TP inside subject nominalizations: Evidence from Oshiwambo

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Abstract Subject nominalizations have been argued to be deprived in verbal structure and lack extended verbal projections such as TP (Baker & Vinokurova 2009). We show that TP is realized in Oshiwambo (R20, Bantu) subject nominalizations. Other functional elements associated with passive, causative, and applicative constructions are observed in Oshiwambo subject nominalizations. Anaphor binding is also attested. We further demonstrate that subject nominalizations are different from reduced and headless relative clauses. An implication of this work is that Oshiwambo subject nominalizations are best described under a phrasal layering approach (Alexiadou & Schäfer 2010, among others) and that their syntactic size can be as articulated as a finite clause.

Keywords: subject nominalizations; TP; argument structure; Oshiwambo (R20, Bantu)

1 Introduction

This work examines the syntactic structure of subject nominalizations in Oshiwambo (Bantu). We first summarize a previous analysis of agent/subject nominalizations in English and Gĩkũyũ (Bantu). We then show that subject nominalizations can be more articulated in size than previously assumed in the literature by drawing evidence from Oshiwambo.

It has been argued that English agent nominalizations realized with the morpheme *-er*, as in (1), are deprived in syntactic structure (Baker & Vinokurova 2009; Alexiadou & Schäfer 2010). Tense, for instance, cannot take part in the derivation:

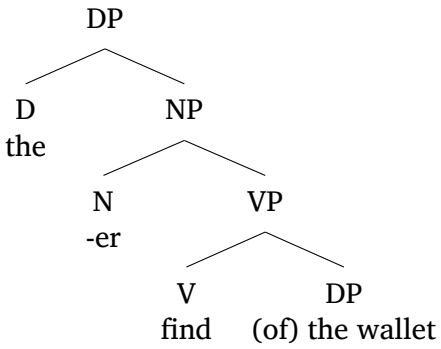
(1) a. the danc**er**
b. *the danc**ed-er**

The morpheme *-er* in (1) is taken to be the head N that selects a bare VP without an EA (Baker & Vinokurova 2009). Baker & Vinokurova's take on the derivation for (2a) is provided in (2b).[1]

(2) a. the find**er** of the wallet

[1] It has been argued, however, that agent nominalizations can host EAs in languages such as Spanish, Malagasy, French, Romanian, and Wá·šiw (Fábregas 2012; Ntelitheos 2012; Roy & Soare 2014; 2020; Hanink 2021).

b. The derivation for *the finder of the wallet* (Baker & Vinokurova 2009:520)[2]



Baker & Vinokurova (2009) argue that there is a type of individual-denoting nominalizations in Gĩkũyũ that is syntactically more articulated in size than agent nominalizations. In addition to transitive and unergative predicates, non-agentive unaccusative predicates are allowed in this type of nominalizations. Examples in (3) are referred to as *subject* nominalizations according to Baker & Vinokurova.

(3) a. mu-**ku**-i
1-die-I
'one who dies (dier)'
b. mu-**twek**-i
1-melt-I
'one who melts' (Gĩkũyũ, Baker & Vinokurova 2009:547)

Quite notably, a reflexive anaphor can participate in Gĩkũyũ subject nominalizations, as shown in (4), which is from Baker & Vinokurova (2009:548) (see also Mugane 1997).

(4) Andũ ma-ti-thũ-ire **mũ-ĩ-end-i** ta **mũ-ĩ-yamb-i**.
people 3PL.S-NEG-hate-PERF 1-REFL-like-I like 1-REFL-pride-I
'People don't hate one who likes him/herself as much as one who is full of him/herself.'

Baker & Vinokurova claim that the EA, PRO, is introduced in the derivation as the antecedent that syntactically binds the reflexive anaphor *ĩ*.

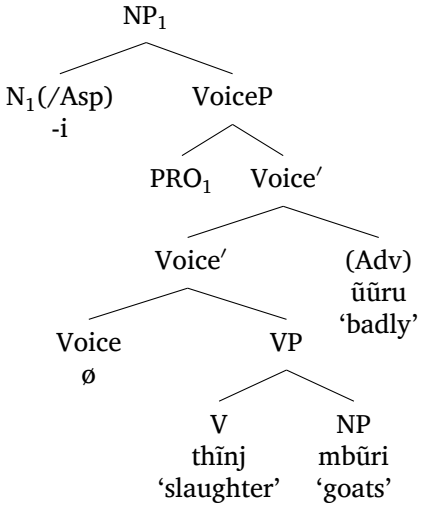
Gĩkũyũ subject nominalizations additionally allow low adverbs, such as *ũũru* 'badly,' as shown in (5) from Baker & Vinokurova (2009:547) (see also Mugane 1997). This suggests that a parallel can be drawn between the clausal domain and the nominal domain in terms of adverbial modification.

(5) **A-thĩnj-í** **mbũri** **ũũru** acio nĩ-má-á-tum-a tũ-caamb-e.
2-slaughter-I goats badly DEM FP-3PL.S-PERF-make-A lPL.S-bad.rep-SBJ
'Those (people) who slaughter goats badly have given us a bad reputation.'

Baker & Vinokurova's analysis of the subject nominalization in (5) is fleshed out in (6). Under their view, the suffix *-i* is the nominalizer that caps off VoiceP in subject nominalizations. In (6), the syntactic projection c-selected by the 'aspectual (Asp)' nominalizer cannot be bigger than VoiceP.[3] PRO is the subject, and it is co-referential with the nominalizer *-i* and the entire NP.

[2] We assume that the suffix *-er* in (2b) attaches to the verb via head movement or affix hopping/lowering as suggested by an anonymous reviewer.
[3] Tense and negation are not permitted inside Gĩkũyũ agent/subject nominalizations (Mugane 1997).

(6) A derivation for the subject nominalization in (5) (Baker & Vinokurova 2009:548)



Based on (3)–(5), it is not clear where the nominalizing noun class prefix, *mu-* or *a-*, would be realized if *-i* is the nominalizer, as shown in (6). Further note that noun classes in general serve the role of nominalizing a given constituent (see Lee & Lee 2019; Fuchs & van der Wal 2022, among others). Hence, we emphasize that (6) does not fully capture the subject nominalizations in Oshiwambo. More needs to be articulated in terms of deriving the entire nominal structure (see Section 4).

In addition to unaccusative predicates and reflexive anaphors, Oshiwambo subject nominalizations can host causative, applicative, reciprocal, and passive (CARP) markers, suggesting that more parallels can be drawn between the clausal domain and the nominal domain. Perhaps more strikingly, Oshiwambo subject nominalizations can be associated with a past tense reading, indicating that the size of the nominal can be as big as TP. When a transitive predicate undergoes passivization in subject nominalizations, the noun phrase suffix can be realized as either *-i* or *-a*. While (7a) shows that a past tense reading is not available with the suffix *-i*, (7b) shows that it is available with the suffix *-a*. In (7b), the temporal adverb *hela* ‘yesterday’ modifies the content internal to the subject nominalization, whereas the adverb *nena* ‘today’ modifies the content of the entire sentence.

(7) a. O-mu-dheng-w-**i** (ku-Penda) (*gwo-**hela**) o-ta-alukwa **nena**.
AUG-1-hit-PASS-I by-Penda ASSOC-yesterday AFF-IMPERF-sick today
‘One who is hit (by Penda) is sick today.’

b. O-mu-dheng-w-**a** (ku-Penda) gwo-**hela** o-ta-alukwa **nena**.
AUG-1-hit-PASS-A by-Penda ASSOC-yesterday AFF-IMPERF-sick today
‘One who was hit (by Penda) yesterday is sick today.’

The co-occurrence of the past tense-denoting adverb and the present tense-denoting adverb in (7b) suggests that subject nominalizations in Oshiwambo can be tense-associated. The implication of this work is that subject nominalizations can be more clause-like than previously assumed by Baker & Vinokurova (2009). We also argue that an extended version of the phrasal layering analysis (Alexiadou & Schäfer 2010) captures the facts about Oshiwambo subject nominalizations. Alternative analyses, including the complex head analysis to nominalizations (Wood 2023) do not seem to be applicable here.

The organization of this work is as follows: Section 2 lays out the basic facts about Oshiwambo. Section 3 shows that unaccusative predicates as well as passive, reflexive,

reciprocal, applicative, and causative markers, can be introduced in subject nominalizations. It also shows that tense can be realized inside subject nominalizations. Section 4 fleshes out the analysis. Section 5 demonstrates that subject nominalizations are different from reduced and headless relative clauses in Oshiwambo. Section 6 concludes.

2 Basic facts

Oshiwambo is a southern Bantu language of the Niger-Congo family spoken in the northern part of Namibia and the southern part of Angola. The canonical word order is SVO. Similar to other Bantu languages, Oshiwambo displays a number of noun class prefixes. Noun classes 1 and 2 are often used for human-denoting nouns. Noun class 1 is used with singular-denoting entities, and noun class 2 for plural-denoting entities. In addition to noun class prefixes, an augment prefix is introduced in Oshiwambo noun phrases. We adopt the view that the augment in Bantu is a determiner (D of DP) (see De Dreu 2008; Visser 2008; Carstens & Mletshe 2016; Gambarage 2019, among others). Of the various dialects in Oshiwambo, we focus on Oshingandjera. Oshingandjera is spoken by approximately 42,000 people as their first language. The majority of Oshingandjera speakers live in the Ongandjera district in the northern part of Namibia. The examples presented in this work are confirmed by one of the authors of this paper, who is a native speaker of Oshingandjera. The grammaticality of the examples is additionally confirmed by three other native speakers of the dialect.

(8) shows how simple nouns are realized in Oshiwambo.

(8) a. **o**-**mu**-nhu
AUG-1-person
'a person'
b. **a**-**a**-nhu
AUG-2-person
'people'

In many cases, agentive nominals host noun classes 1 and 2, since these noun phrases are often human-denoting. Agentive nominals are also realized with the suffix *-i*. In (9), the suffix *-i* is realized together with the augment and the noun class prefix. 'AUG-1-V-i' and 'AUG-2-V-i' are sequences of morphemes productively used for Oshiwambo agent nominalizations.

(9) a. o-mu-nhuk-**i**
AUG-1-jump-I
'a jumper'
b. a-ba-nhuk-**i**
AUG-2-jump-I
'jumpers'

The pattern observed in (9) extends to subject nominalizations. In Section 3, we will see that the suffix *-a*, in addition to *-i*, can be realized in this type of nominalizations. An anonymous reviewer asks whether other suffixal forms are attested in Oshiwambo nominalizations. Nominalizations ending with *-o* are also possible, as shown in (10).

(10) o-ma-pangel-**o**
AUG-6-govern-O
'governments'

While this paper primarily focuses on individual-denoting subject nominalizations and how the *-i*∼*-a* alternation relates to tense, we note that event-denoting nominalizations can also host various suffixal forms. Defining the exact nature of all these forms is beyond the scope of this paper.

3 Subject nominalizations

Similar to agent nominalizations, subject nominalizations in Oshiwambo are realized with a noun class prefix and the suffix *-i*. In fact, this is attested in many Bantu languages (see Du Plessis 1997; Mugane 1997; Krüger 2006; Mletshe 2010). One difference between agent nominalizations and subject nominalizations boils down to whether the noun denotes an agent or not.[4] Oshiwambo subject nominalizations can host a wide range of predicates, including unaccusative and passive predicates. Reflexive and reciprocal markers, as well as applicative and causative markers, can be showcased inside Oshiwambo subject nominalizations. Quite importantly, tense can also be realized in subject nominalizations.

3.1 Unaccusatives & passives

Oshiwambo allows unaccusative and passive predicates inside subject nominalizations (see also Hanink 2021 on Wá·šiw subject nominalizations and Gotah & Lee 2024 on Ewe subject nominalizations).

The sentences in (11) contain the unaccusative predicates *gw* 'fall' and *s* 'die.'

(11) a. Penda o-kwa-**gw**-a.
Penda AFF-3SG.PST-fall-A
'Penda fell.'
b. Penda o-kwa-**s**-a.
Penda AFF-3SG.PST-die-A
'Penda died.'

In (12), the verbs *gw* 'to fall' and *s* 'to die' are realized together with the suffix *-i*, denoting subject nominalizations. The verbs are also realized together with an augment and a noun class, as is usually the case with Oshiwambo noun phrases (see Section 2).

(12) a. o-mu-**gw**-i
AUG-1-fall-I
'one who falls (a faller)'
b. o-mu-**s**-i
AUG-1-die-I
'one who dies (a dier)'

When a transitive predicate undergoes passivization, the passive suffix *-w* is realized. (13), hosting the predicate *dhipag* 'to kill,' demonstrates this point. (13a) is an active sentence, and (13b) is its passive counterpart. The *by*-phrase is optional in (13b).

[4] It is worth mentioning that agent nominalizations are an instance of subject nominalizations. Agent nominalizations denote agentive entities, while subject nominalizations denote agentive or non-agentive entities. Hence, they are not mutually exclusive. For this reason, it is not clear whether a fundamental distinction should be made between the two.

(13) a. Penda o-kwa-dhipag-a Elago.
Penda AFF-3SG.PST-kill-A Elago
'Penda killed Elago.'
b. Elago o-kwa-dhipag-**w**-a (ku-Penda)
Elago AFF-3SG.PST-kill-PASS-A by-Penda
'Elago was killed (by Penda).'

The passive suffix *-w* can surface together with the predicate *dhipag* 'to kill' inside subject nominalizations. The passivization of (14a) leads to (14b). In (14b), the *by*-phrase is optional, which aligns with the observation in (13b).

(14) a. o-mu-dhipag-i
AUG-1-kill-I
'a killer'
b. o-mu-dhipag-**w**-i (ku-Penda)
AUG-1-kill-PASS-I by-Penda
'one who is killed (by Penda)'

Based on the empirical facts covered so far, we see that Oshiwambo subject nominalizations accommodate unaccusative and passive predicates (e.g., *gw* 'to fall' and *dhipag-w* 'to be killed'), in addition to unergative and transitive predicates (e.g., *nhuk* 'to jump' and *dhipag* 'to kill'). Overall, we argue that different types of argument structure can be established inside Oshiwambo subject nominalizations.

3.2 Causatives & applicatives

The introduction of arguments such as the causers and beneficiaries are signaled by causative and applicative markers in Bantu languages. Oshiwambo is not an exception, and the language displays these markers in the clausal domain, as shown in (15).

(15) a. Penda o-kwa-nhuki-**th**-a Elago.
Penda AFF-3SG.PST-jump-CAUS-A Elago
'Penda made Elago jump.'
b. Penda o-kwa-telek-**el**-a Elago o-shi.
Penda AFF-3SG.PST-cook-APPL-A Elago 9-fish
'Penda cooked fish for Elago.'

Causative and applicative markers can be realized inside subject nominalizations, as shown in (16).[5] Here, subject nominalizations parallel the clausal syntax with respect to the functional morphemes they host.

(16) a. o-mu-nhuki-**th**-i Elago
AUG-1-jump-CAUS-I Elago
'one who makes Elago jump'
b. o-mu-telek-**el**-i Elago o-shi
AUG-1-cook-APPL-I Elago 9-fish
'one who cooks fish for Elago'

Causative and applicative markers can surface together with the passive marker *-w*, as shown in (17). This suggests that more parallels can be drawn between the nominal domain and the clausal domain in Oshiwambo compared to those reported in non-Bantu

[5] Gĩkũyũ subject nominalizations can also host causative and applicative markers (see Mugane 1997).

languages (Baker & Vinokurova 2009; Alexiadou & Schäfer 2010; Hanink 2021; Wood 2023).

(17) a. o-mu-nhuki-**th**-**w**-i (ku-Penda)
AUG-1-jump-CAUS-PASS-I by-Penda
'one who is made to jump (by Penda)'
b. o-mu-telek-**el**-**w**-i (ku-Penda)
AUG-1-cook-APPL-PASS-I by-Penda
'one who is cooked for (by Penda)'

Bantu languages in general exhibit causative, applicative, reciprocal, and passive (CARP) markers in the clausal domain. So far, we have seen that causative, applicative, and passive markers are allowed in subject nominalizations. In Section 3.3, we will see that the reciprocal marker, as well as the reflexive marker, can be realized inside the type of nominalizations under discussion.

3.3 Reflexives & reciprocals

Reflexive and reciprocal markers can be realized in Oshiwambo sentences. In (18), for instance, the reflexive marker *i* refers to the subject *Penda*.

(18) Penda o-kwi-**i**-dheng-a.
Penda AFF-3SG.PST-REFL-hit-A
'Penda hit himself.'

Anaphor binding is done locally in Oshiwambo. (19) demonstrates this point. When the antecedent and the reflexive anaphor are placed in the same clause, the sentence is felicitous. When the two are not placed in the same clause, the sentence is ungrammatical:

(19) Penda_1 o-ta-dhilaadhil-a [kutya $\textbf{Halo}_2$ o-kwi-$\textbf{i}_{*1/2}$-dheng-a].
Penda AFF-IPFV.3SG-think-A COMP Halo AFF-3SG.PST-REFL-hit-A
'Penda_1 thinks that Halo_2 hit $\text{himself}_{*1/2}$.'

We argue that reflexive anaphor binding in Oshiwambo is achieved syntactically rather than semantically or lexically. Evidence comes from the availability of the *statue*-reading or the *near-reflexive* (proxy) reading. Similar to English reflexive anaphors (e.g., *himself* and *herself*), Oshiwambo reflexive morpheme *i* allows the *statue*-reading. Parallels can be drawn between (20) and (21).

(20) John hit himself. ([i] John_1 hit John_1 or [ii] John_1 hit a statue of John_1)

(21) Penda o-kwi-**i**-dheng-a.
Penda AFF-3SG.PST-REFL-hit-A
'Penda hit himself.' ([i] Penda_1 hit Penda_1 or [ii] Penda_1 hit a statue of Penda_1)

Under a semantic/lexical approach to reflexives, the presence of the *statue*-reading in (20) and (21) cannot be readily accounted for. This is mainly because the semantic/lexical identity of the anaphor is not the same as that of the antecedent. This is less of an issue under the usual syntactic approach to binding, since the semantics of the antecedent nominal and the anaphor nominal need not be identical.[6] Hence, the *statue*-reading (proxy)

[6] Also note that the theta-roles assigned to the antecedent and the anaphor are not the same.

reading is accounted for if we assume that anaphor binding is achieved syntactically. In order to satisfy Condition A, argument structure needs to be established where an antecedent c-commands its anaphor in a local environment. In the case of (21), *Penda* is the EA that binds its reflexive anaphor.

The reflexive marker *i* can be realized inside Oshiwambo subject nominalizations. Quite notably, the *statue*-reading is available here:

(22) o-mwi-**i**-dheng-i
AUG-1-REFL-hit-I
'one who hits himself/herself' or 'one who hits a statue of himself/herself'

(22) suggests that a syntactic antecedent is present in the derivation. We argue that PRO is introduced as the EA that locally binds the anaphor. Note that this is in line with Baker & Vinokurova's claim that PRO is introduced in Gĩkũyũ subject nominalizations, as shown in (6).

The Oshiwambo reciprocal marker *than* refers to a plural antecedent. In (23), *than* refers to the subject, *Penda* and *Ndapewa*.

(23) Penda na Ndapewa o-ya-hokana-**than**-a.
Penda and Ndapewa AFF-3PL.PST-marry-RECP-A
'Penda and Ndapewa married each other.'

As expected, reciprocal anaphor binding is done locally in Oshiwambo. (24a) is felicitous because the plural antecedent and the reciprocal are in the same clause. (24b), on the other hand, is infelicitous because the two are not in the same clause.

(24) a. Halo o-ta-dhilaadhil-a [kutya **a-a-nhu** o-ya-dheng-**than**-a]
Halo AFF-IPFV.3SG-think-A COMP AUG-2-person AFF-3PL.PST-hit-RECP-A
'Halo thinks that people hit each other.'
b. *__A-a-nhu__ o-ta-dhilaadhil-a [kutya Halo o-ya-dheng-**than**-a]
People AFF-IPFV.3PL-think-A COMP AUG-2-person AFF-3SG.PST-hit-RECP-A
Intended: 'People think that Halo hit each other.'

The realization of the reciprocal marker *than* is possible inside subject nominalizations. Noun class 2 instead of noun class 1 has to be used in (25) because the reciprocal marker refers to a plural entity instead of a singular entity.

(25) a. a-a-hokanna-**than**-i
AUG-2-marry-RECP-I
'those who marry each other (spouses)'
b. *o-mu-hokanna-**than**-i
AUG-1-marry-RECP-I
Intended: 'those who marry each other (spouses)'

Based on the empirical facts presented so far, we have established that CARP is attested in the nominal domain. The causative and applicative examples suggest that applied arguments can participate in subject nominalizations. The object reflexive and reciprocal markers inside subject nominalizations suggest that an EA is introduced in the derivation. The passive examples with *by*-phrases add weight to the claim that adjuncts can be realized inside subject nominalizations. The take-home message here is that Oshiwambo subject nominalizations are quite articulated in verbal/clausal size. This will become more evident when tense is taken into consideration.

3.4 Tense

Oshiwambo subject nominalizations associated with passivization can denote a past tense reading. (26) is repeated from (7). In (26b), the temporal adverb *hela* 'yesterday' modifies the content internal to its subject nominalization. Note that a different temporal adverb, namely *nena* 'today,' modifies the entire sentence, suggesting that subject nominalizations can independently bear tense. Recall that this is only possible when the suffix *-a* is realized inside the derived nominal. Hence, a past tense reading is not possible with the *-i*-suffixed subject nominalization in (26a).

(26) a. O-mu-dheng-w-**i** (*gwo-**hela**) (ku-Penda) o-ta-alukwa **nena**.
AUG-1-hit-PASS-I ASSOC-yesterday by-Penda AFF-IMPERF-sick today
'One who is hit (by Penda) is sick today.'
b. O-mu-dheng-w-**a** gwo-**hela** (ku-Penda) o-ta-alukwa **nena**.
AUG-1-hit-PASS-A ASSOC-yesterday by-Penda AFF-IMPERF-sick today
'One who was hit (by Penda) yesterday is sick today.'

Tense-associated subject nominalizations are observed even when the passive suffix is realized with causative and applicative markers, as shown in (27).

(27) a. o-mu-nhuki-**th**-**w**-a gwo-hela (ku-Penda)
AUG-1-jump-CAUS-PASS-A ASSOC-yesterday by-Penda
'one who was made to jump (by Penda) yesterday'
b. o-mu-telek-**el**-**w**-a gwo-hela (ku-Penda)
AUG-1-cook-APPL-PASS-A ASSOC-yesterday by-Penda
'one who was cooked for (by Penda) yesterday'

A remote past tense-associated perfect marker (R.PFV) can be realized in subject nominalizations, which is expected under our current analysis:

(28) o-mu-dheng-**elel**-w-a ku-Mary
AUG-1-hit-R.PFV-PASS-A by-Mary
'one who had been hit by Mary'

Note that only a past tense reading is available for the *-a*-suffixed subject nominalizations. A future tense reading, for instance, is ruled out. We know that this is the case since future tense temporal adverbs such as 'tomorrow' are ruled out:

(29) a. *o-mu-dheng-w-**a** gwa-**ngula**
AUG-1-hit-PASS-A ASSOC-tomorrow
Intended: 'one who will be hit tomorrow'
b. *o-mu-long-w-**a** gwa-**ngula**
AUG-1-teach-PASS-A ASSOC-tomorrow
Intended: 'one who will be taught tomorrow'

The empirical picture for Oshiwambo cannot be readily reconciled with the structure presented in (6). The reduced syntactic size of (6) provides no room for temporal adverbs to be realized in the derivation. Hence, we argue that Oshiwambo subject nominalizations are more articulated in syntactic size than what has been assumed in the literature.

In addition to temporal adverbs, we note in passing that low adverbs, such as *nayi* 'badly,' can be realized inside Oshiwambo subject nominalizations. (30) patterns together with the Gĩkũyũ data given in (5).

(30) a-a-dhipag-i-i-kombo **nayi**
AUG-2-kill-I-8-goat badly
'those who slaughter goats badly'

It is also worth mentioning that nominal elements such as numerals can be showcased inside subject nominalizations, as shown in (31). This is because subject nominalizations are individual-denoting noun phrases. This, in turn, suggests that Kiparsky's (2017) way of handling gerunds, which involves TP/IP without a nominalizer (N of NP), cannot be applied here.[7]

(31) a-a-hole-w-a **ya-tatu**
AUG-2-love-PASS-A 2-three
'three of those who were loved'

Before concluding this section, we highlight that the past tense-associated reading in *-a*-suffixed subject nominalizations is possible only when the passive suffix is realized in the derivation:

(32) a. o-mu-dheng-**w**-a gwo-**hela**
AUG-1-hit-PASS-A ASSOC-yesterday
'one who was hit yesterday'
b. *o-mu-dheng-a gwo-**hela**
AUG-1-hit-A ASSOC-yesterday
Intended: 'one who hit (someone/something) yesterday'

While it is not entirely clear why this is the case, one may assume that past tense T inside subject nominalizations only selects for a passive VoiceP. Our initial effort of developing an analysis that encompasses the empirical facts laid out so far is outlined in the following section.

4 An analysis

We adopt Alexiadou & Schäfer's (2010) phrasal layering analysis to account for the data in Oshiwambo. The tree structures schematized in (34) provide our analysis of how subject nominalizations in (26a) and (26b) are derived. V-to-T movement derives *dheng-w-i* in (26a) and *dheng-w-a* in (26b) based on Baker's (1985) Mirror Principle.[8] Based on the idea that nominalizers trigger nominal concord (see Fuchs & van der Wal 2022, among others), we assume that noun class prefixes, instead of *-i* and *-a*, behave like nominalizers in Oshiwambo. Consider the concord/agreement pattern given in (33). This is in harmony with the analyses advanced for Chishona (Sproat 1985) and Setswana (Lee 2024). The alternation between *-i* and *-a* is determined by T's past vs. non-past status, as we have seen in (26). This suggests that the suffixes are closely associated with T, which is not something we would expect from a nominalizer. We argue that *-i* and *-a* in Oshiwambo subject nominalizations are spelled out in T.

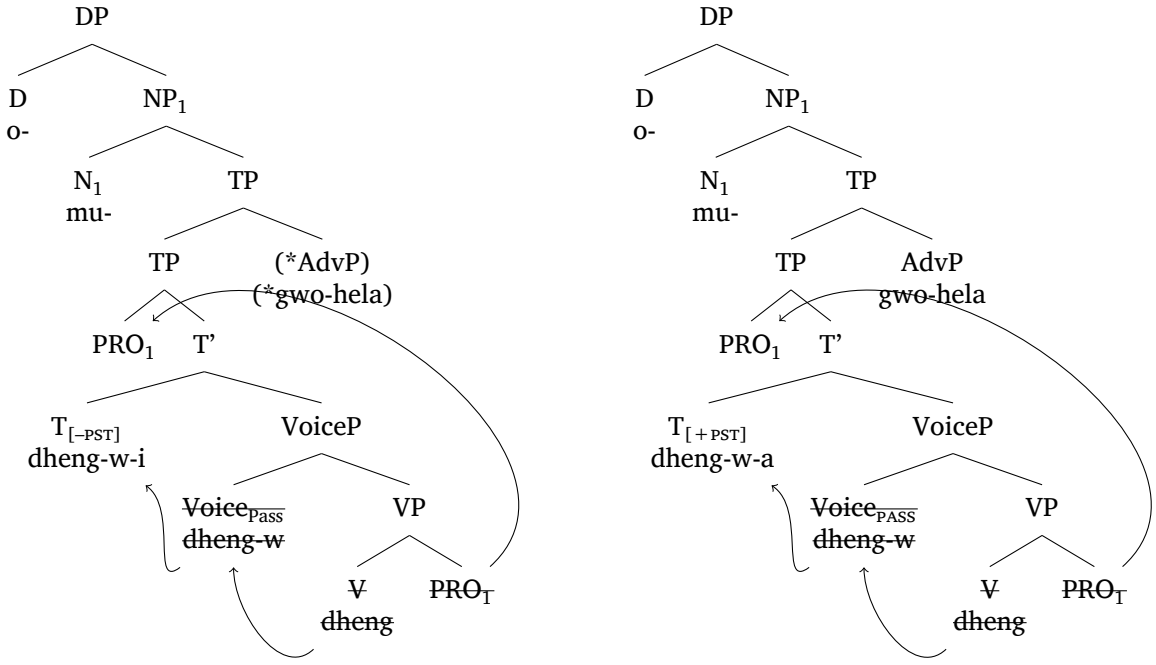
[7] Oshiwambo seems to exhibit a rather unusual pattern where a noun class and a past tense reading are both showcased inside subject nominalizations. We take this to be evidence that TPs can participate in nP nominalizations, which is unexpected under Alexiadou (2020). Future work remains to be done on whether this phenomenon is attested in other languages.

[8] As previously mentioned, we leave open the possibility that affix hopping/lowering may be involved in the derivation following an anonymous reviewer's suggestion.

(33) a. a-**a**-tum-w-i **ya**-tatu
AUG-2-send-PASS-I 2-three
'three of those who are sent'
b. a-**a**-tum-w-a **ya**-tatu
AUG-2-send-PASS-A 2-three
'three of those who were sent'

In (34), we assume that PRO is the subject argument, which moves to Spec,TP due to passivization.[9] The idea that PRO is present in the derivation accords with Baker & Vinokurova's (2009) take on Gĩkũyũ subject nominalizations. An anonymous reviewer asks whether an overt nominal argument can replace PRO in (34). This is not possible. We assume that an overt nominal argument needs to be licensed in syntax. Chomsky (2008) proposes that phase heads such as C are the locus of all probing features. Under this view, the probing features on T, if there are any, must be supplied from C. Adapting Chomsky's (2008) feature inheritance, we assume that Ts initially lack features necessary for licensing nominal arguments. Since C is absent in subject nominalizations, the probing features cannot be supplied to T. We argue that this is why the subject inside subject nominalizations cannot be realized as an overt nominal argument that requires licensing. This also explains why subject-verb agreement is absent in subject nominalizations. Contrast (11) and (12), for instance.

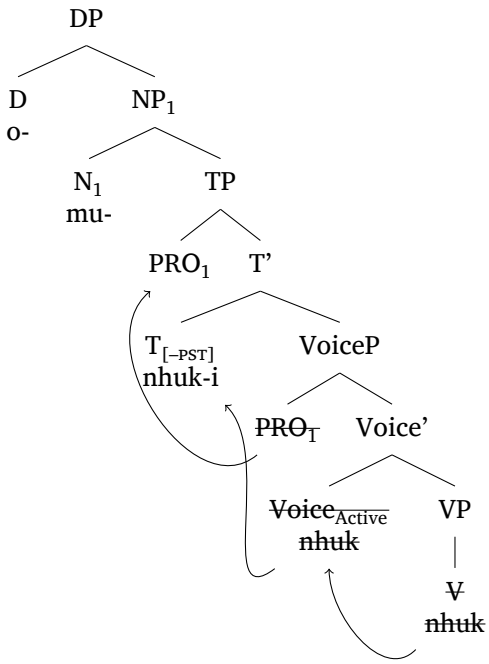
(34) The derivations for the subject nominalization in (26a) and (26b), respectively



(35) schematizes the derivation for (9a), which hosts an active (agentive) verbal structure:

[9] We posit Asp(ect)P inside Oshiwambo subject nominalizations, especially when examples such as (28) are taken into consideration. We omit AspP in our trees simply because Asp is not overtly realized in their corresponding examples.

(35) The derivation for the subject nominalization in (9a)



As mentioned in Section 3.4, we posit that past tense T selects a passive VoiceP under subject nominalizations. Non-past tense T, on the other hand, is more flexible in terms of what it can select. In any case, we assume that T inside Oshiwambo subject nominalizations is defective in that it only makes a past vs. non-past distinction. The notion of defective T has been posited for Turkish nominalizations (Kornfilt & Whitman 2011). Kornfilt & Whitman (2011) make a future vs. non-future distinction for defective Ts in Turkish nominalizations. These Ts are defective in that the tense distinction is binary. There is no specified form for past tense, for instance. An incomplete inventory of tense features suggests that Ts can be defective. Kornfilt & Whitman (2011) also point out that the lack of agreement signals the defectiveness of T. As briefly mentioned above, subject-verb agreement is never observed in Oshiwambo subject nominalizations. Once again, feature inheritance becomes relevant in this context. In the absence of C, T cannot be supplied with the necessary features from C to induce agreement. Unlike full-fledged clauses, subject nominalizations do not host C and therefore do not exhibit subject-verb agreement.

Based on our discussion so far, the analysis put forward by Baker & Vinokurova (2009) does not straightforwardly carry over to Oshiwambo. Evidenced by the fact that Oshiwambo subject nominalizations embed tense, in addition to CARP, subject nominalizations can be more extensive in size than (6). Wood (2023) convincingly argues that a deprived verbal structure that lacks phrasal projections such as VoiceP is associated with Icelandic agent nominalizations. In Oshiwambo subject nominalizations, the presence of the reflexive marker, applied arguments, *by*-phrases, low adverbs, and temporal adverbs calls for a more articulated structure that involves phrasal projections, including VoiceP and TP. Overall, the facts in Oshiwambo can be captured under an extended version of Alexiadou & Schäfer's (2010) phrasal layering analysis where verbal functional projections, including TP, can be established inside the nominal domain.[10]

[10] An anonymous reviewer asks whether negation is possible inside Oshiwambo subject nominalizations. Quite interestingly, they do not host negation. While this suggests that subject nominalizations are not entirely parallel to the clausal syntax, we wish to highlight that many of the clausal properties are carried over to the nominal domain. In fact, Gotah & Lee (2024) show that negation is possible inside Ewe (Kwa) subject

	Subject nominalizations	Reduced RCs	Headless RCs
Overt relativizer	✗	✗	✓
Overt subject DP	✗	✓	✗
Augmented object DP	✗	✓	✓

Table 1: Subject nominalizations, reduced RCs, and headless RCs in Oshiwambo

5 Reduced & headless relative clauses

Subject nominalizations are different from relative clauses (RCs). RCs in Oshiwambo are postnominal, and the relativizer is overtly realized, as shown in (36). Note that none of the previous examples showcasing Oshiwambo subject nominalizations contain a relativizer.

(36) o-mu-nhu [**ngu** a-nhuk-a]
AUG-1-person REL 3SG-jump-A
'a person who jumped'

Subject nominalizations are not reduced RCs. Reduced RCs do not require a relativizer. Oshiwambo reduced RCs (if there is one) require an overt DP as their head noun, as shown in (37). This is not the case for subject nominalizations as we have seen in the previous sections.

(37) **o-mu-nhu** [ta-li o-shi-kuki]
AUG-1-person PROG-eat AUG-7-cake
'a person (who is) eating the cake'

Also, note that an object inside reduced RCs can bear an augment, whereas an object inside subject nominalizations can never do so. If subject nominalizations are considered to be reduced RCs, we would not expect this sort of discrepancy. The contrast between (30) and (37) demonstrates this point.

Subject nominalizations cannot be assimilated to headless RCs. Although the two nominals do not allow an overt DP as their head, they exhibit syntactic differences. Headless RCs require an overt relativizer, whereas subject nominalizations do not. (38) presents an example of a headless RC in Oshiwambo.

(38) Penda o-ku-hole **ngu o-mu-wanawa**.
Penda AFF-3SG-like REL AUG-1-beautiful
'Penda likes who is beautiful.'

Table 1 summarizes the syntactic properties of subject nominalizations, reduced RCs, and headless RCs in Oshiwambo. Based on the empirical data provided thus far, we conclude that subject nominalizations cannot be treated on a par with reduced or headless RCs.

6 Conclusion

An implication of this work is that the syntactic size of subject nominalizations can be more articulated than previously assumed in the literature. Specifically, we have argued

nominalizations. While future research remains to be done on this issue, there seems to be a cross-linguistic variation concerning the size of subject nominalizations.

that TP can be showcased inside Oshiwambo subject nominalizations. This calls for a closer look at other (Bantu) languages to see if the findings from Oshiwambo can be replicated. Hopefully, this will shed light on a broader typology of subject nominalizations. One aspect of Oshiwambo subject nominalizations that is worth further investigating is the past tense reading that is only available with passivization. Future research remains to be done on why this should be the case.

Abbreviations

3 = third person, AFF = affirmative, APPL = applicative, ASSOC = associative, AUG = augment, CAUS = causative, IPFV = imperfective, PASS = passive, PL = plural, POSS = possessive, PROG = progressive, PST = past, RECP = reciprocal, REFL = reflexive, REL = relative, SG = singular

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The author(s) has/have no competing interests to declare.

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