

Nominal and Verbal Behavior in Pulaar Infinitives

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Abstract

This study explores the nominal and verbal behavior of infinitive clauses in the Futa Tooro dialect of Pulaar. Pulaar infinitives have the distribution of nouns, in that they can appear in both the subject and object position of verbs and can be possessed by possessive constructions. These infinitives also vary in that sometimes they behave as full nominals that select for adjectival modifiers, and sometimes behave partially verbally, selecting for adverbial modifiers. As noted by Ba (2017), it appears that this variation correlates to whether the infinitive takes a determiner that agrees with the infinitive head in noun class. When there is a determiner agreeing with the infinitive head in noun class, the infinitive behaves fully nominally, however when this determiner is not present, the infinitive behaves partially verbally. Using the ideas laid out by Kratzer (1994) and expanded upon by Harley (2009), we show that this variance in nominal and verbal behavior can be explained by which point in the derivation the nominalizing infinitive head attaches. Harley identifies the verbalizing v^0 head to be inside of the agent introducing vP layer. If the infinitive head attaches below vP , the infinitive is never verbal at any point in the derivation and behaves fully nominally. If the infinitive head attaches above vP , however, the infinitive behaves partially verbally, as it is a verb at some point in the derivation.

1 Introduction

In this paper, we will investigate and propose an analysis of the nominal status of infinitive clauses in Pulaar. Pulaar belongs to the Atlantic branch of the Niger-Congo language family, and exists on a dialect continuum extending from Senegal to Cameroon and Sudan (Ba 2017). Pulaar is known by many other names across Africa, including Pulaar, Fula, Fulani, and Fulfulde. The variety known as Pulaar is spoken primarily in Senegal, Mauritania, the Gambia, and western Mali, alongside Sereer and Wolof.

Pulaar infinitive clauses exhibit several nominal properties, including the ability to occupy the internal and external argument positions of verbs, the ability to be modified by adjective-like stative verbs (as Pulaar does not have adjectives in the traditional sense), and the ability to appear in possessive

constructions. These infinitive constructions therefore do not seem to be infinitives in the traditional sense, but instead appear to behave as nominalized VP constituents. Nominalization refers to ‘a general process by which non-nominal elements become grammatical nominals (Genetti et al. 2008). A grammatical nominal is a constituent that has the properties of a noun and behaves in the same way as a noun. Therefore, nominalization is a process by which a non-noun constituent acquires the properties and behavior of a noun. Nominalization is traditionally thought to exist in two forms: derivational and clausal. Derivational nominalization is a process by which a lexical root is made to function as a lexical noun, often adding additional meaning. Clausal nominalization is a syntactic process which allows a clause to function as a noun. These two processes differ in the domains to which they apply (root vs. clause) as well as the syntactic category that they result in (N vs. NP) (Genetti et al. 2008). Examples of both processes in English are given below, using the English verb swim.

- (1) Derivational Nominalization: -er
‘She was a talented swimmer’
- (2) Clausal Nominalization: -ing
‘Swimming in the river is my favourite thing to do’

Nominalization is a very productive process in Pulaar, which can be achieved using various nominalization strategies. These processes include deverbal nominalization, which can incorporate the internal argument (object) of the verb, as well as clausal nominalization processes that nominalize entire CP constituents. Infinitive clauses seem to exhibit a number of the same properties as these nominalized constituents, though they are not relative clauses themselves.

While descriptions of infinitive clause nominalization are present in the literature (Ba 2017), there do not appear to be any analyses of how infinitive verbs acquire their nominal properties. This is the gap that we intend to fill. In this paper, we will argue that the infinitive suffix is a nominalizing head that can attach at various positions in the syntactic tree, resulting in variable levels of constituency being incorporated into the nominalized constituent. We will argue that the infinitive head can attach both above and below the subject-introducing vP layer, optionally including or excluding the external argument of the verb. We will do so by utilizing a parallel analysis of English gerunds originally proposed by Kratzer (1994) and elaborated on by Harley (2009) using the framework of distributed morphology.

Data for this paper was collected by working with a speaker of the Futa Tooro variety of Pulaar. We would like to issue a special thanks to Abuu Njom for kindly providing us with judgments and insights about both his language and culture as a whole, as well as for being a pleasure to work with.

2 Review of Previous Literature

2.1 Ba 2017: Nominal and Verbal Properties of Pulaar Infinitives

Ba (2017) provides an overview of nominalization processes in the Toore dialect of Pulaar. Ba includes infinitive constructions as one of these nominalizations, claiming that the infinitive verb acts as a head noun that can take a genitive marker. Ba claims that when the infinitive occurs in genitive nominals (possessives), it can have nominal as well as verbal properties depending on whether the determiner is related to the infinitive or the internal argument (object) of the verb (Ba 2017). Ba uses adjectival and adverbial statives as evidence of these nominal and verbal properties. When the infinitive is modified by an adjectival stative, it is said to behave fully nominally. When the infinitive verb is modified by an adverbial, it is said to be partially verbal, since adverbs modify verbs. These infinitives are not fully verbal, however, since they have the nominal properties of being taken as the subject or object of another verb.

Ba claims that when the determiner at the end of the infinitive clause agrees in noun class with the infinitive marker, infinitives exhibit fully nominal properties as they can be modified by adjectival statives and not adverbials. In these contexts, Ba claims, the infinitive is a fully nominalized form of the verb phrase. This can be observed in examples 3 and 4 below. In 3, we see agreement between the infinitive marker *-go* and the determiner *ngo*. The nominalized infinitive is modified by the adjectival stative *yaawngo*, which agrees in noun class as well. In 4, we see that this clause can not be modified by the adverbial stative *ko yaawi*.

- (3) [windu-go am deftare **yaaw-ngo** ngo] bettu-m Musaa
write-INF my book quick CL.the surprise-PERF Musaa
'My quick writing (of) a book surprised Musaa.'
- (4) *[windu-go am deftare ngo **ko yaawi**] bettu-m Musaa
write-INF my book CL.the Rel quick surprise-PERF Musaa
Int: 'My quickly writing (of) a book surprised Musaa.'

Source: Toore, (Ba 2017)

Ba further claims that when the determiner inside the infinitive agrees in noun class with the object argument instead, the infinitive behaves as a verb and can be modified only by adverbial phrases. This is observable in 5 and 6. We see that the determiner *ngo* is absent, and we see a determiner *nde* agreeing in class with *deftare*. In 5, the infinitive clause is modified by the adverbial stative *ko yaawi*. 6 shows that adjectival modification is now ungrammatical.

- (5) [windu-go maako deftare nde **ko yaawi**] bettu-at Musaa
 write-INF his book CL.the Rel quick surprise-IMPERF Musaa
 ‘His writing the book quickly will surprise Musaa.’
- (6) * [windu-go maako deftare nde **yaaw-ngo**] bettu-at Musaa
 write-INF his book CL.the quick surprise-IMPERF Musaa
 Int: ‘His quickly writing the book will surprise Musaa.’

Source: Toore, (Ba 2017)

Ba finds that past tense morphology can be included in the infinitival construction as well. This can occur when the infinitive behaves verbally, but not when it is fully nominal. Note the agreement between the object *deftare* and the determiner *nde* in 7, and between the infinitive *-go* and the determiner *ngo* in 8.

- (7) [windu-**noo**-go maako deftare nde] bettu-at-no Musaa
 write-PAST-INF his book CL.the surprise-IMPERF-PAST Musaa
 ‘His writing the book would surprise Musaa.’
- (8) * [windu-**noo**-go maako deftare ngo] bettu-at-no Musaa
 write-PAST-INF his book CL.the surprise-IMPERF-PAST Musaa
 Int: ‘His writing the book would surprise Musaa.’

Source: Toore, (Ba 2017)

Ba observes as well that infinitive clauses with verbal properties can include a subject argument. Ba claims that this subject can go in the preverbal position, but must be a strong pronoun. This then appears to be some sort of focus fronting.

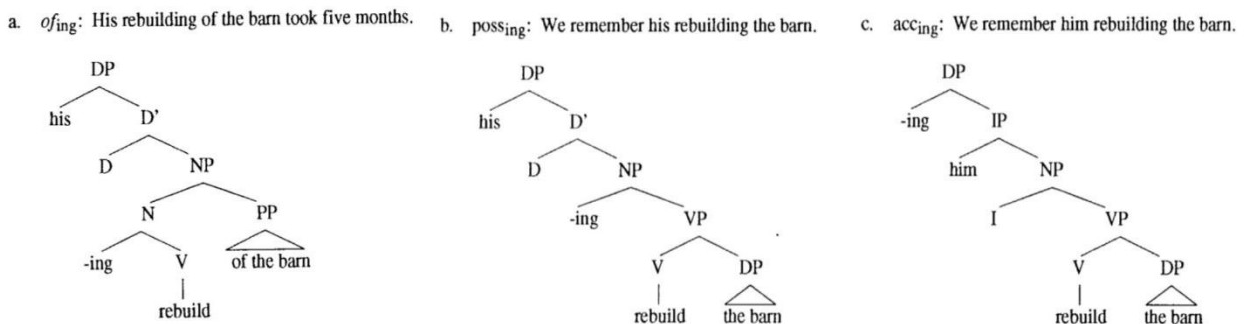
- (9) [**deebe** yaa-go ekool] won-aa ko wakt-id-tee
 3PL.STR go-INF school be-NEG PRO discuss-ASC-IMPERF
 ‘Them going to school is not a matter for discussion.’
- (10) * [**be** yaa-go ekool] won-aa ko wakt-id-tee
 3PL go-INF school be-NEG PRO discuss-ASC-IMPERF
 Int: ‘Them going to school is not a matter for discussion.’

Source: Toore, (Ba 2017)

To summarize, Ba describes that when infinitive clauses take a determiner agreeing in noun class with the infinitive marker, the clauses behave fully nominally and can be modified only by adjectival statives. When there is only a determiner agreeing with the object, however, the infinitive clause behaves partially verbally; it has the distribution of a noun, but is modified by adverbial statives. Additionally, Ba shows that when tense and subject information are incorporated in the nominalization, the infinitive clause behaves only partially verbally.

2.2 Kratzer 1994: The Structure of English Gerunds

Kratzer (1994) provides some insight into a similar phenomenon occurring within English gerunds. Gerunds are formed by attaching the suffix *-ing* to verbs. Gerunds, like Pulaar infinitives, exhibit a range of verbal and nominal properties, with some gerunds appearing fully nominal and some partially verbal. Kratzer attributes this variance in nominal and verbal properties to the level in the derivation at which the nominalizing *-ing* head attaches: V, VP, or VoiceP. She identifies VoiceP to be the level at which the external argument, i.e. the subject, is introduced. The structure of the three types of gerunds are shown below: *of_{ing}*, *poss_{ing}*, *acc_{ing}*. In each of the gerund syntactic structures, we see the nominalizing head being attached at different levels of the tree.



Source: Kratzer (1994)

These ideas given by Kratzer will help us diagnose the differences in behavior seen in Pulaar infinitives.

3 Data: Genitive Infinitive Nominals in Futa Tooro

We will now turn to our findings and describe how the phenomena detailed in Ba (2017) appear in the Futa Tooro dialect of Pulaar. The Futa Tooro dialect spoken by our consultant and the Toore dialect described by Ba (2017) differ primarily in the phonological form of grammatical elements, including

tense and aspect morphology and the form and noun class of the infinitive head. The difference between the infinitive heads in each dialect can be seen in both its phonological form and in agreement with determiners and adjectival statives.

Ba (2017) attributes the alternation between nominal and verbal behavior to whether the clause final determiner agrees in noun class with the infinitive head or object argument. We disagree with this claim, as agreement between a determiner and a noun would be the result of that noun being selected by the determiner. Therefore, the noun phrase selected by the determiner would need to be taken as complement by the determiner within its own DP. Since the object argument would be low in the tree, within vP, and the nominalizing head would be high, above the clause being nominalized, it does not seem plausible that the form of a single determiner alternates between the two agreement relationships. This claim also does not take into account the possibility of both the object NP and the nominalized clause occurring with a determiner. Therefore, we expect that we can instead attribute this alternation to the presence or absence of either determiner and expect that we will also be able to have both or neither determiner in the same infinitive clause. We will return to this as we explain our findings.

In the Futa Tooro dialect of Pulaar, the infinitive head takes the form *-de*, as opposed to *-go* in Toore. Adjectives that agree with this head take the class suffix *-nde*, and a determiner of the form *nde*. To distinguish agreement with the object, we have chosen to use the noun *mogo* as the object to the verb, which agrees with the determiner *ngo*. Agreement with the noun serves to show that the determiner is selecting that noun. Noun class agreement relationships are indicated by co-indexation in the gloss when relevant.

We will now turn to our findings. We found that in the genitive infinitive clauses that Ba (2017) describes, we see fully nominal behavior when there is a determiner that agrees with the infinitive head. We can see that this is nominal by the presence of an adjectival stative. This is true regardless of the presence of a determiner that agrees with the object.

(11) windu-dɛ am mɔgɔ jaaw-ndɛ **ndɛ** bɛtt-ii Musaa
 write-INF.CL_i 1SG.GEN play.CL_j quick-CL_i DEF.CL_i surprise-PFV Musaa
 ‘My quick writing (of) the play surprised Musaa.’

(12) windu-dɛ am mɔgɔ **ŋgɔ** jaaw-ndɛ **ndɛ** bɛtt-ii Musaa
 write-INF.CL_i 1SG.GEN play.CL_j DEF.CL_j quick-CL_i DEF.CL_i surprise-PFV Musaa
 ‘My quick writing (of) the play surprised Musaa.’

We do not see this nominal behavior when the determiner that agrees with the infinitive head is not present.

- (13) *windu-dε am mɔ̃ɔ ɲɔ jaaw-ndε bεtt-ii Musaa
 write-INF. CL_i 1SG.GEN play.CL_j DEF.CL_j quick-CL surprise-PFV Musaa
 Int: ‘My quick writing (of) the play surprised Musaa.’

Instead, when the determiner that agrees with the infinitive head is not present, the infinitive head behaves verbally, and we see an adverbial stative being used. The adverbial can appear in multiple positions.

- (14) windu-dε am mɔ̃ɔ ɲɔ kɔ jaaw-i bεtt-ii Musaa
 write-INF.CL_i 1SG.GEN play.CL_j DEF.CL_j COP quick-PFV surprise-PFV Musaa
 ‘My writing the play quickly surprised Musaa.’

- (15) windu-dε am kɔ jaaw-i mɔ̃ɔ ɲɔ bεtt-ii Musaa
 write-INF.CL_i 1SG.GEN COP quick-PFV play.CL_j DEF.CL_j surprise-PFV Musaa
 ‘My writing the play quickly surprised Musaa.’

If we introduce the determiner that agrees with the infinitive head back in, adverbial agreement becomes ungrammatical. This is true for both positions of the adverbial.

- (16) *windu-dε am kɔ jaaw-i mɔ̃ɔ ɲɔ ndε bεtt-ii Musaa
 write-INF.CL_i 1SG.GEN COP quick-PFV play.CL_j DEF.CL_j DEF.CL_i surprise-PFV Musaa
 ‘My writing the play quickly surprised Musaa.’

- (17) *windu-dε am mɔ̃ɔ ɲɔ ndε kɔ jaaw-i bεtt-ii Musaa
 write-INF.CL_i 1SG.GEN play.CL_j DEF.CL_j DEF.CL_i COP quick-PFV surprise-PFV Musaa
 ‘My writing the play quickly surprised Musaa.’

None of these constructions can include higher adverbs such as possibly/probably. This indicates that they are nominalized below the CP layer, and thus are not relative clauses.

- (18) *windu-dε am ina waaw-i mɔ̃ɔ ɲɔ jaaw-ndε ndε bεtt-ii
 write-INF.CL_i 1SG.GEN STAT possible-PFV play.CL_j DEF.CL_j quick-CL_i DEF.CL_i surprise-PFV
 Musaa
 Musaa
 Int: ‘My possible quick writing of the play surprised Musaa.’

- (19) *windu-de am ina waaw-i ko jaaw-i mogo ngoo nde
 write-INF.CL_i 1SG.GEN STAT possible-PFV COP quick-PFV play.CL_j DEF.CL_j DEF.CL_i
 bett-ii Muusa
 surprise-PFV Muusa
 Int: ‘My possibly quickly writing the play surprised Musaa.’

To summarize, we found that contrary to Ba’s (2017) findings, it appears it is the presence or absence of a determiner agreeing with the infinitive head that determines whether an infinitive clause behaves fully nominal or partially verbal. If the determiner agreeing with the infinitive head is present, then the infinitive clause behaves fully nominally and is modified by adjectival statives. If this determiner is not present, however, the infinitive behaves partially verbally, and is modified by adverbial statives. This data will be the subject of our analysis. Further data for which we will not provide an analysis will be discussed later in section 5.

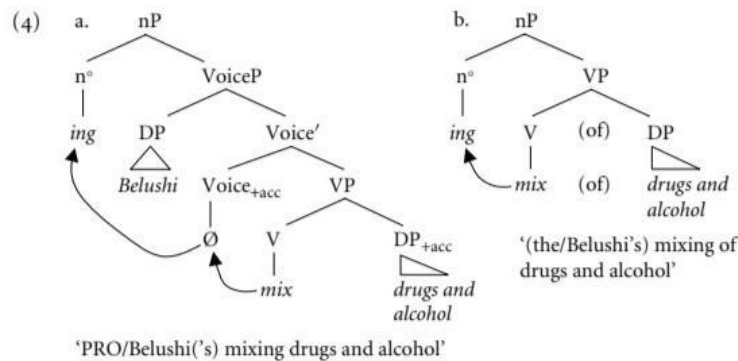
4 Analysis

4.1 Theoretical Background: Harley (2009)

Harley (2009) further discusses the analysis of the nominal and verbal properties of English gerunds described in Kratzer (1994). Harley’s analysis utilizes the framework of Distributed Morphology (Halle and Marantz 1993) and shows that the difference in nominal and verbal properties between *acc_{ing}* and *of_{ing}* gerunds can be described as a difference in where the nominalizing *-ing* attaches in the derivation.

Distributed Morphology, henceforth referred to as DM, is a syntax-based approach to word formation in which morphological derivation is accomplished in the syntax alongside regular syntactic derivation. Morphemes in DM are independent elements that occupy terminal nodes within the syntactic derivation of the word. Each terminal node is fully specified for featural content and receives a pronunciation after the syntax has finished building the tree (Harley 2009). There are two broad classes of terminal nodes in DM: roots, also known as l-morphemes, and grammatical elements, known as f-morphemes. Roots are acategorical, acquiring their category by merging with a category defining f-morpheme in the syntax (Harley 2009). These f-morphemes can have an overt pronunciation, as is the case of morphemes like the English verbalizer *-ify*, or they can be null and receive their pronunciation from the verb that moves into them. Category-defining f-morphemes are labeled with the lower-case version of the lexical category that they correspond to: *v*^o, for verbalizers, *n*^o, for nominalizers, and *a*^o, for adjectivalizers (Harley 2009).

Harley uses the proposal by Kratzer (1994) to explain why gerunds of the *acc_{ing}* class appear to be broadly verbal, while gerunds of the *of_{ing}* class appear broadly nominal. Harley’s analysis focuses on the assignment of accusative case, though a similar contrast in nominal/verbal behavior can be observed in the selection of statives in Pulaar. Harley explains that the assumption underlying this approach is that the accusative case, as well as the agent theta-role, is associated with the voice head in Kratzer’s proposal. She gives the following example.



Source: (Harley 2009)

In example a., the nominal head is attached above VoiceP, resulting in an *acc_{ing}* structure. In example b., the nominal head is attached below VoiceP and above VP, excluding the external argument and resulting in an *of_{ing}* structure. As a. includes the external argument, it is able to bear case and thus behaves more verbally, while in b., no case is marked and it thus appears nominal.

Harley draws a parallel between Kratzer’s external argument introducing VoiceP and Chomsky’s agent introducing vP shell. Further, she claims that distributed morphologists ((Harley 1995), (Marantz 1997)) have identified the *v°* head to be within the vP shell. Thus, the lower ‘VP’ head would no longer be a VP, but instead it would be projecting an acategorical root rather than a proper verb. It is once the lower root moves to the upper *v°* head via head movement that the result becomes a true verb.

To Harley, this is then why we obtain verbal and nominal behavior. If VoiceP is the same as DM’s verbalizing vP, then this accounts for the verbal properties of *acc_{ing}* gerunds, including their ability to take adverbial modification. The *v°* head within vP creates a genuine verb within the structure. The absence of vP in *of_{ing}* structures, on the other hand, means that at no point in the derivation is there a genuine verb present, which accounts for fully nominal characteristics such as allowing adjectival modification and permitting determiners. The root in *of_{ing}* structures is never fully verbal.

With the basics of Harley’s analysis established, we can then return to our data. Recall that the difference between nominal and verbal behavior seems to be the presence of a determiner that agrees in class with the infinitive head, as shown in examples 12 and 14 and repeated below.

(20) windu-dε am mɔgɔ ŋgɔ jaaw-ndε ndε bett-ii Musaa
 write-INF 1SG.GEN play DEF quick DEF surprise-PFV Musaa
 ‘My quick writing (of) the play surprised Musaa.’

(21) windu-dε am mɔgɔ ŋgɔ kɔ jaaw-i bett-ii Musaa
 write-INF 1SG.GEN play DEF COP quick-PFV surprise-PFV Musaa
 ‘My writing the play quickly surprised Musaa.’

To use Harley’s analysis to explain this data, we need to show that the vP layer, and thus the verbalizer v^o , is present in 21 but absent in 20. Before we can do this, we must take a look at how possessives work in Pulaar.

4.2 Possessive Constructions in Pulaar

Ba (2017) describes that genitive nouns, or possessive noun constructions, consist of a DP and a possessor or modifier that is either a pronoun or another DP. The possessed noun is followed by the possessor noun or genitive pronoun, which is then followed by a determiner agreeing in class with the possessed noun. These possessive constructions are notable as they include both a genitive pronoun (or DP) and a determiner, whereas cross-linguistically, most languages have one or the other. The head noun occurs before the possessive pronoun, and the rest of the NP follows. Examples of possessive constructions given by Ba (2017) are given below.

(22) oto Musaa mo
 car Musaa DET
 ‘Musaa’s car.’

(23) oto maako mo
 car 3SG.GEN DET
 ‘His car.’

(24) defte am jawi maw-dε dε
 book.PL 1SG five big-CL DET.PL
 ‘My five big books.’

- (25) *defte jawi maw-dɛ am dɛ
 book.PL five big-CL 1SG DET.PL
 Int: ‘My five big books.’

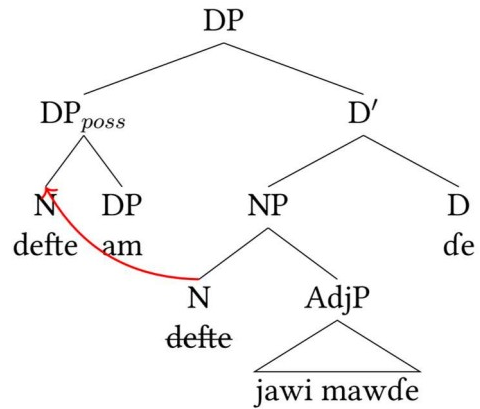
Simple possessives can also occur without the determiner, employing only the pronoun. It is currently unclear whether the determiner is required for complex NPs.

- (26) ndɛɛ-dɔ kɔ defterɛ am
 DEM-LOC COP book 1SG.POSS
 ‘This is my book.’

Source: Futa Tooro, Ada and Jasmine, McGill University, Individual Elicitation, Oct. 7, 2025

No syntactic analysis of these possessive constructions currently exists in the literature. Because of this, we will need to make assumptions about the structure of these possessive constructions. We would expect that the possessive functional head will be above the NP layer, thus the genitive pronoun and determiner will be higher in the syntactic tree than the possessed noun, or in our case the infinitive clause. Given that we see the head noun appear to the left of the genitive pronoun, and the rest of the NP between the genitive pronoun and determiner, it seems that the head noun moves up to some position on the left edge of the genitive pronoun. We will then use the following rough structure for possessive DPs in Pulaar, based on the structure proposed by Ghomeshi and Ritter (1996) with modifications made for word order and a position added for the head noun at the left edge. The specifics are not relevant for the present analysis; what is important is that the possessive consists of a determiner and genitive pronoun, and that they exist above the NP layer.

- (27) defte am jawi maw-dɛ dɛ
 book.pl 1SG five big-CL DET.PL
 ‘My five big books.’



Additionally, we know that the possessive pronoun is a pronominal DP element and not a D functional head since it can be used outside of possessive constructions and has the distribution of a pronoun. These pronouns appear to be used in prepositional phrases, as they are used as the second element in coordination with strong pronouns (Ba 2013), following prepositions, and in the object position of *aade* verbs following a linking element.

- (28) miin he maako njaa-du-noo
 1SG.STR LK 3SG.GEN go-ASS-PST
 ‘It’s me and him that went together.’
 Source: Toore, (Ba 2013)

- (29) (ko) dow maako teg-mi deftare nde
 (COP) on 3SG.GEN put-1SG book DET
 ‘It’s on him that I put the book.’
 Source: Toore, (Ba 2013)

- (30) cukal-el ngel ma66-ii-ma ?ε makko
 child-CL DET hug-PFV-ma LK 3SG.GEN
 ‘The child hugged him/her.’

Source: Futa Tooro, Sama’a and Emma, McGill University, Individual Elicitation, Oct. 9 2025

4.3 Nominal and Verbal Behavior of Infinitives

Let us now return to our data. We have established that possessive constructions consist of a genitive pronoun and a determiner, and that genitive pronouns can occur in other contexts aside from possessive constructions. Thus, as it has both a genitive pronoun and a determiner agreeing with the head noun, 20 looks like one of the possessive constructions that we have observed, while 21 does not, since it

does not have a determiner agreeing in class with the head noun. Examples 20 and 21 are repeated below.

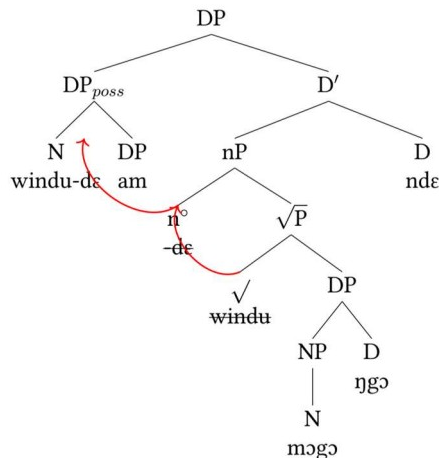
(31) windu-dε am mɔgɔ ŋgɔ jaaw-ndε ndε bett-ii Musaa
 write-INF 1SG.GEN play DEF quick DEF surprise-PFV Musaa
 ‘My quick writing (of) the play surprised Musaa.’

(32) windu-dε am mɔgɔ ŋgɔ kɔ jaaw-i bett-ii Musaa
 write-INF 1SG.GEN play DEF COP quick-PFV surprise-PFV Musaa
 ‘My writing the play quickly surprised Musaa.’

We have also theorized that infinitives in Pulaar, like English gerunds, will behave nominally when the infinitive head attaches below the subject introducing vP, and will behave verbally when the infinitive head attaches above vP. We then propose the following.

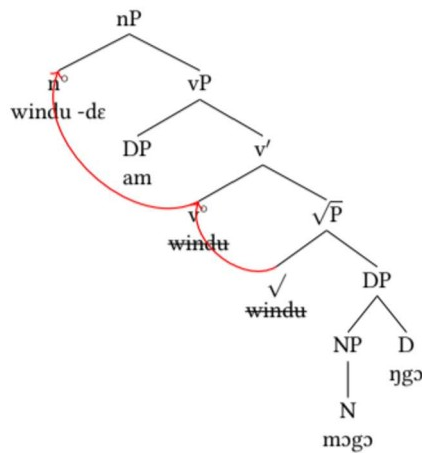
In fully nominal infinitive clauses such as 20, the infinitive head attaches before the tree merges with the subject introducing vP. This means that the verbalizer v° is never introduced into the derivation, explaining why we see fully nominal behavior, as the nominalizing infinitive head contains the first category features introduced into the derivation. The genitive pronoun and determiner are then introduced into the derivation above the infinitive head to form the possessive. The root moves into the nominalizing infinitive head, and then further moves above into the possessive construction. A derivational tree is given below, with adjectivals omitted for clarity.

(33) windu-dε am mɔgɔ ŋgɔ jaaw-ndε ndε bett-ii Musaa
 write-INF 1SG.GEN play DEF quick DEF surprise-PFV Musaa
 ‘My quick writing (of) the play surprised Musaa.’



In partially verbal constructions like 21, we propose that the nominalizing infinitive head attaches just above the subject introducing vP. This means that the verbalizer v° is present in the derivation below the nominalizing infinitive head, and this explains the partially verbal behavior. The genitive pronoun occupies the external argument position at spec vP. The root moves from its position in \sqrt{P} to v° , and then into the nominalizing infinitive head. A derivational tree is given below, with adverbials omitted for clarity.

- (34) windu-dε am mɔgɔ ηgɔ kɔ jaaw-i bεtt-ii Musaa
 write-INF 1SG.GEN play DEF COP quick-PFV surprise-PFV Musaa
 ‘My writing the play quickly surprised Musaa.’



To summarize, we propose that the difference between fully nominal and partially verbal behavior in Pulaar infinitives is equivalent to the difference in behavior observed in English gerunds. As originally proposed by Kratzer (1994) and expanded upon by Harley (2009), Pulaar infinitives behave fully nominally when the nominalizing infinitive head attaches below the agent introducing vP. When the infinitive head attaches above vP, and thus the external argument is introduced, the infinitive behaves partially verbally because the verbalizing v° is present within the vP layer. This explains why the examples given by Ba (2017) that include grammatical information such as tense are only possible when the infinitive behaves nominally: This grammatical information is located above vP in the derivational tree.

4.4 Why is the External Argument Genitive?

With all of this established, we are left with one final question: why is the external argument present in the verbal infinitive shown in 21 a genitive pronoun? To this we do not have an exact answer, however we would like to draw attention to a likely possibility.

As we observed in section 4.2, the so-called genitive pronouns appear in prepositional phrases as well. This shows that they are not purely used in possessives but are a pronoun that appear to be inflected for case.

Harley (2009) describes that in English gerunds, we also see a difference in the form of the external argument when the nominalizing *-ing* attaches above vP, including the external argument in the nominalization. This can be seen in the following examples.

- (35) 'I wrote the play.'
- (36) 'Me writing the play surprised Musaa.'
- (37) * 'I writing the play surprised Musaa.'

Harley (2009) attributes this alternation to a difference in the assignment of case inside gerunds. While she provides a full analysis of this for English, we do not have sufficient information to give a proper account of the assignment of case in Pulaar, and thus the specifics of this alternation are left to future research. It is worth noting, however, that this alternation in case is yet another parallel between Pulaar infinitives and English gerunds.

5 Further Evidence: Infinitive Nominalization at Other Constituency Levels

We would now like to return to the data collected during research for this paper, and present some other examples of infinitive nominalizations in Pulaar at different levels in the derivational tree. First, we have observed a separate nominalizing head that behaves the same as fully nominal infinitives. Alongside a nominalizing suffix, this strategy triggers mutation of the initial consonant of the root. There appears to be a variety of these suffixes that differ in noun class, and each verb seems to select for a unique noun class. These nominalizations behave as our analysis expects that they would, as they do not incorporate the external argument and behave fully nominally.

(38) ʃakku-ru pəm ndu ina tɔw-nɔ
 chew-NOM apple DEF STAT loud-PST
 ‘The chewing of an apple was loud.’

(39) mbɔdɔ jid-i ɲim-ri ndii
 1SG like-PFV sing-NOM DEF
 ‘I like the singing.’

Returning to infinitives, we found an alternate form of subject-incorporating infinitive where the subject clitic appears in its standard form. These behave verbally and can not have a determiner agree with the infinitive head, though this is to be expected due to felicity constraints. These constructions could be relative clauses of some kind.

(40) mah-dɛ-mbɔ galle ɔɔ wad-ii hitaande
 build-INF-3SG house DEF do-PFV year
 ‘Him building the house took a year.’

(41) * mah-dɛ-mbɔ galle ɔɔ ndɛ wad-ii hitaande
 build-INF-3SG house DEF DEF do-PFV year
 Int: ‘The him building the house took a year.’

(42) mah-dɛ-mbɔ galle ɔɔ kɔ jaaw-i ina sohl-i ɲgaalu
 build-INF-3SG house DEF COP quick-PFV STAT need-PFV money
 ‘Him building the house quickly needs money.’

Finally, as did Ba (2017), we found that nominalizations can include tense as well. Our data on these are not comprehensive enough to make any claims, but it appears that these function verbally and appear similarly to the last example, but with tense included. These could be relative clauses as well.

(43) windu-nɔɔ-dɛ-mi mɔgɔ ɲgɔ kɔ jaaw-i bett-ii Musaa
 write-PST-INF-1SG play DEF COP quick-PFV surprise-PFV Musaa
 ‘Me quickly writing/having quickly written the play surprised Musaa.’

Interestingly, the subject pronouns in these constructions seem to be interchangeable with their genitive counterparts.

- (44) windu-nɔɔ-dɛ-am mɔgɔ ŋgɔ kɔ jaaw-i bett-ii Musaa
 write-PST-INF-1SG play DEF COP quick-PFV surprise-PFV Musaa
 ‘Me quickly writing/having quickly written the play surprised Musaa.’

5 Conclusion

In this paper, we have shown that the Pulaar infinitive suffix is a nominalizing functional head. Infinitive clauses will display varying degrees of nominal and verbal behaviors depending on what level in the derivation the infinitive head attaches at. If the infinitive head attaches below the subject-introducing vP, then the infinitive clause will display fully nominal behavior. If the infinitive head attaches above vP, then the infinitive clause will display partially verbal behavior and incorporate the external argument of the verb. This variance in behavior is analogous to the same process in English gerunds.

This paper has raised as many questions as it has provided answers. The most demanding question that remains, it seems, is the status of possessive DPs in Pulaar. This would be a great topic for future research. Along the same line, another topic that could benefit from more research is the status of Pulaar’s so called genitive pronominals. Thus far, they seem to be pronouns inflected for case, though this would require research into Pulaar’s case system as a whole, to claim with any certainty. Finally, the exact mechanics of Pulaar’s infinitive nominals at higher constituency levels such as those introduced in section 5 would be a fascinating topic to investigate as well.

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