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External possession of body-part nouns in Jumjum: Possessor raising with possessum incorporation

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Abstract: In Jumjum, a Western Nilotic language, some body-part nouns, and only such nouns, may be externally possessed in transitive and antipassive clauses. In these external possessor constructions, the possessor is either the object of a transitive verb or the demoted patient of an antipassive verb. The externally possessed body-part noun is partly incorporated into the verb, as shown by the following properties: It immediately follows the verb, its tone is determined by the final tone of the verb, it may combine with a nominalized verb in a kind of compound, and it does not exhibit the root-final nasalization that is prevalent in monosyllabic singular nouns in Jumjum, including internally possessed body-part nouns.

Keywords: external possession, internal possession, body-part nouns, noun incorporation, Jumjum, Western Nilotic

1 Introduction

The purpose of the present article is to demonstrate that in Jumjum, a little-described Western Nilotic language, some body-part nouns may be externally possessed in such a way that they become partly incorporated into the verb.¹ Payne and Barshi (1999: 3) define external possessor constructions as follows:

We take core instances of *external possession* (EP) to be constructions in which a semantic possessor-possessum relation is expressed by coding the possessor (PR) as a core

¹ Jumjum is spoken in the southern part of Blue Nile State in Sudan. In Köhler's (1955) subclassification of the Western Nilotic languages, it belongs to the Southern Burun subbranch, which is a sister of the Northern Burun subbranch. Western Nilotic is a branch of the Nilotic family, which constitutes a subbranch of the Nilo-Saharan phylum. The variety of Jumjum described in this article is the Watkey dialect.

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grammatical relation of the verb and in a constituent separate from that which contains the possessum (PM).

A preliminary illustration of the difference between internal and external possession in Jumjum is given in (1). In (1a), which is an instance of internal possession, the possessor **mínnèní** ‘child’ occurs in the same constituent as the possessum **wíp-è** ‘his head’ before the verb **t̪ál-áj** ‘it is big’. In (1b), which is an instance of external possession, the possessor **mínnèní** ‘child’ is separated from the possessum **wíc** ‘head’ by the verb **ɲéej-n-à** ‘I shaved him’.² The possessor and the possessum are underlined. Square brackets in the interlinear translation indicate phrase boundaries.

- (1) a. mínnèní wíp-è **t̪ál-áj**.
 [child head-3SG] be_big-3
 ‘The child’s head is big.’
- b. **ʔíkà** mínnèní **ɲéej-n-à** wíc.
 1SG child shave-PST-1SG>3 head
 ‘I shaved the child’s head.’

The article is organized as follows. Section 2 is an introduction to clause structure in Jumjum as a prerequisite for identifying internal and external possessor constructions in this language. It deals with constituent order and with verbal cross-reference of core arguments. Section 3 shows that there are basically two types of internal possessor constructions in Jumjum, one for alienable possession and one for inalienable possession. Section 4 reveals that some body-part nouns can be externally possessed, demonstrates that externally possessed body-part nouns have special properties, and concludes that such nouns are partly incorporated into the verb. Section 5 shows that unlike internally possessed body-part nouns, externally possessed body-part nouns have not undergone the root-final nasalization that is prevalent in monosyllabic singular nouns in Jumjum, and it suggests that this is due to the grammaticalization that such body-part nouns have undergone. Section 6 concludes the article.

The transcription of Jumjum in this article is based on the phonological analysis given in Andersen (2004). It basically conforms to IPA conventions, so that /j/ is a voiced palatal stop and /j/ a palatal glide; but /t̪, ɕ, ɲ/ have interdental rather than dental point of articulation. Phonetically, Jumjum has ten vowel qualities, the five [–ATR] qualities [i, ɛ, a, ɔ, u] and the five [+ATR]

² Among other Western Nilotic languages, external possession of body-part nouns has also been attested in Dinka (Andersen 2019). Within the Nilotic family, external possession has in addition been attested in the Eastern Nilotic language Maa (Payne 1997).

qualities [i, e, ʌ, o, u]. There is a contrast between short and long vowels, the latter transcribed with double vowel symbols. The tone marks indicate underlying tones, using the analysis arrived at in Andersen (2004), with a contrast between low (L) /ə̌/, high (H) /é̌/, and falling (HL) /ə̌́/; in long vowels the tone mark is placed on the first vowel symbol. Examples marked by “(t.)” after the English translation are drawn from my text corpus; other examples come from elicitation.

2 Clausal constituent order and cross-reference

2.1 Core arguments of the verb

Intransitive clauses in Jumjum have the constituent order SV, with the intransitive subject (S) preceding the verb (V), as in (2).

- (2) S V
ʔíkà ʔóɔl-l-ò.
 1SG sing-PST-1SG
 ‘I sang.’

For transitive clauses there are two alternative orders: AOV, as in (3a), and OVA, as in (3b).³ So an object (O) has preverbal position, while a transitive subject (A) occurs either before the object or after the verb.

- (3) a. A O V
mêrká ʔàmmá ʔám-í.
 child.PL porridge eat-PST.3PL>3
 ‘The children ate the porridge.’
 b. O V A
ʔàmmá ʔám-í mêrká.
 porridge eat-PST.3PL>3 child.PL
 ‘The children ate the porridge.’

³ “X>Y” in the interlinear glossing of transitive verbs indicates that the subject X and the object Y are expressed simultaneously by a suffix chunk and the tone pattern of the verb. Nouns in Jumjum are inflected for number; the number of a plural noun is glossed as “PL” whether the noun has a plural suffix or not, whereas the number of a singular noun is left unglossed unless the noun has a clearly separate singular suffix.

2.2 Cross-reference of core arguments

Jumjum has no case inflection, except that some nouns may take a locative suffix. But subjects and objects are obligatorily expressed in the verb, which thus cross-references subject and object noun phrases (NPs), including free pronouns. In the intransitive verb **ʔɔɔl-l-ù** ‘I sang’ in (2), the suffix **-ù** expresses a first person singular subject and cross-references the subject NP **ʔikà** ‘I’. A transitive verb obligatorily cross-references both its subject and its object, so in this respect Jumjum is similar to some polysynthetic languages such as the Amerindian language Mohawk, cf. Baker (1999: 296). The cross-reference is expressed by means of a suffix chunk and the tone pattern of the whole word. The transitive verb **ʔám-í** ‘they ate it’ in (3) thus uses the suffix **-í** and the tone pattern H-H for expressing a third person plural subject and a third person object (as well as past tense), so that it cross-references both the subject NP **mêrká** ‘children’ and the object NP **ʔàmmá** ‘porridge’.

The following account of the cross-reference system is based on Andersen (2004, 2017, 2018). Table 1 (Andersen 2018: 89–92) shows the cross-reference of subjects in simple, i. e. underived, intransitive verbs in the non-past and past tenses, exemplified with the roots ‘sing’ and ‘cry’. The past tense is expressed by an underlyingly nasal suffix. The third person forms do not indicate number. Most of the cross-reference suffixes exhibit phonologically determined variation. In particular, it should be noted that the vowel of the 1SG and 2SG suffixes in the non-past tense and of the 1SG and third person suffixes in the past tense varies between /ʌ/, /ʊ/ and /u/ as determined by the quality of the root vowel: /ʌ/ after an unrounded vowel, /ʊ/ after a rounded [–ATR] vowel, and /u/ after a rounded [+ATR] vowel. Moreover, the 1PLEX [–ATR] suffix **-ɔ̃n** and the 2PL [–ATR] suffix **-è** become **-òn** and **-è**, respectively, by harmonization with a high [+ATR] vowel in

Table 1: Cross-reference of subject in simple intransitive verbs in the non-past and past tenses, exemplified with the roots ‘sing’ and ‘cry’.

	ʔɔɔl- ‘sing’		wɛɛk- ‘cry’	
	Non-past	Past	Non-past	Past
1SG	ʔɔɔl-ù	ʔɔɔl-l-ù	wɛɛg-ʌ	wɛɛŋ-ŋ-ʌ
2SG	ʔɔɔl-ó	ʔɔɔl-l-í	wɛɛg-ʌ	wɛɛŋ-ŋ-í
3	ʔɔɔl	ʔɔɔl-l-ó	wɛɛk	wɛɛŋ-ŋ-ʌ
1DUIN	ʔóol-ì	ʔóol-l-ì	wéek-ì	wéɛŋ-ŋ-ì
1PLIN	ʔóol-in	ʔóol-l-in	wéek-in	wéɛŋ-ŋ-in
1PLEX	ʔɔɔl-ɔ̃n	ʔɔɔl-l-ɔ̃n	wɛɛg-ɔ̃n	wɛɛŋ-ŋ-ɔ̃n
2PL	ʔɔɔl-è	ʔɔɔl-l-è	wɛɛg-è	wɛɛŋ-ŋ-è

the root. In the same way the 2SG [–ATR] suffix **-i** of the past tense form becomes [+ATR] **-í** when the root has a high [+ATR] vowel. The only suffixes that do not exhibit variation are the 1DUIN and 1PLIN [+ATR] suffixes **-ì** and **-ín**, and they spread their [+ATR] value to a non-low root vowel, so that radical /I, ε, υ, ɔ/ become [i, e, u, o].

Tables 2 and 3 (Andersen 2018: 92–96) show the cross-reference of subjects and objects in simple transitive verbs in the non-past tense. In these tables the vertical dimension indicates the subject (A), and the horizontal dimension indicates the object (O). As seen here, the form of the verb expresses the person and number of the subject and also the person and number of the object, except that no number distinction is made for a third person object. This results in a total of 28 forms. In the non-past tense (as opposed to the past tense) the form of some of the cross-reference suffixes depends on the manner of articulation of the root-final consonant. One set of suffixes occurs after root-final stops, as exemplified with the root **tuc-** ‘send’ in Table 2. Another set occurs after root-final sonorants, as exemplified with the root **daam-** ‘look at’ in Table 3. Unlike intransitive roots, transitive roots do not fall into tonal classes, so tone has no lexical function in verbs with a transitive root. Here all tones have a grammatical function.

Table 2: Subject-object inflection of the simple transitive stem **tuc-** ‘send’ in the non-past tense.

A↘ O→	1SG	2SG	3	1DUIN	1PLIN	1PLEX	2PL
1SG	—	túj-éní	túj-ò	—	—	—	túj-é
2SG	túj-já	—	túj-ó	—	—	túj-ón	—
3SG	túj-à	túj-éj	túj-é	túj-í	túj-ín	túj-ón	túj-é
1DUIN	—	—	túc-ì	—	—	—	—
1PLIN	—	—	túc-in	—	—	—	—
1PLEX	—	túc-ì	túj-ón	—	—	—	túc-é
2PL	túj-à	—	túj-é	—	—	túj-ón	—
3PL	túc-à	túc-ì	túc-ò	túc-í	túc-in	túc-ón	túc-é

As seen in Tables 2 and 3, almost all possible combinations of a subject and an object are phonologically distinct from each other.⁴ Some verb forms with a root-final stop have phonologically identical cross-reference suffixes and identical tone patterns, but are distinguished by the voice value of the root-final stop, e. g. in

⁴ Syncretism only occurs between 1PLEX>2SG and 3PL>2SG and between 1PLEX>2PL and 3PL>2PL.

Table 3: Subject-object inflection of the simple transitive stem *ɖaam*- ‘look at’ in the non-past tense.

A↘ O→	1SG	2SG	3	1DUIN	1PLIN	1PLEX	2PL
1SG	—	ɖáam-ɛní	ɖáam-ɔ	—	—	—	ɖáam-ɛ
2SG	ɖáam-ja	—	ɖáam-ɔ	—	—	ɖáam-ɔ́n	—
3SG	ɖàam-à	ɖàam-ɛj	ɖáam-ɛ	ɖàam-í	ɖàam-ín	ɖàam-ɔ́n	ɖàam-ɛ
1DUIN	—	—	ɖáam-ì	—	—	—	—
1PLIN	—	—	ɖáam-ìn	—	—	—	—
1PLEX	—	ɖáam-gì	ɖáam-ɔ́n	—	—	—	ɖáam-gé
2PL	ɖàam-à	—	ɖáam-ɛ	—	—	ɖàam-ɔ́n	—
3PL	ɖáam-gà	ɖáam-gì	ɖáam-gɔ	ɖáam-gí	ɖáam-gín	ɖàam-gɔ́n	ɖáam-gé

Table 2 1SG>3 *ɖɔ́j-ò* (voiced) vs 3PL>3 *ɖɔc-ò* (voiceless). There are also forms whose suffixes are segmentally identical, but tonally distinct, e. g. 1SG>3 *ɖɔ́j-ò* (H-L) vs 2SG>3 *ɖɔ́j-ó* (H-H). Moreover, there are forms whose suffixes are both segmentally and tonally identical, but which are distinguished by the tone of the root vowel, e. g. 3SG>3 *ɖɔ́j-ɛ* (H-H) vs 3SG>2PL *ɖɔ̀j-ɛ* (L-H), and 3SG>1SG *ɖɔ̀j-à* (L-L) vs 2PL>1SG *ɖɔ̀j-à* (HL-L). Hence, tone has a high functional load in the verb morphology of Jumjum. Both the tones of the suffixes and the tone of the root vowel contribute to expressing the cross-reference.

Phonologically conditioned vowel quality alternation occurs in transitive verbs in the same way as in intransitive verbs. Firstly, suffixal /ɔ/ varies with /u/ and /u/. Secondly, suffixal /i/, which is the only inherently [+ATR] suffix vowel, harmonizes radical non-low [–ATR] vowels; it occurs in all the six suffixes that code a first person inclusive element, whether as subject (1DUIN>3, 1PLIN>3) or as object (3SG>1DUIN, 3SG>1PLIN, 3PL>1DUIN, 3PL>1PLIN). Thirdly, a high [+ATR] vowel in the root harmonizes non-low [–ATR] vowels in suffixes.

The past tense of simple transitive verbs is generally expressed by the suffix *-(V)N*, which contains or consists of a nasal (N). The full set of subject-object inflections in the past tense is shown with the root *ɖuc*- ‘send’ in Table 4 (Andersen 2018: 96–97).

Derived intransitive verbs and derived transitive verbs have the same cross-reference system as simple intransitive and transitive verbs, but some of their suffixes and some of their tone patterns are different. For a detailed description and analysis of the cross-reference system and its morphophonology, see Andersen (2018), which also deals with the inflection of derived verb stems.⁵

⁵ Some of the examples in the present article have verbs with derived stems. For verification of the morphological analysis of some of them, the reader is referred to Andersen (2018).

Table 4: Subject-object inflection of the simple transitive stem *tuc-* ‘send’ in the past tense.

A↘ O→	1SG	2SG	3	1DUIN	1PLIN	1PLEX	2PL
1SG	—	<i>túŋ-ŋ-əní</i>	<i>túŋ-ŋ-ù</i>	—	—	—	<i>túŋ-ŋ-é</i>
2SG	<i>túŋ-ŋ-âa</i>	—	<i>túŋ-ŋ-í</i>	—	—	<i>túŋ-ŋ-ŋɔn</i>	—
3SG	<i>túŋ-ŋ-à</i>	<i>túŋ-ŋ-èj</i>	<i>túŋ-ŋ-é</i>	<i>túŋ-ŋ-í</i>	<i>túŋ-ŋ-ín</i>	<i>túŋ-ŋ-ŋn</i>	<i>túŋ-ŋ-é</i>
1DUIN	—	—	<i>túŋ-ŋ-í</i>	—	—	—	—
1PLIN	—	—	<i>túŋ-ŋ-ín</i>	—	—	—	—
1PLEX	—	<i>túŋ-ín-ì</i>	<i>túŋ-ŋ-ŋn</i>	—	—	—	<i>túŋ-én-é</i>
2PL	<i>túŋ-ŋ-à</i>	—	<i>túŋ-ŋ-è</i>	—	—	<i>túŋ-ŋ-ŋn</i>	—
3PL	<i>túŋ-án-à</i>	<i>túŋ-ín-ì</i>	<i>túŋ-í</i>	<i>túŋ-ín-í</i>	<i>túŋ-ín-ín</i>	<i>túŋ-ŋn-ŋn</i>	<i>túŋ-én-é</i>

Pronominal subjects and objects are often not expressed by separate pronouns, but only by the form of the verb, as in (4).

- (4) a. *ʔám-í.*
eat-PST-3PL>3
‘They ate it.’
b. *jɔɔr-r-ù.*
see-PST-1SG>3
‘I saw him.’

A postverbal third person singular subject NP is cross-referenced as third person plural, as illustrated in (5). In (5a) the third person singular subject *gòuŋ* ‘dog’ occurs in clause-initial position and is cross-referenced as third person singular in the verb. In (5b), by contrast, the same subject occurs in postverbal position and is cross-referenced as third person plural. Thus, the verb in (5b) has the same form as in (5c), where its final suffix *-à* cross-references the clause-initial third person plural subject *gòk-kó* ‘dogs’.

- (5) a. *gòuŋ ʔìkà kàŋ-ŋ-à.*
dog 1SG bite-PST-3SG>1SG
‘The dog bit me.’

Unfortunately, there are some printer’s errors in that article’s data. They are as follows. In Table 12 (p. 96), Past 3SG>3 of ‘teach’ should be *núuŋ-ŋ-é*. Example (36c) on p. 98 should be *à=malí-í-r*. In Table 17 (p. 99), AP stem of ‘squeeze’ in Jumjum should be *nuŋ-*. In Table 29 (p. 107), CP-3SG>3 of ‘shoot’ should be *ðim-é*. In Table 38 (p. 110) and Table 40 (p. 111), all forms with a short /ɪ/ in the root should have a long /ɪɪ/ in the root. In Table 42 (p. 112), the 3PL>1PLEX form should be *ɲip-ŋn*.

b. **ʔikà káj-án-à gôuŋ.**

1SG bite-PST-3PL>1SG dog

‘The dog bit me.’

c. **gòk-kú ʔikà káj-án-à.**

dog-PL 1SG bite-PST-3PL>1SG

‘The dogs bit me.’

A postverbal subject may be marked by the preposition **kà**, whereby it is focalized, but it is still cross-referenced as subject in the verb. This is seen in (6), where the focalized subject **ʔikà** ‘I’ is cross-referenced as a 1SG subject. Such a construction is here translated as passive in English.

(6) **ʔammá ʔám-m-à kà ʔikà.**

porridge eat-PST-1SG>3 [FOC 1SG]

‘The porridge was eaten by me.’

2.3 Antipassive verbs

Transitive verbs may undergo antipassive derivation, whereby the object of the transitive verb (the patient) is either demoted to the status of a non-core argument or is omitted. Thus, while the patient **ʔáak** ‘milk’ in (7a) occurs preverbally as object of the transitive verb **máaq-à** ‘I am drinking it’, the same patient occurs after the antipassive verb **mát-à** ‘I am drinking’ in (7b) and is omitted after this verb in (7c).

(7) a. **ʔikà ʔáak máaq-à.**

1SG milk.PL drink-1SG>3

‘I am drinking the milk.’

b. **ʔikà mát-à ʔáak.**

1SG drink.AP-1SG milk.PL

‘I am drinking milk.’

c. **ʔikà mát-à.**

1SG drink.AP-1SG

‘I am drinking.’

An antipassive verb is intransitive, and a demoted patient is thus not cross-referenced in the verb.⁶ This patient occurs with no other marking than its postverbal position.

⁶ On the formation and inflection of antipassive stems, see Andersen (2018: 97–102).

A parallel set of examples is given in (8), with the patient **pôɲɲ** ‘rabbit’ being an object in (8a), a non-core argument in (8b), and omitted in (8c).

- (8) a. **ʔikè pôɲɲ ɲóɔl-l-é.**
 3SG rabbit chase-PST-3SG>3
 ‘He chased the rabbit.’
 b. **ʔikè ɲòut-t-ó pôɲɲ.**
 3SG chase.AP-PST-3 rabbit
 ‘He chased a/the rabbit.’
 c. **ʔikè ɲòut-t-ó.**
 3SG chase.AP-PST-3
 ‘He chased.’

In my text corpus, all patients coded as object of a transitive verb are semantically definite, while patients coded as a non-core argument in an antipassive clause are either semantically indefinite (or non-referential) or definite (Andersen 2018: 85–86).

2.4 Dative verbs

Verbs may also undergo dative (applicative) derivation (by means of the suffix **-k** or **-g**) whereby a peripheral argument with the semantic role of, for instance, beneficiary gets the syntactic status of object. If the base verb is transitive, the basic object (the patient) is demoted to the status of an optional peripheral argument in postverbal position, as with antipassive verbs. This is illustrated in (9).⁷ Example (9a) is a transitive clause in which the underived transitive verb **báɲ-ɲ-é** ‘he plastered it’ is preceded by its patient-object **ʔán** ‘house’. In (9b), with the dative verb **báɲ-k-éɖ-é** ‘he is plastering for him’, the beneficiary **báabà** ‘Baaba’ occurs in object position, while the patient **ʔán** ‘house’ has postverbal position and is optional, as seen in (9c).

- (9) a. **ʔóɲ ʔán báɲ-ɲ-é ɬimòk.**
 man house plaster-PST-3SG>3 yesterday
 ‘The man plastered the house yesterday.’
 b. **kiilgà báabà báɲ-k-éɖ-é ʔán.**
 Kiilga Baaba plaster-DAT-IMP-3SG>3 house
 ‘Kiilga is plastering a house for Baaba.’

⁷ On the formation and inflection of dative verb stems, see Andersen (2018: 108–111).

c. **kíilgà báabà báṭ-k-éḍ-é.**

Kiilga Baaba plaster-DAT-IMPF-3SG>3

‘Kiilga is plastering for Baaba.’

2.5 Adverbials

Adverbials are normally either adverbs or adpositional phrases. The latter are headed by either a preposition, as in (10), or a postposition, as in (11). In (10a) the multipurpose preposition **kà** (glossed generically as PREP) is used with instrumental meaning, while the preposition **kè** in (10b) has comitative meaning.

- (10) a. **gôuḡ jéb-á kà dīl-là.**
 dog hit-2SG>3 [PREP stick-SG]
 ‘Hit the dog with a stick!’
 b. **ʔikì bí ʔlāt-á kè ʔikè.**
 2SG FUT go.CP-2SG [COM 3SG]
 ‘You will come with him.’

The postposition **ṭi** in (11) has locative meaning. Its complement has the semantic role of location (11a), goal (11b) or source (11c).⁸

- (11) a. **jém-m-é ʔlām-è ṭi.**
 hit-PST-3SG>3 [thigh-3SG LOC]
 ‘He hit him on the thigh.’
 b. **ʔikè pālm jèp-p-é dīn ṭi.**
 3SG stone throw.CF-PST-3SG>3 [bird LOC]
 ‘He threw the stone at a bird.’
 c. **jàan tōr-cì wōō gūn-n-ì ṭi!**
 tree pull.CF-2SG>3 away [side-SG-1SG LOC]
 ‘Pull the log away from me!’

Adpositional adverbials normally occur in clause-final position, as in (10)–(11). By contrast, certain place adverbs normally occur immediately after the verb. Thus, in (12a) the adverb **wōō** ‘out, away’ precedes the demoted patient **māap** ‘fire’, and in (12b) the same adverb precedes the postverbal focalized subject **ʔikà** ‘I’.

⁸ On the inflection of centrifugal transitive stems as in (11b–c), see Andersen (2018: 102–106).

- (12) a. ʔán pìccà ʔáac-íq-í wôo mâaŋ.
 and twirling_stick take.CP.AP-IMPf-3 out fire
 ‘And the twirling-stick brings fire out.’ (t.)
- b. pîik póuk-k-ò wôo kà ʔikà.
 water.PL pour.MULT.CF-PST-1SG>3 out [FOC 1SG]
 ‘The water was spilt by me.’

3 Internal possessor constructions

In internal possessor constructions, the possessor and the possessum, by definition, belong to the same constituent, namely a noun phrase (NP). In Jumjum, there are basically two types of internal possessor constructions. They differ semantically with respect to alienability of the possessum, cf. Chappell and McGregor (1996).

3.1 Alienable internal possession

In the construction which expresses alienable possession, the possessum precedes the possessor and is morphologically marked as being in what I call the construct state, which contrasts with the morphologically unmarked absolute state. The construct state of a noun is expressed by low tones in all syllables, and it indicates that the noun is followed by a modifier. This construction is exemplified in (13), where both the possessum and the possessor are underlined. The possessa kòccò ‘hoe’ (13a), nàntà ‘place’ (13b) and lèn ‘axe’ (13c) are in the construct state, the corresponding absolute state forms being, respectively, kóccú, nántá, and lén.

- (13) a. gájna kòccò máaj jáaj-n-é.
 Gayna [hoe.CS Määjo] lose-PST-3SG>3
 ‘Gayna has lost Määjo’s hoe.’
- b. gáaggáak tár-k-én-é nàntà pîik.
 Gaaggaak hide-DAT-PST-3SG>3 [place.CS water.PL]
 ‘And he hid from Gaaggaak at the place of water.’ (t.)
- c. ʔán wírw ʔàt-t-á ʔàj-j-á lèn lám-mà.
 and fox go.CF-PST-3 mould.AP-PST-3 [axe.CS mud-SG]
 ‘And Fox went and moulded an axe of mud.’ (t.)

The NP which constitutes the internal possessor construction is object of a transitive verb in (13a), place adverbial in (13b), and demoted patient of an antipassive verb in (13c).⁹

If the possessor of the alienable possessum is pronominal, the constituent order is the same as in (13), but the possessum is in the absolute state, and the possessor is a possessive pronoun which agrees in number with the possessum. This is illustrated in (14a) with the NP **cícàm jéε-n-é** ‘his knife’, in (14b) with the NP **tòη júu-n-ú** ‘your spear’, and in (14c) with the NP **gòk-kú jéε-k-é** ‘his dogs’. The corresponding construct state forms of the nouns are low-toned: **cícàm** ‘knife’, **tòη** ‘spear’, and **gòk-kù** ‘dogs’, with syncretism between the absolute state and the construct state in the case of ‘spear’. The suffix **-n** in the possessive pronouns **jeε-n-é** ‘his’ (14a) and **júu-n-ú** ‘your’ (14b) cross-references the possessor **cícàm** ‘knife’ and **tòη** ‘spear’ as singular, and the suffix **-k** in possessive pronoun **jeε-k-é** ‘his’ (14c) cross-references the possessum **gòk-kú** ‘dogs’ as plural.

- (14) a. **ʔíkè cícàm jéε-n-é káp-n-é.**
 3SG [knife PRO-SG-3SG] find-PST-3SG>3
 ‘He found his knife.’
- b. **tòη júu-n-ú tük-è ʔà jím-gà.**
 [[spear PRO-SG-2SG] mouth-3SG] be.3 blood-PL
 ‘There is blood on your spear.’
 (Lit. ‘Your spear’s mouth is bloods.’)
- c. **wáj-ó gòk-kú jéε-k-é tów-g-in kà dák.**
 [father-1PL [dog-PL PRO-PL-3SG]] die-PL-PST.3 [PREP three]
 ‘My father’s three dogs have died.’
 (Lit. ‘Our father his dogs died three.’)

The NP **tòη júu-n-ú** ‘your spear’ in (14b) is in turn the possessor of **tük-è** ‘its mouth’ in an internal possessor construction which expresses inalienable possession, cf. the next subsection. By contrast, the NP **gòk-kú jéε-k-é** ‘his dogs’ in (14c) is in turn the possessum of **wáj-ó** ‘our father’, which appositionally specifies the referent of the 3SG suffix **-é** in the possessive pronoun **jeε-k-é** ‘his’.

⁹ In (13b) the verb has the dative (applicative) suffix **-k**. The applied object is ‘Gaaggaak’ since this NP occurs in preverbal position, cf. Section 2.4. So the NP ‘place of water’ is not the object. An NP headed by ‘place of’ can function as a place adverbial without any adposition, as it does here.

3.2 Inalienable internal possession

In the construction that expresses inalienable possession, the possessor precedes the possessum, and the possessum has a possessive suffix which cross-references the possessor with respect to person and number. The possessum in this construction is typically a body-part noun, as in (15a-c), or a kinship noun, as in (15d), but it can also be, among others, a verbal noun, as in (15e), or an “adjectival” noun, as in (15f).¹⁰

- (15) a. mínnèní wíŋ-è ɬál-án.
 [child head-3SG] be_big-3
 ‘The child’s head is big.’ (= (1a))
- b. ʔíkà bóŋ-ù kà káŋ kórkú-gén-é.
 1SG fear-1SG [PREP [leopard nail.PL-PL-3SG]
 ‘I am afraid of the leopard’s claws.’
- c. ʔíkè càŋj ʔán ŋáŋ-è ɬì.
 3SG sit.3 [[house back-3SG] LOC]
 ‘He is sitting behind the house.’
- d. ʔiŋ jâaŋjà máŋd-èn jóor-r-in.
 [[woman DEM3.SG] brother-3PL] see-PST-1PLIN>3
 ‘We saw that woman’s brother.’
- e. ʔán báŋm páŋj-n-à
 and dove fly-PST-3
 ʔì wèɛk kà jón-è jàm-m-é.
 while cry.3 [PREP [chest-3SG be_tasteful-NMLZ-3SG]]
 ‘And Dove flew while crying with happiness.’ (t.)
 (Lit. ‘[...] while she is crying with her chest its tastefulness’)
- f. ʔíkè kòŋ-n-ú jàalòk dil-là lèel-è.
 3SG take.AP-PST-3 up [stick-SG short_one-3SG]
 ‘He picked up a short stick.’

As seen in (15), the sequence possessor + possessum is an NP, since it occupies an NP position. In (15a), mínnèní wíŋ-è ‘the child’s head’ is an intransitive subject in which mínnèní ‘child’ is cross-referenced by the suffix -è in wíŋ-è ‘his head’. In (15b), káŋ kórkú-gén-é ‘the leopard’s claws’ is a prepositional complement in which káŋ ‘leopard’ is cross-referenced in kórkú-gén-é ‘its claws’. In (15c), ʔán ŋáŋ-è ‘the house’s back’ is a postpositional complement

¹⁰ On cross-linguistic variability in what counts as inalienable possession, see Chappell and McGregor (1996).

in which **ʔân** ‘house’ is cross-referenced in **ḡân-è** ‘its back’. In (15d), **ʔin̄ jāap̄jà máláḡ-èn** ‘that woman’s brother’ is the object of a transitive verb, and here the possessor **ʔin̄ jāap̄jà** ‘that woman’ is cross-referenced by **máláḡ-èn** ‘their brother’; as in some other kinship nouns, a singular possessor is here cross-referenced as plural. In (15e), **ʔón-è jàm-m-é** ‘her chest’s tastefulness’, i. e. ‘happiness’, is the complement of the preposition **kà**, and the possessor **ʔón-è** ‘her chest’ is cross-referenced by **jàm-m-é** ‘its being tasteful’, the third person possessive form of the verbal noun **jàm-má** ‘to be tasteful’, whose root is the adjectival verb **nap-** ‘be tasteful’. In (15f), finally, **dil-là lèl-è** ‘short stick’ is a demoted patient of the antipassive verb **kùp-j-ú** ‘he took’, and the possessor **dil-là** ‘stick’ is cross-referenced in the possessum **lèl-è** ‘its short one’, the third person possessive form of the adjectival noun **lèl** ‘short one’. So the constructions in (15) are internal possessor constructions.

The possessor in the inalienable possession construction may be expressed by a possessive suffix alone, that is, without a possessor NP, as seen in (16). In (16a) **bùḡ-ì** ‘my arm’ is an intransitive subject, in (16b) **ʔin̄-t-ú** ‘your hand’ is the complement of the preposition **kà**, in (16c) **wán-g-è** ‘his eyes, his face’ is the complement of the postposition **ṭi**, and in (16d) **mìḡ-ó** ‘our mothers’ is the object of the transitive verb ‘take’.

- (16) a. **bùḡ-ì** **lín-ḡ-á.**
 arm-1SG break-PST-3
 ‘My arm broke.’
- b. **ḡanà** **mùḡ-ḡ-ú** **kà** **ʔin̄-t-ú.**
 PROH catch-IMP-2SG>3 [PREP hand-SG-2SG]
 ‘Don’t catch it with your hand!’
- c. **ʔán** **pàat̄-t-é** **wán-g-è** **ṭi.**
 and plaster.CF-PST-3SG>3 [eye-PL-3SG LOC]
 ‘and he plastered it onto his face.’ (t.)
- d. **mìḡ-ó** **ʔic-ì** **jálac-c-ì** **wóo.**
 mother.PL-1PL take-1DUIN>3 sell-CF-1DUIN>3 out
 ‘Let’s take our mothers and sell them!’ (t.)

Internally possessed body-part nouns normally occur in the inalienable possession construction, as in (15)–(16). If a body-part noun occurs in the alienable possession construction, as in (17a), its referent is understood as being detached from the original possessor. Thus, the bone referred to in (17a) is understood not to be an inalienable part of the dog, but a bone which the dog is eating. Hence, (17a) contrasts with the inalienable possession construction (17b).

- (17) a. **ʔɔw-nɔ** **gɔʊŋ**
 bone-SG.CS dog
 ‘the dog’s bone (which it is eating)’
 b. **gɔʊŋ ʔɔw-n-ɛ**
 dog bone-SG-3SG
 ‘dog’s bone’

4 External possession of body-part nouns

While all body-part nouns in Jumjum can be internally possessed, some body-part nouns (and only such nouns) can also be externally possessed. As demonstrated in this section, the external possessor is either the object of a transitive verb (Section 4.1) or the demoted patient of an antipassive verb (Section 4.2), and externally possessed body-part nouns have some special properties. Section 4.3 shows that although externally possessed nouns do not cross-reference their external possessor, they are inflected for number, as partly determined by the possessor. Section 4.4 demonstrates that externally possessed body-part nouns occur immediately after the verb, and Section 4.5 illustrates that most of them get their tones from the verb. Finally, Section 4.6 argues that externally possessed body-part nouns are partly incorporated into the verb.

4.1 External possessor as object

As seen in (18), the object position of a transitive clause may be occupied by an NP in which a body-part noun is internally possessed. In (18a), **wɪɪl-ɛ** ‘its tail’ is possessed by **gɔʊŋ ʔɔw-n-ɔ** ‘our dog’; in (18b), **ʔɪŋ-ɛ** ‘its stomach’, i. e. ‘its inside’, is possessed by **ʔɔn** ‘house’; and in (18c), **ʔɪk-ɛ** ‘its mouth’, i. e. ‘its door’, is also possessed by **ʔɔn** ‘house’.

- (18) a. **ʔɪk-ɛ gɔʊŋ ʔɔw-n-ɔ wɪɪl-ɛ tɔɔr-r-ɛ.**
 3SG [[dog PRO-SG-1PL] tail-3SG] pull-PST-3SG > 3
 ‘He pulled our dog’s tail.’
 b. **ʔɪŋ ʔɔn ʔɪŋ-ɛ wɛɛŋ-ŋ-ɛ.**
 woman [house stomach-3SG] sweep-PST-3SG > 3
 ‘The woman swept the house.’
 (Lit. ‘The woman swept the house’s stomach.’)

An external possessor construction may have the same propositional content as an internal possessor construction, as seen in (20). Example (20a) is an internal possessor construction in that the possessor of ‘backs’ is expressed by the 2PL possessive suffix **-ic** in **ɲàt̪-k-ic** ‘your backs’. This noun is a demoted patient of the antipassive verb **ɖàam-à** ‘I am looking’. Example (20b) is an external possessor construction with the same propositional content. Here the possessor **ʔikêe** ‘you’ is the object of the transitive verb **ɖâam-é** ‘I am looking at you’, since it occurs preverbally and is cross-referenced in the verb, while the possessum **ɲàt̪-in** ‘backs’ occurs in postverbal position.

- (20) a. **ʔikà ɖàam-à ɲàt̪-k-ic.**
 1SG look_at.AP-1SG back-PL-2PL
 ‘I am looking at your backs.’
 b. **ʔikêe ɖâam-é ɲàt̪-in.**
 2PL look_at-1SG>2PL back-PL
 ‘I am looking at your backs.’

A similar pair of clauses is given in (21). In (21a) the NP **mínnèní wát̪-è** ‘the child’s buttocks’, where the buttocks are internally possessed by the child, is a demoted patient of the antipassive verb **lúk-í** ‘she is washing’. In (21b), with the same propositional content, the postverbal body-part noun **wát̪-in** ‘buttocks’ is possessed by the (preverbal) object **mínnèní** ‘child’.

- (21) a. **lúk-í mínnèní wát̪-è.**
 wash.AP-3 [child buttock.PL-3SG]
 ‘She is washing the child’s buttocks.’
 b. **mínnèní lóg-é wát̪-in.**
 child wash-3SG>3 buttock-PL
 ‘She is washing the child’s buttocks.’

As noted in Section 2.2, an object does not need to be represented by an NP, a fact exemplified by (11a) and (16b-c) above. In the absence of such an NP, the external possessor is only represented suffixally in the verb. This is seen in (22), where the object NP slot is empty, but where the cross-reference suffixes in the verbs express a third person object, in addition to a second person plural subject in (22a) and a third person singular subject in (22b).¹² Thus, the body-part nouns **wíc** ‘head’ (22a) and **jók-in** ‘bodies’ (22b) do have possessors. Here these again

¹² Multiplicative transitive stems, as in (22a), are inflected in the same way as simple transitive stems, see Andersen (2018: 111–113).

do not occur in the same constituent as the possessa, and they are therefore external possessors.

- (22) a. **ʔir-è** **wíc.**
 cut.MULT-2PL>3 head
 ‘Intercept her!’ (t.) (Lit. ‘Cut her head repeatedly!’)
 b. **ɲiip-p-é** **jók-in.**
 greet.CF-PST-3SG>3 body-PL
 ‘He greeted them.’ (t.) (Lit. ‘He greeted their bodies.’)

4.2 External possessor as demoted patient

An external possessor may also be a demoted patient of an antipassive verb, as illustrated in (23). In the transitive clause (23a), with the transitive verb **ɲéej-n-à** ‘I shaved him’, the object **mínnèní** ‘child’ is the external possessor of **wíc** ‘head’. In the corresponding antipassive clause (23b), with the antipassive verb **ɲiip-p-à** ‘I shaved’, the patient ‘child’ is retained in clause-final position, thus occurring after its possessum ‘head’.

- (23) a. **ʔikà mínnèní ɲéej-n-à wíc.**
 1SG child shave-PST-1SG>3 head
 ‘I shaved the child’s head.’ (= (1b))
 b. **ʔikà ɲiip-p-à wíc mínnèní.**
 1SG shave.AP-PST-1SG head child
 ‘I shaved the child’s head.’

Although ‘head’ and ‘child’ are contiguous in (23b), they do not form a constituent of the clause. The word sequence **wíc mínnèní** (24a) is not possible as a citation form for ‘the child’s head’. The citation form would be **mínnèní wip-è** (24b), cf. (15a) above.

- (24) a. ***wíc mínnèní**
 head child
 ‘the child’s head’
 b. **mínnèní wip-è**
 child head-3SG
 ‘the child’s head’

Also, the word sequence **wíc mínnèní** in (23b) is not an instance of the internal possessor construction in which the possessum is in the construct state followed

by the possessor, since **wíc** ‘head’ is not in the construct state, cf. Section 3.1 above. It seems to be impossible for body-part nouns referring to attached body parts to be used in that construction.

As illustrated by the pair of clauses in (23), if a body-part noun can be externally possessed by the object of a transitive verb, then it can also be externally possessed by the demoted patient of the corresponding antipassive verb. Similar clause pairs are given in (25) and (26), where the (a)-clauses have transitive verbs and the (b)-clauses the corresponding antipassive verbs. In (25) **gítí** ‘stomachs’ is externally possessed by **jàŋ-ŋá** ‘meat’, and in (26) **jók-in** ‘bodies’ is externally possessed by **kíl-ká** ‘broth’.

- (25) a. **ʔíkè** **jàŋ-ŋá** **ʔír-é** **gítí.**
 3SG meat-SG cut.MULT-3SG>3 stomach.PL
 ‘She is cutting the meat.’
 (Lit. ‘She is cutting meat’s stomachs’, i.e. ‘the inside of meat into pieces’)
- b. **ʔíkè** **ʔír-à** **gítí** **jàŋ-ŋá.**
 3SG cut.MULT.AP-3 stomach.PL meat-SG
 ‘She is cutting meat.’
- (26) a. **ʔínŋ** **kíl-ká** **ɲáam-m-é** **jók-in.**
 woman broth-PL be_tasteful.CAUS-PST-3SG>3 body-PL
 ‘The woman made the broth tasteful.’
- b. **ʔínŋ** **ɲàap-p-á** **jók-in** **kíl-ká.**
 woman be_tasteful.CAUS.AP-PST-3 body-PL broth-PL
 ‘The woman made the broth tasteful.’

Antipassive clauses with a postverbal body-part noun but without an explicit possessor do not occur in my data, and I don’t know whether such clauses are possible. External possession with intransitive verbs that are not antipassive has not been attested either.

4.3 Number inflection of possessum

An externally possessed body-part noun cannot be modified. Thus, it cannot take a possessive suffix, which would cross-reference its external possessor. That is, the same form is used whether the possessor is first, second or third person. This is illustrated in (27) with first and second person possessors.

- (27) a. ʔikê ʔikà dàam-à ɲác.
 3SG 1SG look_at-3SG>1SG back
 ‘He is looking at my back.’
- b. ʔikà ʔùul-l-à jók.
 1SG be_black.CAUS-PST-3SG>1SG body
 ‘He has made me black.’ (Lit. ‘He has made my body black.’)
- c. ɲàná ʔikà nàg-ɖ-âa dók.
 PROH 1SG kill-IMP-2SG>1SG neck
 ‘Do not kill me!’ (t.) (Lit. ‘Do not kill my neck!’)
- d. ʔikê ʔikà bòr-à jók.
 3SG 1SG defeat-3SG>1SG body
 ‘He is bigger than me.’ (Lit. ‘He defeats my body.’)
- e. ʔán ʔikì bí ʔér-èní pòk.
 and 2SG FUT cut-1SG>2SG oral_cavity
 ‘and I will slaughter you.’ (t.) (Lit. ‘and I will cut your oral cavity.’)
 (= (19a))

However, the possessum is inflected for number. The singular forms are morphologically unmarked, while the plural forms generally have the suffix **-in**. A plural external possessor requires the plural form of the body-part noun. This is exemplified in (28) with the noun for ‘neck’. In (28a) the external possessor is a third person object which refers to a single camel (which has only one neck), so ‘neck’ has the singular form **dók**. In (28b) the possessor is the second person plural pronoun **ʔikê**, and therefore the plural form **dòug-in** is used. In this sentence, **ʔikê** ‘you’ is a beneficiary object of the dative verb **dúg-g-ènè** ‘we tie for you’, while **wìn-gà** ‘ropes’ is a demoted patient. But the possessum of a singular external possessor may also be plural if it refers to a pair of body parts, as in (28c), where **wát-in** ‘buttocks’ is possessed by **mínnèní** ‘child’.

- (28) a. ʔán dég-í dók kà wín-ɲàn.
 and tie-PST.3PL>3 neck [PREP rope-SG]
 ‘And they tied its neck with a rope.’ (t.)
- b. ʔán ʔikê bí dúg-g-ènè dòug-in wìn-gà.
 and 2PL FUT tie.MULT-DAT-1PLEX>2PL neck-PL rope-PL
 ‘And we will tie ropes around your necks.’ (t.)
 (Lit. ‘And we will tie ropes for your necks.’) (= (19b))
- c. mínnèní lóg-é wát-in.
 child wash-3SG>3 buttock-PL
 ‘She is washing the child’s buttocks.’ (= (21b))

In the same way, the singular possessor **ʔikè** (3SG) in (29a) combines with the singular form of ‘body’, **jók**, while the plural possessor **ʔikîin** (1PLIN) in (29b) requires the plural form **jók-in** ‘bodies’.

- (29) a. **ʔikà ʔikè bór-ù jók.**
 1SG 3SG defeat-1SG>3 body
 ‘I am bigger than him.’ (Lit. ‘I defeat his body.’)
 b. **ʔikèn ʔikîin bôr-gín jók-in.**
 3PL 1PLIN defeat-3PL>1PLIN body-PL
 ‘They are bigger than us.’ (Lit. ‘They defeat our bodies.’)

The word for ‘stomach’ (the inside of something) is deviant. Its singular form **ʔi** or **ʔí** does not end in a consonant, and its plural form **gìtì** or **gítì** does not end in the plural suffix **-in** (or **-in**). Moreover, while the singular form can only be used with a singular possessor, the plural form can be used with both a singular and a plural possessor, although it does not denote a pair of body parts. Thus, singular **ʔi** is possessed by singular **dòn** ‘gourd’ in (30a), and plural **gìtì** is possessed by singular **wín-ṇàn jâanní** ‘this rope’ in (30b) and by plural **ḍák** ‘cows’ in (30c).

- (30) a. **dòn póg-ú ʔi.**
 gourd pour-2SG>3 stomach
 ‘Empty the gourd!’ (Lit. ‘Pour the gourd’s stomach!’)
 b. **wín-ṇàn jâanní ʔér-á gítì.**
 [rope-SG DEM1.SG] cut-2SG>3 stomach.PL
 ‘Cut this rope!’ (Lit. ‘Cut this rope’s stomachs!’)
 c. **ʔòon ḍák pág-é gítì.**
 man cow.PL count-3SG>3 stomach.PL
 ‘The man is counting the cows.’ (Lit. ‘The man is counting the cows’ stomachs.’)

4.4 Position of possessum

An externally possessed body-part noun occurs immediately after the verb; that is, it precedes any other postverbal constituent. It precedes adverbials which normally occur clause-finally, as illustrated in (31), where the possessum **dòk** ‘neck’ precedes the instrument adverbial **kà wín-ṇàn** ‘with a rope’. The possessor object of ‘neck’ is here not represented by an NP, but only by the cross-reference suffix **-í** on the verb.

- (31) **ʔánj dɛ́g-í dɔ́k kà wín-ṇàn.**
 and tie-PST.3PL>3 neck [PREP rope-SG]
 ‘And they tied its neck with a rope.’ (t.) (= (28a))

The possessum also precedes a postverbal subject, as seen in (32). In (32a-b) the possessum **jɔ́k** ‘body’ precedes the subjects **línk** ‘elephants’ and **mélímá** ‘kind of gazelle’, respectively. In (32c-d) the possessa **dɔ́k** ‘neck’ (of **mínɲɛní** ‘child’) and **gìtì** ‘stomachs’ (of **pál-là jáaṇjà** ‘that pot’) precede the focalized subjects **kà kàṇ** ‘hunger’ and **kà máláḍ-ṣ** ‘my/our brother’, respectively.

- (32) a. **ʔánj ʔɔ́j-í jɔ́k línk.**
 and pursue-PST.3PL>3 body elephant.PL
 ‘And the elephants pursued him.’ (t.)
 (Lit. ‘And the elephants pursued his body.’)
 b. **púnáj bór-gù jɔ́k mélímá.**
 kind_of_gazelle defeat-3PL>3 body kind_of_gazelle
 ‘The *mélímá* is bigger than the *púnáj*.’ (Lit. ‘The *mélímá* defeats the *púnáj*’s body.’)
 c. **mínɲɛní nág-í dɔ́k kà kàṇ.**
 child kill-PST.3PL>3 neck [FOC hunger]
 ‘The child starved to death.’ (Lit. ‘Hunger killed the child’s neck.’)
 d. **pál-là jáaṇjà líg-í gítì kà máláḍ-ṣ.**
 [pot-SG DEM3.SG] break-PST.3PL>3 stomach.PL [FOC brother-1PL]
 ‘That pot has been broken by my brother.’
 (Lit. ‘Our brother broke that pot’s stomachs.’)

There is one exception: The postverbal plural subject **mɛ** ‘people’ precedes the possessum, as seen in (33), where it precedes **dɔ́k** ‘neck’. This is evidence that **mɛ**, which may function as a marker of an impersonal passive, is an enclitic rather than an independent phonological word.

- (33) **ʔíkì bí nák-ì mɛ dɔ́k.**
 2SG FUT kill-3PL>2SG person.PL neck
 ‘You will be killed.’ (Lit. ‘People will kill your neck.’)

As mentioned in Section 2.5, certain place adverbs normally occur immediately after the verb, before, for instance, a postverbal subject. Those adverbs are also preceded by the possessum, as illustrated in (34). In (34a) the possessum **jɔ́k** ‘body’ of the object **wíl-là** ‘guest’ precedes the adverb **ʔìṇì** ‘down’, and in (34b)

the possessum **wìc** ‘head’ of the object **kàaŋ** ‘snake’ precedes the adverb **wôɔ** ‘away, out’.

- (34) a. **ʔôɔŋ wíl-là dɔɔc-c-é jòk ʔìpì.**
 man guest-SG put.CF-PST-3SG>3 body down
 ‘The man seated the guest.’ (Lit. ‘The man put the guest’s body down.’)
 b. **ʔìkè kàaŋ ʔèt-t-é wìc wôɔ.**
 3SG snake cut.CF-PST-3SG>3 head away
 ‘He cut off the snake’s head.’ (= (19c))

As seen in Section 4.2 above, the possessum also precedes its possessor in antipassive clauses. Further examples of this are given in (35). Here the possessum **wìc** ‘head’ (35a) precedes the possessor **káw-èn** ‘her/their sister’, which is a demoted patient, and similarly, the possessum **gìtì** ‘stomachs’ (35b) precedes the possessor **ʔìk jâakkà** ‘those words’.

- (35) a. **ʔìkè dút-í wìc káw-èn.**
 3SG braid.AP-3 head sister-3PL
 ‘She is braiding her sister’s hair.’
 (Lit. ‘She is braiding their sister’s head.’)
 b. **ʔàt-ì ʔúk-c-íq-í gítì ʔìk jâakkà**
 go.CF-3 visit.AP-CF-IMP-3 stomach.PL [word.PL DEM2.PL]
tól-gú tì.
 [girl-PL LOC]
 ‘He went to the girls to investigate that case.’ (t.)
 (Lit. ‘He goes, he visits thither to the girls those words’ stomachs.’)

The fact that an externally possessed body-part noun occurs immediately after the verb would seem to be evidence that such a body-part noun is syntactically tied to the verb.

4.5 Polar tone of possessum

There is also phonological evidence that externally possessed body-part nouns are closely tied to the verb, namely their tonal behaviour. Unlike other monosyllabic nouns, externally possessed singular body-part nouns, all of which are monosyllabic, exhibit tone alternation between low and high. This alternation is determined by the tone of the preceding syllable, which is the final syllable of the preceding verb: The body-part noun carries a low tone after a high tone, and vice

versa. So unlike other monosyllabic nouns, externally possessed monosyllabic body-part nouns are lexically toneless and are assigned a polar tone. This tonal polarity is exemplified with **ɲac** ‘back’ in (36) and with **jɔk** ‘body’ in (37)–(38). For instance, **ɲac** ‘back’ carries a low tone after the final high tone of the verb **bàaɖ-ɖ-é** ‘she is following him’ in (36a), and it carries a high tone after the final low tone of the verb **báaɖ-à** ‘I follow her thither’ in (36b). In the same way, **dɔ́k** ‘neck’ carries a high tone after the low-toned enclitic noun **mè** ‘people’ in (33) above.

- (36) a. **ʔim ʔɔɔn bàaɖ-ɖ-é ɲac.**
 woman man follow-IMPF-3SG>3 back
 ‘The woman is following the man.’
 (Lit. ‘The woman is following the man’s back.’)
- b. **ʔikà ták-à báaɖ-à ɲáɕ.**
 1SG want.AP-1SG follow.CF-1SG>3 back
 ‘I want to follow her.’ (Lit. ‘I want, I follow her back.’)
- (37) a. **ʔikè tóul ɲiip-p-é jɔk.**
 3SG girl greet.CF-PST-3SG>3 body
 ‘He greeted the girl.’ (Lit. ‘He greeted the girl’s body.’)
- b. **ʔikè tóul bí ɲiip-è jɔ́k.**
 3SG girl FUT greet.CF-3SG>3 body
 ‘He will greet the girl.’ (Lit. ‘He will greet the girl’s body.’)
- (38) a. **ʔim mínɲèní lɔɔg-é jɔk.**
 woman child wash-3SG>3 body
 ‘The woman is washing the child.’
 (Lit. ‘The woman is washing the child’s body.’)
- b. **ʔikà búɲò líɲ-ɲ-à jɔ́k.**
 1SG cloth fold.MULT-PST-1SG>3 body
 ‘I folded the cloth repeatedly.’
 (Lit. ‘I folded the cloth’s body repeatedly.’)

Some externally possessed disyllabic body-part nouns, which are plural forms, behave tonally in the same way as monosyllabic ones. That is, unlike other disyllabic nouns, which do not exhibit tone alternation, they have low tones after a high tone, and high tones after a low tone. This is the case with, for instance, the plural nouns **giɖi** ‘stomachs’, as seen in (39), and **ɖuug-m** ‘necks’ in (40). In (39a) **giɖi** carries low tones in both syllables after the verb **ʔér-á** ‘you cut it’, which ends in a high tone, and in (39b) it carries high tones after the verb **jéɲ-ɲ-à** ‘I tore it’, which ends in a low tone.

- (39) a. wín-ṇàn jâanní ʔér-á gìtì.
 [rope-SG DEM1.SG] cut-2SG>3 stomach.PL
 ‘Cut this rope!’ (Lit. ‘Cut this rope’s stomachs!’)
- b. ʔíkà bórnò jén-ṇ-à gítí.
 1SG cloth tear-PST-1SG>3 stomach.PL
 ‘I tore the cloth.’ (Lit. ‘I tore the cloth’s stomachs.’)

The same alternation is seen in (40).¹³

- (40) a. ʔán ʔíkê bí dúg-g-ènê dúug-ín wìn-gà.
 and 2PL FUT tie.MULT-DAT-1PLEX>2PL neck-PL rope-PL
 ‘And we will tie ropes around your necks.’ (t.) (= (19b))
 (Lit. ‘And we will tie ropes for your necks.’)
- b. míg-èn dúg-g-ì dúug-ín wìn-gà.
 mother.PL-3PL tie.MULT-DAT-PST.3PL>3 neck-PL rope-PL
 ‘They tied ropes around their mothers’ necks.’ (t.)
 (Lit. ‘They tied ropes for their mothers’ necks.’)

Some externally possessed disyllabic plural body-part nouns do not exhibit tone alternation. Such nouns, exemplified by jók-in ‘bodies’ in (41), have the tone pattern H-L whether the preceding tone is high (41a) or low (41b).

- (41) a. ṇiip-p-é jók-in.
 greet.CF-PST-3SG>3 body-PL
 ‘He greeted them.’ (t.) (Lit. ‘He greeted their bodies.’)
- b. ʔíkèn ʔíkín bôr-gìn jók-in.
 3PL 1PLIN defeat-3PL>1PLIN body-PL
 ‘They are bigger than us.’ (Lit. ‘They defeat our bodies.’) (= (29b))

4.6 Noun incorporation

To sum up, it seems that possessed body-part nouns in external possessor constructions in Jumjum are syntactically closely connected to the verb. The following facts support this idea: (i) the body-part nouns are adjacent to the

¹³ In (40) the verbs are applicative (DAT) so that the beneficiaries (or maleficiaries) ‘you’ (40a) and ‘their mothers’ (40b) replace ‘ropes’ as object.

verb, occurring immediately after it; (ii) many of the body-part nouns, and all of the monosyllabic ones, have no lexical tone, but receive their tones by polar tone assignment from the verb, and this suggests that the body-part nouns are enclitics;¹⁴ (iii) although the body-part nouns are inflected for number, they cannot be modified, for instance by a possessive suffix; (iv) although the body-part nouns are basically externally possessed by the object of a transitive verb, they may also be externally possessed by a demoted patient of the corresponding antipassive verb. Hence, the sequence verb + body-part noun seems to exhibit a kind of noun incorporation which is similar to what Mithun (1984) calls Types I and II noun incorporation, although the body-part noun is inflected for number. In this way, the external possessor construction in Jumjum belongs to the type which Haspelmath (1999: 119) calls “[p]ossessor raising with possessum incorporation”. That is, while the possessor is (metaphorically) “raised” to the syntactic status of object, the possessum is “demoted” from object status and incorporated into the verb.

Further evidence for noun incorporation is seen in nominalization. Verbal nouns can combine with a following body-part noun which exhibits the same tonal behaviour as after a verb and which has no possessor. For instance, the verb ‘shave’, which combines with the externally possessed body-part noun **wíc** ‘head’ in (42a), may be nominalized as **ɲɛɛj-ná** ‘shaving’ as in (42b), where it is immediately followed by the same body-part noun with polar tone.

- (42) a. **ʔíkà mǐnnɛní ɲɛɛj-n-à wíc.**
 1SG child shave-PST-1SG>3 head
 ‘I shaved the child’s head.’ (= (1b))
 b. **ɲɛɛj-ná wíc**
 shave-NMLZ head
 ‘to shave the head, shaving the head’

Similarly, the verb ‘cut repeatedly’ co-occurs with the body-part noun **giɬi** ‘stomachs’ in (43a), and the corresponding verbal noun **ʔír-ín** ‘cutting repeatedly’ in (43b) is immediately followed by the same body-part noun with polar tone.

¹⁴ This implies that the verb in (33) has two consecutive enclitics, so that it could be transcribed as **nák-ì=mɛ=dók**.

- (43) a. **ʔikè jàŋ-ŋÁ ʔúr-é giti.**
 3SG meat-SG cut.MULT-3SG>3 stomach.PL
 ‘She is cutting the meat.’ (= (25a))
- b. **ʔúr-ìn giti**
 cut.MULT-NMLZ stomach.PL
 ‘to cut repeatedly, cutting repeatedly’

Expressions like (42b) and (43b) are constituents, as evidenced by the fact that they can be modified by a demonstrative pronoun. In (44b), for instance, the nominalized phrase **ʔúŋ-ŋó ʔòk** ‘refusal’, which corresponds to the clause in (44a), is modified by the demonstrative pronoun **jàanní** ‘this (one)’.¹⁵

- (44) a. **ʔikè ʔammá ʔúŋ-ŋ-é ʔòk.**
 3SG porridge refuse-PST-3SG>3 body
 ‘He refused the porridge.’ (Lit. ‘He refused the porridge’s body.’)
- b. **ʔúŋ-ŋó ʔòk jàanní.**
 [NP [NP refuse-NMLZ body] DEM1.SG]
 ‘this refusal’

The nominalized form of the verb is in the absolute state before the body-part noun. So the nominalized phrases are not internal possessor constructions. Thus, they differ from NPs in which a nominalized verb occurs in the construct state before its possessor, as in (45)-(46). Example (45a) is a transitive clause with the patient **déel** ‘goat’ as object of the verb **qúr-r-ù** ‘I skinned it’. The nominalized form of the verb, as shown in (45b), is **qúr-ró** in the absolute state, with the tone pattern L-H. In (45c) this verbal noun is in the construct state with the tone pattern L-L before the patient **déel**, so that **qúr-rò déel** ‘skinning of goat’ is an internal possessor construction. This NP is the complement of the preposition **kà**.

- (45) a. **ʔikà déel qúr-r-ù.**
 1SG goat skin-PST-1SG>3
 ‘I skinned the goat.’
- b. **qúr-ró**
 skin-NMLZ
 ‘to skin, skinning’

¹⁵ Alternatively, the demonstrative pronoun may be analyzed as the head of the outer NP. This head cross-references, by means of its number inflection, the preceding inner NP, which appositionally specifies the referent of the head, lit. ‘body-refusing, this one’.

Table 5: Some forms of body-part nouns in Jumjum: Externally possessed and internally possessed by 3SG and 3PL possessive suffixes.

Externally possessed		Internally possessed by 3SG/3PL		
Singular	Plural	Singular, 3SG	Plural, 3PL	
dɔk	dʊʊg-in	dɔŋ-ɛ	dɔʊg-g-ɛn	‘neck’
jɔk	jók-in	jɔr-ɛ	jɔk-ɛn	‘body’
ji	giɬ-i	jɪŋ-ɛ	giɬ-k-ɛn	‘stomach’
ɟɔk	ʃʊʊg-in	ʃɔn-ɛ	ʃʊʊg-g-ɛn	‘chest’
ŋac	ŋaɬ-in	ŋaɲ-ɛ	ŋaɬ-k-ɛn	‘back’
pɔk	pʊʊg-in	pɔŋ-ɛ		‘oral cavity’
ʃuk		ʃʊk-ɛ	ʃúg-g-ɛn	‘lip’
wan		wáŋ-ɛ	wáŋ-g-ɛn	‘eye’
wɪc		wɪŋ-ɛ	wɪɬ-k-ɛn	‘head’
	wáɬ-in	wáŋ-ŋ-ɛ	wáɬ-ɛn	‘buttock’

-ɛ (or **-e**) in the singular and the 3PL suffix **-ɛn** (or **-en**) in the plural. If the externally possessed monosyllabic singular noun ends in a stop, then the stem of the corresponding internally possessed noun typically ends in a homorganic nasal, as seen in, for instance, **dɔk** vs **dɔŋ**- ‘neck’ and **ŋac** vs **ŋaɲ**- ‘back’. Moreover, the stem of an internally possessed plural noun mostly ends in a velar plural suffix **-k** or **-g**, while the corresponding externally possessed noun ends in the plural suffix **-in** (or **-in**), cf. Section 4.3 above. Nouns that exhibit the alternation between a stop and a nasal (or an /r/) in root-final position in the singular, typically have a root-final stop in the plural of not only externally possessed nouns but also internally possessed nouns, as seen in, for instance, sg. **dɔŋ**- vs pl. **dʊʊg**- ‘neck’ and sg. **jɔr**- vs pl. **jɔk**- ‘body’. This is evidence that the root-final stop of singular externally possessed nouns is more original than the root-final nasal.

It might be thought that the nasalization is an effect of the possessive suffix. But that is not the case. To the extent that body-part nouns can occur unpossessed as citation forms, they have the same root-final nasal as before the possessive suffixes, as in, for instance **dɔŋ** ‘neck’, **ŋaɲ** ‘back’, and **wɪŋ** ‘head’. Moreover, monosyllabic singular nouns that do not denote body parts have also typically undergone a historical process of nasalization of root-final stops and glides. This is seen in Table 6, which shows singular and plural forms of nouns in Jumjum and of cognate nouns in Kurmuk, a Northern Burun language. As can be observed in this table, singular nouns that do not end in a nasal in Kurmuk end in a homorganic nasal in Jumjum, while the plural forms in both languages

Table 6: Cognate nouns in Jumjum (Southern Burun) and Kurmuk (Northern Burun): Nasalization of root-final consonants in Jumjum monosyllabic singular nouns.

	Jumjum		Kurmuk		
	Singular	Plural	Singular	Plural	
/ʃ/	j̣iin	j̣iĩḍ-gá	j̣iĩḍ	j̣iĩḍ-iin	‘scorpion’
	j̣aan	j̣èn-gà	j̣aaḥ	j̣án	‘tree’
/t/	ʔán	ʔáɬr-gà	ʔáṭ	ʔáɬḍ-iin	‘house’
/r/	ʔiir	ʔiir-gá	ʔiir	ʔiir-iĩḥ	‘thief’
/c/	ṃaaɲ	ṃáɬ-c-kà	ṃaaɲ	ṃáɬ-iĩḥ	‘fire’
	léɛɲ	ḷiir-k	léɛɲ	ḷiir-iin	‘elephant’
/k/	g̣óuɲ	g̣òk-kó	g̣óuɲ	g̣úg-iɲ	‘dog’
	j̣óɔɲ	j̣óɲ-kó	ẓóɔk	ẓóuɔg-iin	‘god’
/j/	g̣aan	g̣áj-kà	g̣aaɲ	g̣áj-iĩḥ	‘hide’
	p̣aan	p̣án-kà	p̣aaɲ	p̣áj-iĩḥ	‘moon’
/w/	ḳuun	ḳúu-gù	ḳóu	ḳóuɔw-iin	‘thorn’
	ʔóɔn	ʔóɔ-k	ʔóɔ	ʔóɔw-iin	‘man’

do not have a root-final nasal. So the root-final nasals of the singular nouns in Jumjum are an innovation.

As seen in Table 7, there are also monosyllabic singular nouns in Jumjum whose root-final nasal, which also occurs in the plural, corresponds to a nasal in both the singular and the plural of cognates in Kurmuk and where the nasal is therefore original. Hence, the root-final nasalization in Jumjum neutralized an original contrast between stops and nasals.

Table 7: Cognate nouns without alternation in the root-final consonant in Jumjum and Kurmuk.

	Jumjum		Kurmuk		
	Singular	Plural	Singular	Plural	
/m/	ḷòum	ḷòm-kó	ḷúum	ḷúm-bàɬn	‘grass’
	ʔáɬm	ʔáɬm-gá	ʔáɬm	ʔáɬm-iin	‘thigh’
/n/	j̣ón	j̣òuɲ-gò	ṛún	ṛún-ḍàɬn	‘year’
/ŋ/	j̣áaŋ	j̣áaŋ-kà	j̣áaŋ	j̣áaŋ-àk	‘crocodile’
	ṭòuɲ	ṭóŋ-kò	ṭúuɲ	ṭúŋ-iin	‘horn’
/l/	ḳól	ḳól-kò	ḳùl	ḳùl-àk	‘wart-hog’
	wiil	wiil-gá	wiil	wiil-iin	‘tail’

So externally possessed singular body-part nouns are different from other singular nouns in that they have not undergone root-final nasalization. The explanation for this seems to be their status as incorporated nouns. If that is the case, then the external possessor construction must have existed prior to the nasalization process.

The alternation between a root-final stop in the plural and a root-final homorganic nasal in the singular is also prevalent in Mabaan, another language of the Southern Burun subbranch of Western Nilotic. In Andersen (2006: 20–24) it was hypothesized that the root-final nasal of the singular in these languages reflects a former singular suffix which was what Greenberg (1978: 61–74) refers to a Stage III article, that is, originally a demonstrative (Stage 0), which first became a definite article (Stage I), then “an article which includes [...] both definite determination and non-definite specific uses” (Greenberg 1978: 62) (Stage II), and finally a mere sign of nominality (Stage III). The reason why the externally possessed body-part nouns did not get this suffix would seem to be their basically generic (non-referential) meaning as incorporated nouns.

A comparison of the plural forms of cognate nouns in Jumjum and Kurmuk suggests that the former nasal singular suffix in Jumjum has an extant plural counterpart, namely a suffix with a velar stop /k/ or /g/. As seen in Tables 6 and 7, Kurmuk has a variety of plural suffixes, including **-in**, **-im**, **-it**, **-ak**, **-ip**, and **-Can**. The corresponding plural forms in Jumjum all have a velar plural suffix **-k**, **-kV** or **-gV**, which would seem to have replaced the presumably older plural suffixes retained in Kurmuk. As seen in Table 5, the velar plural suffix does not occur in the plural form of externally possessed body-part nouns in Jumjum. The plural form instead has the plural suffix **-in** (with variants), which is also a plural suffix in Kurmuk. So both the singular and the plural of externally possessed body-part nouns in Jumjum did not get the number suffixes that many other nouns received.

6 Conclusion

As shown in this article, Jumjum has an external possessor construction such that body-part nouns may be possessed by the object of a transitive verb and the demoted patient of an antipassive verb. An object NP in Jumjum precedes the verb and is cross-referenced in the verb, whereas a patient demoted from object status to the status of an optional non-core argument by antipassive derivation in the verb has postverbal position and is not cross-referenced in the verb. An externally possessed body-part noun has no core grammatical relation to the

verb, being neither a subject nor an object. It immediately follows the verb and thus occurs before other postverbal constituents such as a subject, a demoted patient or an adverbial. Moreover, in most cases, it has no lexical tone, but gets its tone from the verb by polar tone assignment. Unlike an internally possessed body-part noun, which cross-references its possessor by means of a suffix, an externally possessed body-part noun carries no such suffix, but like an internally possessed body-part noun, it is inflected for number. Unlike numerous other monosyllabic singular nouns in Jumjum, including the root of internally possessed body-part nouns, monosyllabic singular body-part nouns that are externally possessed have not undergone a historical change of root-final stops into homorganic nasals. Given these facts, externally possessed body-part nouns may be analyzed as partly incorporated into the verb. Additional evidence for this morphosyntactic status is the fact that the same body-part nouns may immediately follow a nominalized verb with which they form a compound noun or at least a noun phrase. In such constituents the body-part nouns are clearly non-referential.

Abbreviations

The following abbreviations are used in interlinear translations and elsewhere: 1DUIN = first person dual inclusive; 1PL = first person plural; 1PLEX = first person plural exclusive; 1PLIN = first person plural inclusive; 1SG = first person singular; 2PL = second person plural; 2SG = second person singular; 3 = third person; 3PL = third person plural; 3SG = third person singular; AP = antipassive; CAUS = causative; CF = centrifugal; COM = comitative; CP = centripetal; CS = construct state; DAT = dative; DEM1 = first person demonstrative; DEM2 = second person demonstrative; DEM3 = third person demonstrative; FOC = focus; FUT = future; IMPF = imperfective; LOC = locative; MULT = multiplicative; NMLZ = nominalizer; PL = plural; PREP = (multipurpose) preposition; PRO = proform; PROH = prohibitive; PST = past; REL = relative; SG = singular.

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