overt pronoun. These overt pronouns also show up in the embedded clauses of verbs that typically trigger object control in the embedded infinitival clause: *wá* 'help', *kēnyá* 'urge, encourage', *dáì* 'force', and *lákà* 'persuade'.[6] The overt pronoun in these contexts must be coreferential with the object of the matrix clause, as illustrated below:

[4] The embedded pronoun below the focus marker is a weak subject pronoun (see Renans 2016, Campbell 2017).
[6] The verb *lákà* can mean 'coax', 'deceive', or 'persuade' depending on the context.

(27) a. Mì wá Ama$_i$ nì **é**$_i$-yà skúl
1SG help Ama COMP 3SG-go.INF school
'I helped Ama to go to school.'

b. Mì kēnyá Kofi$_i$ nì **é**$_i$-sàà shĩá lɛ̀
1SG urge.PST Kofi COMP 3SG-tidy.INF house DET
'I urged/encouraged Kofi to clean the house.'

c. Mì dáì skúlbìì$_i$ lɛ̀ nì **ámɛ́**$_i$-yà skùl
1SG force.PST school.children DET COMP 3PL-go.INF school
'I forced the pupils to go to school.'

d. Mì lákà nyɛ̀$_i$ nì **nyɛ́**$_i$-kpà ákpètèshì nù-mɔ̀
1SG persuade 2PL COMP 2PL-stop.INF alcohol drink-NMLZ
'I persuaded you to stop drinking (alcohol).'

We now turn to other properties of the overt pronoun. We first show that it is indeed in subject position and then we argue that it is not a resumptive pronoun.

3.1. Subjecthood of the overt embedded pronoun. It may be argued that PRO is indeed null in Gã and that the overt pronominals in the embedded infinitive clause are in fact agreement affixes on the verb (Korsah, p.c).[7] This view, however, faces two challenges, as we show in the following sections. First, there is no agreement in Gã; second, the overt pronoun can be modified; third, the position of negation demonstrates that the overt pronoun not an affix. We therefore conclude that the overt pronoun sits in the subject position of the embedded control clause.

As mentioned in Section 2, there is no agreement on verbs in Gã, whether in finite or non-finite clauses. Thus, the verb tèè 'go' remains invariant in (28), regardless of the person and number of the subject.

(28) a. Aku tèè skúl mrá
Aku go school early
'Aku went to school early.'

b. Aku kɛ̀ Jojo tèè skúl mrá
Aku and Jojo go school early
'Aku went to school early.'

c. Mi kɛ̀ Aku tèè skúl mrá
1SG and Aku go school early
'Aku and I went to school early.'

Therefore, it seems unlikely that the overt pronoun in control is agreement, as agreement is otherwise lacking in the language. Moreover, if the overt pronoun were agreement, then we might expect to realize the pronoun together with an overt DP subject. This doubling is not possible, whether in matrix or control clauses, as shown by the ungrammaticality of (29) and (30) with an overt pronoun in addition to the subject.

(29) Gbekɛ$_i$ lɛ̀ (*è$_i$)-hè wòlò lɛ̀
child DET 3SG buy.PST book DET
'The child bought the book.'

[7] An alternative view is that the overt pronoun is non-affixal agreement. While such cases have been argued to exist in the literature, they always allow overt realization of the argument DP (see Auger 1995 for discussion).

(30) Mì wá Ama$_i$ nì (*Ama) é$_i$-yà skúl
1SG help Ama COMP Ama 3SG-go.INF school
'I helped Ama to go to school.'

While these data are suggestive, it could be the case that Gã only has verbal agreement when the subject is null. We therefore turn to other arguments.

A second argument against treating the overt pronoun as agreement comes from modification. If the pronoun were an agreement affix, it would resist modification. But the example below shows that modification of the overt pronoun is in fact possible, for example by *pɛ* 'only' in (31).

(31) Gbekɛbii$_i$ lɛ̀ nyɛ́ nì ámɛ́$_i$ pɛ ámɛ̀$_i$ hè shĩá
children DET manage COMP 3PL only 3PL buy.INF home
'Only the children managed to buy a home.'

Modification by *pɛ* 'only' requires doubling, as shown above. The first instance of the pronoun *ámɛ́* is presumed to be the overt pronoun. The second carries different tones (*ámɛ̀*). We do not explore the syntax of this modificational structure, but we take it to show that the overt pronoun is not agreement.

The third argument in favor of the subjecthood status of the overt pronoun comes from its syntactic position with respect to negation. As we saw in Section 2, negation is realized as a suffix (*-ee* in (32)) on tensed verbs.

(32) Aku hè-èè wòjii
Aku buy-NEG.PROG books
'Aku does not buy books.'

Negation is realized pre-verbally as *ká* in three contexts: imperatives (33a), subjunctives (33b) and with infinitival predicates (33c).

(33) a. Kà-á yà!
neg-irr go
'Don't go!'

b. É ká bá biɛ̀.
3SG NEG come here
'He should not come here.'

c. Jojo kplɛ̃nɔ̀ nì é ká hè wòlò lɛ̀
Jojo agree COMP 3SG NEG buy.INF book DET
'Jojo agreed to not buy the book.'

The example in (33a) demonstrates that pre-verbal negation is not an affix – it can take the irrealis suffix *-á*. Extending this reasoning to (33c), we can determine that the overt pronoun *é* is also not an affix, as negation appears between the pronoun and the verb. We therefore conclude that the overt pronoun is not attached to the verb as an agreement marker but is in the subject position.

3.2. The overt pronoun is not a resumptive pronoun. As a final alternative, we consider an analysis that treats the overt pronoun as a resumptive pronoun. Gã allows for resumptive pronouns in relative clauses and serial verb constructions. However, these pronouns are different from the ones found in infinitival clauses. The resumptive pronoun in Gã is instantiated as a weak subject pronoun in relative clauses (34) and serial verb constructions (35).

(34) Nāá yòò lɛ$_i$ nì kɛ́jì nyùŋmɔ̀ nɛ̀ lɛ **è**$_i$ fó-ɔ lɛ
Here woman DET COMP whenever rain fall DET 3SG cry-HAB DET
'This is the woman$_i$ who whenever it rains she$_i$ cries.'

(35) Aku$_i$/Mi$_i$ hè sánè lɛ̀ **è**$_i$/mì$_i$ yè
Aku/1SG buy matter DET 3SG/1SG eat
'Aku/I believed the matter.'

In (34), the resumptive pronoun *è* is co-referent with *yòò lɛ* 'the woman' and in (35), it is co-referent with *Aku*. A distinction between the resumptive pronouns in (34) and (35) and the overt pronoun is the low tone agreement between the resumptive pronoun and the embedded verb. The overt pronoun shows no such tonal agreement with the embedded verb, as shown in (36).

(36) Ameele$_i$ káì nì é-yè kɔ̃
Ameele remember COMP 3SG-eat.INF kenkey
'Ameele remembered to eat kenkey.'

Given this distinction, we conclude that the overt pronoun found in infinitival clauses is not a resumptive pronoun.

Summing up, this section has provided evidence that the overt pronoun in infinitival clauses is in the subject position and that it is not a form of agreement or a resumptive pronoun. We therefore conclude that the overt pronoun is a subject. In the next section, we consider the interpretation of the overt pronoun and show that it is the overt counterpart of PRO.

4. The overt pronoun as Obligatory Controlled PRO

In this section, we present critical arguments from the signature properties of obligatorily controlled PRO (Landau 2013) to show that the overt pronoun exhibits properties identical to PRO: long-distance control of the overt pronoun is not possible, the overt pronoun must be understood as *de se*, only a bound variable reading of the overt pronoun is possible, and the overt pronoun under ellipsis must be construed sloppily. Based on these diagnostics, summarized in Table 1, we conclude that the overt pronoun is the lexical counterpart of PRO.[8]

[8] This paper focuses on obligatorily controlled subjects. Sentences with an arbitrary PRO in English often translate in Gã to a different structure from the control clauses under investigation, such as the nominalizations in (i) and (ii):

(i) Vòòtí-mɔ̀ sā
vote-NMLZ good/important
'It is good/necessary/important to vote'

(ii) Gbɛ́kɛ́-nyiɛ̀-mɔ̀ bò-ókòmē-tòò é-hì-ìì
night-walk-NMLZ 2SG-one-alone PRF-good-NEG
'To walk alone at night is not good (not a good idea).'

Other potential examples of arbitrary PRO in Gã involve the impersonal pronoun [á], as in (iii). We leave this topic to future research.

(iii) É sā nì **á**-há mɔ̀ nɔ̀
3SG fitting/good COMP **IPP**-give man upon
'It is good to give. /Giving is good.'

Table 1: Summary of overt pronouns properties versus PRO.

Properties	**The Overt Pronoun**	**Obligatory Controlled PRO**
Must be c-commanded by its antecedent	✓	✓
Long distance antecedent	✗	✗
Sloppy reading only	✓	✓
de se reading only	✓	✓
Subject control	✓	✓
Object control	✓	✓

4.1. The overt pronoun requires an antecedent. As mentioned earlier, the embedded overt pronoun must be co-referential with a matrix argument.

(37) a. Aku$_i$ kàí nì é$_{i/*j}$ hè wòlò
Aku remember COMP 3SG buy.INF book
'Aku remembered to buy a book.'

b. Aku$_i$ wá Ama$_j$ nì é$_{*i/j/*k}$ -yà skúl
Aku help Ama COMP 3SG-go.INF school
'Aku helped Ama to go to school.'

c. Aku kai ãkɛ̀ amɛ̀ bàá-he wòlò lɛ
Aku remember COMP 3PL FUT-buy book DET
'Aku remembered that they will buy a book.'

In (37a) the co-reference is with a matrix subject and in (37b) it is with a matrix object. In contrast, in finite contexts the embedded subject can have a free reading, as in (37c).

4.2. The overt pronoun must be c-commanded. It has long been observed that PRO must be c-commanded by its antecedent (e.g., Williams 1980). This is also the case with the overt pronoun, as in the examples below.

(38) a. [Jojo$_i$ nyɛ̀míyòò lɛ̀]$_j$ híɛ̀kpãnɔ̀ nì é$_{*i/j}$ shá tsɛ̀nsĩì lɛ̀
Jojo sister DET forget COMP 3SG wash.INF utensils DET
'Jojo's sister forgot to wash the utensils.'

b. [Tsɔɔlɔi$_i$ lɛ gbekɛbii lɛ]$_j$ híɛ̀kpãnɔ̀ nì ámé$_{*i/j}$ shá tsɛ̀nsĩì lɛ̀
teachers DET children DET forget COMP 3PL wash.INF utensils DET
'The teachers' children forgot to wash the utensils.'

In (38a) co-reference is only possible with the possessive phrase *Jojo nyɛmiyoo lɛ* 'Jojo's sister' and not just *Jojo* (the possessor). Similarly, in (38b) the pronoun *ámé* cannot take *tsɔɔlɔi lɛ* 'the teachers' as an antecedent, as *tsɔɔlɔi lɛ* 'the teachers' does not c-command the pronoun. In tensed complement clauses, on the other hand, the pronoun may co-refer with a non-commanding antecedent, as in (39).

(39) [Jojo$_i$ nyɛ̀míyòò lɛ̀]$_j$ híɛ̀kpãnɔ̀ ákɛ̀ é$_{i/j/k}$/ ámɛ́$_{i+j/k}$ bàá-shá tsɛ̀nsĩì lɛ̀
Jojo sister DET forget COMP 3SG/3PL FUT-wash utensils DET
'Jojo's sister forgot that he/she/they will wash the utensils.'

The singular pronoun *é* may refer to Jojo, Jojo's sister, or someone else in the discourse. The plural pronoun refers to a group of people that may include Jojo and Jojo's sister.

4.3. Long distance binding of the overt pronoun is not possible. From the examples below, we see that the embedded pronoun of the infinitival cannot have a long-distance antecedent. The subject of these clauses must pick their antecedent in the immediately dominating clause. Thus in (40) the subject *Debo* is the only possible antecedent.

(40) a. Jojo$_i$ kɛ̀ɛ̀ ákɛ̀ Debo$_j$ híɛ̀kpãnɔ̀ nì é$^{*i/j}$- hè wòlò lɛ̀
Jojo say COMP Debo forget COMP 3SG-buy.INF book DET
'Jojo said that Debo forgot to buy the book.'

b. Aku$_j$ kɛ̀ɛ̀ ákɛ̀ Debo$_i$-táò nì **é**$_{i/*j}$-yà skúl gbì kò
Aku say COMP Debo-want.INF COMP 3SG-go.INF school day certain
'Aku said that Debo wants to go to school one day.'

c. Mi$_i$ kɛ̀ɛ̀ ákɛ̀ Debo$_j$ híɛ̀kpãnɔ̀ nì é$_j$/*má$_i$ hè wòlò
1SG say COMP Debo forget COMP 3SG/*1SG buy.INF book
'I said that Debo forgot to buy the book.'

Moreover, (40c) shows that even if we try to force a long-distance antecedent by putting a first-person pronoun in the infinitival clause, the result is ungrammatical. In contrast, in finite embedded clauses a long-distance antecedent is possible.

(41) Jojo$_i$ kɛ̀ɛ̀ ákɛ̀ Debo$_j$ híɛ̀kpãnɔ̀ nì è$_{i/j/k}$ bàá-hè wòlò lɛ̀
Jojo say COMP Debo forget COMP 3SG FUT-buy book DET
'Jojo said that Debo forgot that she/he will buy the book.'

The pronoun in the embedded clause in (41) may refer to Jojo, Debo, or some other person.

4.4. The overt pronoun must be construed sloppily under ellipsis. In this section, we show that the overt pronoun patterns with PRO in being interpreted as a bound variable. This property is manifested in sloppy readings under ellipsis and in focus constructions. In the literature, a sloppy reading is defined as a case where the identity of the pronoun in an elided VP is interpreted as distinct from the pronoun in the antecedent VP (Partee 1975; Lobeck & Haegeman 1996).[9] For example, in English VP ellipsis, as in example (42), the elided VP can be interpreted in at least two ways, as follows:

(42) John scratched his arm and Bob did too
a. ✓**Strict reading:** John$_i$ scratched his$_i$ arm and Bob$_j$ [scratched his$_i$ arm] too
b. ✓**Sloppy reading:** John$_i$ scratched his$_i$ arm and Bob$_j$ [scratched his$_j$ arm] too

In the reading in (42a) the pronoun *his* denotes the same referent in both the antecedent VP and the elided VP. This is called the "strict identity" reading because the elided VP is interpreted as being identical to the antecedent VP. The sloppy reading is interpreted as (42b), where the pronoun *his* refers to John in the first clause, but the pronoun *his* in the elided clause refers to Bob. This is called the "sloppy identity" reading because the elided VP is not interpreted as identical to the antecedent VP. Bouchard (1985) observes that PRO in the elided VP must be construed sloppily (and never strictly), as illustrated in (43):

[9] Here and below, we remain agnostic about the precise nature of the elided constituent (*v*P, VP, or some other verbal projection).

(43) Mary$_i$ expected [PRO$_i$ to attend the ceremony] and Sue$_j$ did too [~~expect PRO$_{j/*i}$ to attend the ceremony~~]
a. ✖Strict reading: … Sue expected Mary to attend the ceremony.
b. ✓Sloppy reading: … Sue expected Sue to attend the ceremony.

Hence PRO's controller *Sue* must be a local co-dependent of the elided clause and not the controller in the antecedent clause *Mary*. The data in (44) show that the overt pronoun in Gã only has a sloppy reading.

(44) Mary$_j$ kplɛ̃nɔ̀ nì éj-yà páátì lɛ̀ nì Pite$_i$ hú ~~kplɛ̃nɔ̀~~
Mary agree COMP 3SG-go.INF party DET and Peter also agree
[ni e$_{i/*j}$ ya paati lɛ]
COMP 3SG-go.INF party DET
'Mary agreed to go to the party and Peter also (agreed to go to the party).'
a. ✖Strict reading: … Peter agreed for Mary to go to the party.
b. ✓Sloppy reading: … Peter agreed that he (Peter) would go to the party.

In this example, the pronoun in the elided VP refers to Peter and not Mary or some other third person. This shows that the embedded overt pronoun acts like PRO in only allowing a sloppy reading. Subject pronouns in finite embedded clauses, however, allow both strict and sloppy readings, as expected.

(45) Mary$_j$ kplɛ̃nɔ̀ ákɛ̀ éj bàá-yà páátì lɛ̀ nì Pite$_i$ hú ~~kplɛ̃nɔ̀~~
Mary agree COMP 3SG FUT-go party DET and Peter also agree
[~~ákɛ̀ e$_{i/j}$ bàá-ya paati lɛ~~]
COMP 3SG FUT-go party DET
'Mary agreed that she would go to the party and Peter also (agreed that she/he would go to the party).'
a. ✓Strict reading: … Peter agreed that Mary would go to the party.
b. ✓Sloppy reading: … Peter agreed that he (Peter) would go to the party.

The strict/sloppy distinction is also detectible in cases of focus with *pɛ̀* 'only' (see Landau 2013). Consider the following two contexts:

(46) a. Peter agreed to go to the party, Aku agreed to go to the party and Mansa agreed to go to the party.
b. Peter, Aku and Mansa all agreed that Peter would go to the party.

These contexts demonstrate that the overt pronoun is interpreted as a bound variable. The example with the overt pronoun in (47a) is false in context (46a), but true in (46b). Example (47b), however, has a tensed complement clause and allows for two different readings. In one reading, this sentence is equivalent to (47a) and therefore false in context (46a) and on the other interpretation it is true in context (46a).

(47) a. Pite$_i$ pɛ̀ (nì) kplɛ́nɔ̀ nì é$_i$ yà paati lɛ̀
Peter only FOC agree COMP 3SG go.INF party DET
'Only Peter agreed to go to the party.'

b. Pite$_i$ pɛ̀ (nì) kplɛ́nɔ̀ ákɛ̀ é$_i$ bàá-yà paati lɛ̀
Peter only FOC agree COMP 3SG FUT-go party DET
'Only Peter agreed that he will go to the party.'

Thus, we see that the overt pronoun must be interpreted as a bound variable, unlike normal pronouns and like PRO.

4.5. De Se: The overt pronoun must be interpreted as *de se*. Chierchia (1989) argues that infinitives and gerunds are systematically interpreted as derived predicates; thus, when combined with attitude verbs, they give rise to obligatory *de se* interpretations. In the example below, the *de se* reading arises when the controller/antecedent is the subject of an attitude predicate and is aware that the complement proposition pertains to herself. In any situation where the attitude holder mistakes the embedded subject as someone other than herself, the overt pronoun cannot be felicitously used.

Imagine a scenario where Ajele Thompson has been nominated to win a prize but has no knowledge of this. Ajele comes to a notice that reads, "Ayele Tomson is nominated for the Anisha prize". Ajele anticipates that Ayele will win the prize, not knowing that she (Ajele) is the one nominated for the prize, but her name was misspelled. Ajele comes to believe that Ayele will win the prize.

(48)

#Ajele$_i$	kpã-gbè	nì	é$_i$-yè	jwèrèmɔ̀	lɛ̀
Ajele	expect	COMP	3SG-win.INF	prize	DET

#'Ajele$_i$ expects PRO$_i$ to win the prize.'

Given this context, (48) is not felicitous since the attitude holder *Ajele* mistakes the embedded subject to be *Ayele*. This gives further evidence that the overt pronoun is a lexical realization of PRO, given that both must be read *de se.* Note that subject pronouns in finite embedded clauses do not require the *de se* reading: the example in (49) is felicitous in the context above.

(49)

Ajele$_i$	kpã-gbè	ákè	é$_{i/j}$	bàá-yè	jwèrèmɔ̀	lɛ̀
Ajele	expect	COMP	3SG	FUT-win	prize	DET

'Ajele$_i$ expects that she will win the prize.'

Summing up, we have seen that the overt pronoun in Gã infinitives patterns with obligatorily controlled PRO: the overt pronoun must be controlled by a matrix argument, it must be c-commanded by its antecedent, it cannot have long-distance antecedents and that under ellipsis the pronouns must be construed sloppily. Based on these examples, we conclude that in control complements, the infinitival clause has overt pronominal subjects that are obligatorily controlled, hence a phonetic representation of PRO. Before turning to our analysis, we mention one final property of the overt pronoun: partial control.

4.6. Partial control. Partial control can be defined as a case of control where the individual denoted by the controller is a proper subset of the understood subject of the embedded clause (Wilkinson 1971). A partial control construction has a singular subject licensing a collective predicate or a plural subject predicate in the embedded clause. An example from English is shown below, where the predicate *gather* normally requires a plural subject. PRO is therefore understood as referring to *the chair* and other people.

(50) The chair$_i$ preferred [PRO$_{i+}$ to gather at 6].

The overt pronoun up to this point has occurred in contexts of exhaustive control; as we will see, however, the overt pronoun allows a partial control reading.

We begin with an illustration in (51) of the verb *kpè* 'gather', that requires a plural subject, much like its English counterpart.

(51) a.

*Mì	kpè
1SG	gather

*'I gathered.'

b. *È kpè
3SG gather
*‘She gathered.’

c. Àmɛ̀ kpè
3PL gather
‘They gathered.’

As shown in (52), it is possible to have *kpè* ‘gather’ in the embedded infinitival clause. The matrix subject is singular (*Kojo* in (52a) and *Ajele* in (52b)), but the overt pronoun must be plural (*ámé* or *wɔ́*).

(52) a. Kojo$_i$ kpàŋ/shwã/tsɛ̃ nì ámɛ́$_{i+}$/*é$_i$ kpè ŋmèjì ékpàà
Kojo decide/regret/hate COMP 3PL/3SG gather hours six
‘Kojo decided/regretted/hated PRO$_{i+}$/*PRO$_i$ to meet/meeting at 6.’

b. Ajele$_i$ kplɛ̃nɔ nì wɔ́$_{i+}$ kpè
Ajele agree COMP 1PL gather
‘Ajele agreed for us to meet’
(Ajele is planning a meeting, where she will be present with the speaker and others.)

As has been pointed out in the literature, partial control is only possible with certain predicates (Wurmbrand 1998; Landau 2001; Grano 2012; Pearson 2016). In Gã, the following predicates license partial control: *shwã hè* ‘regret’*, tsɛ̃* ‘hate’*, kàlã* ‘imagine’*, kpàŋ* ‘decide’*, táɔ̀* ‘want’*, kplɛ̃ nɔ̀* ‘agree’*, shé gbɛ̄yèè* ‘afraid’*, tò* ‘plan, arrange’, and *fèé nàákpèè* ‘surprised’. Other predicates are exhaustive control: *mìá hiɛ̃* ‘try’*, nyɛ́* ‘manage’*, kɛ̄nyá* ‘encourage’*, kpòò* ‘enjoy’*, ná* ‘get’*, hiɛ̃kánɔ̀* ‘hope’*, hiɛ̃kpánɔ̀* ‘forget’*, wá* ‘help’, *dàí* ‘urge, force’, *kpã-gbè ‘expect’,* and *làká* ‘persuade’.[10] These lists of verbs are by no means comprehensive and we set aside a full discussion of the semantic properties that distinguish between partial and exhaustive control verbs in Gã. What is important for our purposes is that partial control is possible with the overt pronoun. We now turn to the proposed analysis.

5. Analysis

In this section, we adopt the minimal pronoun account of PRO (Kratzer 2009, Landau 2015). Specifically, PRO is generated as a pronoun lacking phi-features; it inherits phi-feature values from its antecedent. After presenting our analysis, we argue against treating the overt pronoun in Gã as an overt copy of A-movement (the Movement Theory of Control of Hornstein 1999). We then turn to a comparison between Gã and two other West African languages with overt PRO: Ewe (Satik 2021) and Bùlì (Sulemana 2019, 2021). We show that despite similarities, the three languages merit distinct analyses. We conclude that PRO in Gã must be overt due to phonological requirements of Spec, TP.

5.1. Minimal pronoun analysis. As we established in Section 4, the pronoun *é* in the following sentences instantiates overt PRO. Relevant examples of subject and object control are given in (53a, b), respectively.

(53) a. Aku$_i$ káì nì é$_{i/*j}$ hè wòlò
Aku remember COMP 3SG buy.INF book
‘Aku remembered to buy a book’

[10] Split control is only possible with a limited set of verbs, such as *bí* ‘ask’.

(i) Joojo$_i$ bí Mary$_k$ nì ámɛ́$_{i+k}$ wá ámɛ̀ hè
Joojo ask Mary COMP 3PL help 3PL self
‘Joojo asked Mary to help each other.’

b. Aku$_i$ wá Ama$_j$ nì é$_{*i/j/*k}$ -yà skúl
Aku help Ama COMP 3SG-go.INF school
'Aku helped Ama to go to school.'

We propose that the embedded subject is generated as a minimal pronoun, a DP lacking phi-features (Kratzer 1998, 2009). It is merged in Spec,vP and moves to Spec,TP to satisfy the EPP. We adopt Kratzer's (1998) proposal that minimal pronouns are mere indices – assuming that all pronouns must be specified for phi-features, they receive their features from their binder. In the case of control, the binder is the controller: the closest c-commanding DP.[11] We assume that any approach to minimal pronouns will be able to account for the Gã data, so we do not explore the semantics any further here.

The derivation of (54a) is sketched out below, where ø is the minimal pronoun (see Sulemana 2021 for a similar analysis for Bùlì). The features of the controller (*Aku*) are passed on to the minimal pronoun. The pronoun in the embedded Spec,TP is overtly realized as *é*.[12]

(54) a. Aku$_i$ káì nì é$_{i/*j}$ hè wòlò
Aku remember COMP 3SG buy.INF book
'Aku remembered to buy a book.'

b. Aku$_{3SG}$ káì [$_{CP}$ nì [$_{TP}$ ø [$_{vP}$ ø hè wòlò]]] underlying structure

c. Aku$_{3SG}$ káì [$_{CP}$ nì [$_{TP}$ ø$_{3SG}$ [$_{vP}$ ø$_{3SG}$ hè wòlò]]] feature transmission

d. Aku$_{3SG}$ káì [$_{CP}$ nì [$_{TP}$ é$_{3SG}$ [$_{vP}$ ø$_{3SG}$ hè wòlò]]] spell-out

The derivation of object control would be similar – the features are transmitted from the object to the minimal pronoun. As for partial control, we follow Madigan (2008) and suggest that the minimal pronoun can combine with a [group] feature (Kratzer 2009). The features of the controller are also transmitted, as shown in (55c).

(55) a. Kojo$_i$ kpàŋ nì ámé$_{i+}$ kpè ŋmɛ̀ji ékpàà
Kojo decided COMP 3PL meet hours six
'Kojo$_i$ decided PRO$_{i+}$ to meet at 6.'

b. Kojo$_{3SG}$ kpàŋ [$_{CP}$ nì [$_{TP}$ ø$_{GROUP}$ [$_{vP}$ ø$_{GROUP}$ kpè ŋmɛ̀ji ékpàà]]] underlying structure

c. Kojo$_{3SG}$ kpàŋ [$_{CP}$ nì [$_{TP}$ Ø$_{GROUP, 3SG}$ [$_{vP}$ ø$_{GROUP, 3SG}$ kpè ŋmɛ̀ji ékpàà]]] feature transmission

d. Kojo$_{3SG}$ kpàŋ [$_{CP}$ nì [$_{TP}$ ámé$_{GROUP, 3SG}$ [$_{vP}$ ø$_{GROUP, 3SG}$ kpè ŋmɛ̀ji ékpàà]]] spell-out

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[11] A reviewer asks about the verb 'promise'. As the example below illustrates, 'promise' does not involve a control structure: the embedded clause takes the *ákɛ̀* complementizer, the embedded subject is marked with a low tone, and the embedded verb is tensed.

(i) Joojo$_i$ wò è tsɔ̀ɔ́lɔ̀ nàà shì ákɛ̀ è$_i$-bàátsú wòlò hè niì
Joojo put POSS teacher mouth under COMP 3-FUT work paper self thing
'Joojo promised his teacher to work on the paper.'

Moreover, the embedded subject can be disjoint from the matrix (there is no obligatory control).

(ii) Joojo$_i$ wò è tsɔ̀ɔ́lɔ̀ nàà shì ákɛ̀ Aku$_k$ bàá tsú wòlò hè niì
Joojo put POSS teacher mouth under COMP Aku FUT work paper self thing
'Joojo promised his teacher that Aku will work on the paper.'

[12] The pronoun may in fact move into the CP domain, specifically FinP, as posited by Landau (2015). We do not have Gã-specific arguments for (or against) such movement. We note that the pronoun follows the complementizer *nì*, which is compatible with Landau's articulated CP domain (following Rizzi 1997 and many others).

Note that the overt realization of the pronoun is as expected: *ámé* is the third-person plural pronoun. What is special here is the apparent clash between the [group] feature and the [3sg] feature on the pronoun. We suggest (again, following Madigan 2008) that this combination gives rise to an associative plural reading. In an example like (55a), the reading of the pronoun is roughly 'Kojo and those associated with Kojo'.[13] As well as encoding person and number, the overt pronoun is also marked irrealis (high tone). We suggest that the T head of the embedded nonfinite clause is associated with the feature [irrealis]. The embedded subject agrees with T and receives the high tone marking (see Allotey 2021:30-42 for a detailed description).

As can be seen clearly in the above derivations, only the pronoun in Spec,TP is overtly spelled-out; Spec,vP remains unpronounced. Nothing in the analysis thus far accounts for this fact. Note that it is precisely the overtness of the pronoun in Gã that is surprising: in English the minimal pronoun remains null. We consider a possible answer to this puzzle in Section 5.3.

5.2. Alternative analysis for the overt pronoun. In this section we discuss an alternative analysis for the overt pronoun: The Movement Theory of Control as detailed by Hornstein (1999). We show that the facts from partial control are problematic for this approach.

Hornstein's (1999) innovative analysis treats both raising and control as involving syntactic movement, eliminating the need for PRO. The representation in (56b) shows a movement-based analysis of the Gã example in (56a). The subject DP first merges in Spec, vP of the embedded clause, checking the external theta-role of the verb *nà* 'see', and subsequently moves to the Spec, TP, presumably for EPP reasons. When the matrix verb is merged with its TP complement, the embedded subject raises to its second theta-position, Spec, vP, to check theta-role of *táò* 'want', thus satisfying the external theta-roles of both verbs, and finally moves to Spec, TP to satisfy the EPP.

(56) a. Mì-ɲ̀$_i$ táò nì **má**$_i$ nà bò
1sg-prog want comp 1sg see.inf 2sg
'I want to see you'

b. [$_{TP}$ mì-ɲ̀$_i$ [$_{vP}$ ~~mì$_i$~~ — táò [$_{CP}$ nì [$_{TP}$ **má**$_i$ [$_{vP}$ ~~mì$_i$~~ nà bò]]]]]

Under this approach, the overt pronoun *ma* is simply a pronounced copy of the moved DP in the subject position of the embedded TP.[14]

While the MTC is appealing in terms of economy, it cannot account for the full range of Gã data. Specifically, as has been noted by many authors, partial control is problematic for the MTC. Recall that in cases of partial control, the overt pronoun must be plural, while the controller is singular.

(57) Kojo$_i$ kpàŋ/ shwã/tsɛ̃ nì ámɛ́$_{i+}$/*é$_i$ kpè ŋmɛ̀jì ékpàà
Kojo decide/regret/hate COMP 3PL/3SG gather hours six
'Kojo$_i$ decided/regretted/hated PRO$_{i+}$/*PRO$_i$ to meet/meeting at 6.'

If the overt pronoun were the pronunciation of the trace of *Kojo*, we would not expect a plural pronoun. To address the problem of partial control, Boeckx et al. (2010: 183-190) argue that certain

[13] Sulemana (2021: 120) suggests that cases of partial control in Bùlì involve coordinated indices. Coordinated indices may allow us to extend the analysis to split control (see fn. 10), but whether there are other empirical differences between the two approaches remains to be determined. See also Madigan (2008) for an analysis of split control that invokes a [SUM] feature.

[14] As noted in the previous section, the difference in phonetic form of the embedded overt pronoun and the matrix pronoun is due to irrealis marking on the embedded pronoun.

embedded predicates license a null comitative, as in (58) below. The meaning is roughly 'with someone'. It is this null comitative that gives rise to the appearance of partial control.

(58) [[The chair]$_i$ hoped [t_i to meet *pro*$_{\text{comitative}}$ at 6]]

The null comitative analysis does not carry over to Gã (see Sulemana 2021 for similar arguments from Bùlì). For example, as we have just seen in (57), the controller and controllee can differ in number features and under a movement account, identity of features is predicted. More importantly, as shown in (57), the overt pronoun must be plural with a verb like *kpè* 'meet'. If the language had a null comitative, a singular pronoun should be grammatical. We therefore conclude that the MTC is not applicable to Gã.

5.3. The overtness of the pronoun. The proposed analysis does not explain why PRO must be overt in Gã. To address this gap, we turn to two other West African languages that have overt PRO, Ewe and Bùlì. We repeat the relevant examples below.

(59) *Ewe* (Satik 2021:5)

Agbe$_i$	dzagbagba	be	yè$_i$-a	dzo.
Agbe	try	COMP	YÈ-pot	leave

'Agbe tried to leave.'

(60) *Bùlì* (Sulemana 2021:96)

Asouk$_i$	tìerì	*(wà$_{i/*j}$)	dā	gbaŋ
Asouk	remember	3SG	buy	book

'Asouk remembered to buy a book.'

Both Satik (2021) and Sulemana (2021) argue that the overt pronoun in the embedded clause is equivalent to PRO, much like we have argued for Gã. They show that the overt pronoun passes all the tests for obligatorily controlled PRO. Moreover, they demonstrate that partial control is possible in Ewe and Bùlì, just as we saw for Gã. While both Satik and Sulemana note that the pronoun is obligatorily overt, unlike overt PRO in Romance and the other languages discussed earlier, neither author proposes an analysis of the overtness of the pronoun in these languages. In what follows, we address this question, highlighting differences between the three languages, but with a focus on Bùlì and Gã.

Turning first to Ewe, as shown by Satik (2021), the overt pronoun in Ewe is always third person, either singular *yè* or plural *yè-wo*. In Bùlì, however, the overt pronoun co-varies with the controller in terms of person and number, much like we saw for Gã. Although the overt pronouns in Sulemana's thesis are consistently third person, he provided us with the following example to illustrate first-person singular.

(61) *Bùlì* (Sulemana p.c.)

Mi$_i$ tieri	n$_i$	dā	gbaŋ	
1SG remember	1SG	buy	book	

'I remembered to buy a book.'

Note that in Bùlì, there are weak and strong pronouns and only the former are permitted as overt PRO, hence the different realizations of first-person singular in this example. Because overt PRO in Ewe is restricted to third person, we focus the rest of the discussion on Bùlì.

From Sulemana's description, the subject position in Bùlì is always overtly realized. We have seen this for control in (61). Moreover, unlike Gã (and Ewe), Bùlì also has raising constructions. In these

cases, the trace of the moved DP is also overtly realized as a pronoun, for example *wà* in the example below.

(62) *Bùlì* (Sulemana 2021:98)
Asouk$_i$ màgsì wà$_{i/*j}$ chēŋ sūkū:
Asouk right 3SG go school
'It is right for Asouk to go to school.'

Strikingly, traces of subject wh-movement are also overtly realized as a pronoun in this language. In (63), for example, the subject of the embedded verb *dig* 'cook' has been extracted and the pronoun *wà* appears in the subject position.

(63) *Bùlì* (Sulemana 2021: 80)
(ká) wānā *(ātì) fì pá:chim *(wà) alì dīg lāmmú:
Q who ATI 2SG think 3SG ALI cook meat.DEF
'Who do you think cooked the meat?'

Gã does not pattern the same way as Bùlì. First, Gã is completely lacking in raising constructions (Satik 2021 also notes the absence of raising in Ewe).[15] In (64a), we see that the embedded subject *nugbɔ̀* 'rain' remains in the embedded clause and there is a matrix subject pronoun. Example (64b) shows an attempt at raising, where the embedded subject appears in the matrix subject position and the result is ungrammatical.

(64) *Gã*
a. È tamɔ̀ nugbɔ̀ mii-nɛ̄
3SG appear rain PROG-fall
'It appears/seems to be raining.'

b. *Ò tamɔ̀ ò sumɔ̀-ɔ̀ bē-iì
2SG appear 2SG like-HAB argument-PL
'It seems you like arguing/arguments.'

The data in (65) show a similar pattern. The non-raising example in (65a) is grammatical, but it is not possible to raise the embedded subject, as in (65b).

(65) *Gã*
a. È sà ni wɔ́ yà skul
3SG right COMP 1PL go school
'It is right for us to go to school.'

b. *Wɔ́ sà ni wɔ́ yà skul
1PL right COMP 1PL go school
'It is right for us to go to school.'

Second, the traces of subject extraction are not pronounced. Example (66a) shows a grammatical instance of subject wh-movement from the embedded clause. Example (66b) shows that an overt pronoun in the position of the embedded subject is ungrammatical.

[15] Gã also does not have passive and therefore seems to lack typical A-movement, other than movement of the subject to Spec, TP.

(66) *Gã*

a. Námɔ̀ nì ò jwɛ̀ŋ hòó lòò lɛ̄?
who FOC 2SG think cook.PST meat DET
'Who do you think cooked the meat?'

b. *Námɔ̀ nì ò jwɛ̀ŋ è hòó lòò lɛ̄?
who FOC 2SG think 3SG cook.PST meat DET
'Who do you think cooked the meat?

To account for this pattern, we suggest that in Bùlì the EPP feature on T is associated with a phonological requirement that it be overtly realized (following proposals by Landau 2006 for V(P)-fronting in Hebrew and van Urk 2015 for pronoun copying in Dinka). Thus, if there is a minimal pronoun or a trace (copy) in the subject position, a pronoun will overtly realize the features of this element. Gã clearly does not have the same EPP feature on T as Bùlì: the minimal pronoun (PRO) must be overtly realized but copies of wh-movement are not. We take these facts to show us that the grammar can distinguish between the minimal pronoun and copies. Further comparative research will reveal why Bùlì and Gã differ in this way.

Summing up, we have argued that the overt pronoun in Gã is a minimal pronoun that receives its features from an argument in the matrix clause. What is special about Gã (compared to English) is that this pronoun must be pronounced. We have suggested that the overt nature of the pronoun is due to a phonological requirement on the subject position, such that while copies in this position are not pronounced, the minimal pronoun must be.

6. Conclusion

The central concern of this paper has been to show evidence for overt subjects in the embedded clauses of control sentences of the Gã language. We have argued that the overt pronoun in these clauses shares the properties of PRO and, moreover, we have shown that it is a subject and not an agreement marker or resumptive pronoun. Our arguments lead to the conclusion that the overt pronoun found in non-finite complements under control predicates is a lexical instance of PRO. Our analysis adopts the minimal pronoun analysis of Kratzer (2009) and Landau (2015), where the subject of the infinitival verb is generated as a pronoun lacking phi-features. These features are supplied by the binder (antecedent).

Overt pronominals in embedded infinitival clauses have been attested in many languages such as Korean (Madigan 2008), Hungarian (Szabolcsi 2009), and certain Romance languages (Burzio 1986, Cardinaletti 1999, Barbosa 2009, Alboiu 2010). In these languages, however, the overt pronoun is optional and always marks focus. In Gã and some other West African languages (Ewe (Satık 2021) and Bùlì (Sulemana 2019, 2021)) PRO must be overtly realized and is not focussed. If overt nominative subjects in infinitives surface in languages that crucially are typologically different from each other and are from different language families, then why do we not find them in some other languages, such as English? Moreover, we have seen that even though Gã and Bùlì are very similar in terms of overt PRO, they differ in other key respects (the overtness of copies of movement). The current paper hopes to facilitate research into these questions by providing a careful description of the Gã data and offering an analysis. What accounts for the cross-linguistic differences is a question for future research.

Abbreviations

ACC	accusative
C	quotative complementizer
COMP	complementizer
DAT	dative

DC	declarative
DET	determiner
FOC	focus
FUT	future
HAB	habitual
IMP	imperative
INF	infinitive
IPP	impersonal pronoun
IRR	irrealis
LOC	locative
LOG	logophoric pronoun
NEG	negation
NMLZ	nominalizer
NOM	nominative
PFV	perfective
PL	plural
POL	polarity
POSS	possessive
POT	potential mood
PROG	progressive
PRS	present
PST	past
SBJ	subject
SBJV	subjunctive
SG	singular

References

Alboiu, Gabriela. 2010. A-probes, case, and (in) visibility. Ms. York University. lingbuzz/001163

Allotey, Deborah Naa Adorkor. 2021. Overt pronouns of infinitival predicates of Gã. Western Papers in Linguistics 4. https://ojs.lib.uwo.ca/index.php/wpl_clw/article/view/13693

Alonso-Ovalle, Luis & Francesco D'Introno. 2001. Full and null pronouns in Spanish: the Zero Pronoun Hypothesis. In Héctor Campos, Elena Herburger, Alfonso Morales-Front, and Thomas Walsh, (eds.) Hispanic Linguistics at the Turn of the Millenium, Somerville, MA: Cascadilla Press, pp. 189-210

Ameka, Felix K. & M.E. Kropp Dakubu. 2008. Aspect and modality in Kwa languages. Amsterdam: John Benjamins. 91-134.

Auger, Julie. 1995. Les clitiques pronominaux en français parlé informel: Une approche morphologique. Revue québécoise de linguistique 24. 21-60

Barbosa, Pilar. 2009. A case for an Agree-based theory of control. Proceedings of 11th Seoul International Conference on Generative Grammar,101-123 http://ling.auf.net/lingbuzz/000911

Barbosa, Pilar. 2016. Overt subjects of raising and control infinitives and the mode of composition of subjects in the consistent null subject languages. In Ana Lúcia Santos & Anabela Gonçalves (eds.), Complement clauses in Portuguese: Syntax and acquisition. Amsterdam: John Benjamins.

Bouchard, Denis. 1985. PRO, pronominal or anaphor. Linguistic Inquiry 16. 471-477.

Burzio, Luigi. 1986. Italian syntax: A government-binding approach. Dordrecht: Reidel.

Campbell, Akua. 2017. A grammar of Gã. Houston, TX: Rice University dissertation

Chierchia, Gennaro. 1989. Anaphora and attitudes de se. In R. Bartsch, J. van Benthem & P. Emde Boas (eds.), Semantics and contextual expression, 1-32. Berlin: De Gruyter Mouton.

Chomsky, Noam. 1981. Lectures on government and binding. Dordrecht: Foris.

Corbalán, María Inés. 2018. From generative linguistics to categorial grammars= overt subjects in control infinitives= Da linguística gerativa à gramática categorial: sujeitos lexicais em infinitivos controlados. Campinas: University of Campinas dissertation

Dakubu, M.E. Kropp. 2004. Gã clauses without syntactic subjects. Journal of African Languages and Linguistics 25. 1–40.

Grano, Thomas Angelo. 2012. Control and restructuring at the syntax-semantics interface. Chicago, IL: University of Chicago dissertation.

Hornstein, Norbert. 1999. Movement and control. Linguistic Inquiry 30. 69–96.

Kratzer, Angelika. 1998. More structural analogies between pronouns and tenses. In Proceedings of Semantics and Linguistic Theory (SALT) VIII, ed. by Devon Strolovitch and Aaron Lawson, 92-109. Ithaca, NY: Cornell University, CLC Publications.

Kratzer, Angelika. 2009. Making a pronoun: fake indexicals as windows into the properties of pronouns. Linguistic Inquiry 40. 187-237

Landau, Idan. 2001. Elements of control: Structure and meaning in infinitival constructions. Dordrecht: Springer.

Landau, Idan. 2006. Chain resolution in Hebrew V(P)-fronting. Syntax 9. 32-66.

Landau, Idan. 2013. Control in generative grammar: A research companion. New York: Cambridge University Press.

Landau, Idan. 2015. A two-tiered theory of control. Cambridge, MA: MIT Press.

Landau, Idan. 2016. DP-internal semantic agreement: A configurational analysis. Natural language & linguistic theory 34. 975-1020.

Lewis, M. Paul, Gary F. Simons & Charles D. Fennig (eds.). 2015. Ethnologue: Languages of Africa and Europe, Eighteenth Edition 18th ed. edition. SIL International, Global Publishing.

Lobeck, Anne & Liliane Haegeman. 1996. Ellipsis: functional heads, licensing, and identification. Language 72. 634–636.

Madigan, Sean. 2008. Control constructions in Korean. Newark, DE: University of Delaware dissertation.

Mensching, Guido. 2000. Infinitive constructions with specified subjects: A syntactic analysis of the Romance languages. Oxford: Oxford University Press.

Partee, Barbara. 1975. Montague Grammar and Transformational Grammar. Linguistic Inquiry 6. 203–30

Pearson, Hazel. 2016. The semantics of partial control. Natural Language & Linguistic Theory 34. 691–738.

Raposo, Eduardo. 1987. Case theory and Infl-to-Comp: The inflected infinitive in European Portuguese. Linguistic Inquiry 18. 85–109.

Renans, Agata. 2016. Exhaustivity. On exclusive particles, clefts, and progressive aspect in Ga (Kwa). Potsdam: Universitätsverlag Potsdam dissertation.

Rizzi, Luigi. 1982. Issues in Italian syntax. Berlin: Mouton de Gruyter.

Rizzi, Luigi. 1997. The fine structure of the left periphery. In Elements of grammar: Handbook in generative syntax, ed. by Liliane Haegeman, 281–337. Dordrecht: Kluwer.

Satık, Deniz. 2021. Control is not movement: Evidence from overt PRO in Ewe. Ms. Harvard University. https://ling.auf.net/lingbuzz/004685

Sulemana, Abdul-Razak. 2019. PRO as a partial copy: A movement-based account of control. In E. Ronai, L. Stigliano, Y. Sun (eds.), Proceedings of the Fifty-Fourth Annual Meeting of the Chicago Linguistic Society, 493-502. Chicago: CLS.

Sulemana, Abdul-Razak. 2021. Non-finite complementation: A case study of Bùlì. Cambridge, MA: MIT dissertation.
Szabolcsi, Anna. 2009. Overt nominative subjects in infinitival complements cross-linguistically: Data, diagnostics, and preliminary analyses. NYU Working Papers in Linguistics – Papers in Syntax Spring 2009, Vol. 2, 1-55.
Torrego, Esther. 1998. Nominative subjects and pro-drop INFL. Syntax 1. 206–219.
van Urk, Coppe. 2015. A uniform syntax for phrasal movement: A Dinka Bor case study. Cambridge, MA: MIT dissertation.
Wilkinson, Robert. 1971. Complement subject deletion and subset relations. Linguistic Inquiry 2. 575–584.
Williams, Edwin. 1980. Predication. Linguistic Inquiry 11. 203-238.
Wurmbrand, Susanne. 1998. Infinitives. Cambridge, MA: MIT dissertation.

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