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CHAPTER 4

A descriptive analysis of adjectives in Shilluk

Bert Remijsen & Otto Gwado Ayoker

Abstract • We argue that Shilluk has adjectives as a lexical category distinct from both nouns and verbs, and present a descriptive analysis of their morphological and syntactic properties. Aside from the base form, the inflectional paradigms of adjectives present two other forms, neither of which are productive. One is the contingent form, which has not been postulated in earlier work. This inflection is used when the attribute is referenced non-permanently, to a limited degree, or subjectively. The other is the plural form, which is available for seven adjectives only. Derivational morphology includes an essence nominalization and an intransitive verb derivation. When adjectives are used as predicates, there is no copula, nor any morphological marking of the syntactic juncture. In contrast, when adjectives are used as modifiers, their status as such is signposted by three different morphosyntactic structures. The choice between these three structures is determined by definiteness and semantic specificity.

1. Introduction

This chapter presents a descriptive analysis of the morphological and syntactic properties of adjectives in Shilluk. As a general characterization, adjectives can be described as a lexical category whose members can modify nouns and serve as predicates. However, like any component of a descriptive analysis, the existence of adjectives as a lexical category should not be assumed, but instead treated as a hypothesis. Hence, it is an empirical question whether in Shilluk adjectives represent a lexical category distinct from nouns and verbs. Answering this question is worthwhile, as part of an adequate description of Shilluk grammar, and also to contribute to the cross-linguistic debate on adjectives as a linguistic phenomenon (cf. Dixon 1982, Baker 2003). In this chapter, we start out from the working hypothesis that Shilluk indeed has adjectives. Taking a data-driven approach, we will consider both morphological and syntactic evidence. At the end of the chapter we will take stock of the evidence for adjectives as a lexical category.

It is worthwhile to note that, as a hypothesized lexical category, the adjective class is much smaller than the classes of verbs and nouns. This is evident from our lexicographic database, which includes 2526 entries, and is built up using both a semantic domains approach (Mosel 2011) and also through the analysis of narrative text. The total number of adjectives in the database is 49, i.e., less than 2 percent of the overall number of entries.

Of particular note in relation to Shilluk adjectives is the fact that they present a ‘contingent’ form in the sense of Comrie & Smith (1977:53). This form is used when the attribute applies to the referent entity in a temporary sense, subjectively, or to a limited degree. The functional distinction between the base form and the contingent form is akin to the use of predicates marked by *ser* vs. *estar* in Spanish, or the short vs. long forms of participles in Russian (cf. Roy 2013). The contingent form has not been distinguished in earlier descriptive work on adjectives in Shilluk, which focuses on the expression of comparative and superlative meanings (Kohnen 1933:46–51).

The chapter is structured as follows. In Section 2, we present a description of the inflectional morphology of adjectives in Shilluk. Section 3 covers the morphosyntactic constructions in which adjectives appear, both as predicates and as modifiers within the noun phrase. Derivational processes such as nominalization and verbalization are covered in Section 4. The chapter is concluded in Section 5, where we will summarize the morphological and syntactic evidence for adjectives as a lexical category.

Just like the earlier chapters, this descriptive analysis of the adjectives

results from a combination of controlled elicitation methods and the analysis of spontaneous speech. Regarding the controlled data, our audio recordings of adjectives are publicly available (Remijsen, Ayoker & Martin 2018). These materials have been central to the analysis of morphological forms. Controlled elicitation methods, including the elicitation of felicity judgments (Matthewson 2004) have also played a role in the testing of generalisations about the functional use of the distinction between base and contingent forms. Our annotated corpus of spontaneous speech is also publicly available (Remijsen & Ayoker, no date). This corpus has played an important role in corroborating and developing our interpretations of the functions of morphological forms and morphosyntactic constructions. In the numbered illustrations, examples drawn from this corpus are signposted with a ^.

We represent the Shilluk speech forms using the descriptive analysis of Shilluk phonology as developed in our earlier work. A brief summary of this system can be found in Section 1.3 of Chapter 1. More detailed analyses of aspects of the Shilluk sound system can be found in various journal articles (Remijsen, Ayoker & Mills 2011; Remijsen & Ayoker 2014, 2020; Remijsen, Ayoker & Jørgensen 2019). For the sake of accountability, sound examples are embedded in relation to all numbered illustrations.





2. Inflectional morphology of adjectives in Shilluk

Central to the inflectional paradigm of Shilluk adjectives is the distinction between the base form and the contingent form (Section 2.1); the latter is available for most adjectives. Aside from the contingent form, there is also a plural form, available for just seven adjectives (Section 2.2).

2.1 The distinction between base vs. contingent forms

The great majority of Shilluk adjectives appear in two forms: the base form and the contingent form. We illustrate this distinction in (1), which contrasts these forms for two adjectives, both used as predicates. The base forms are **pêek** ‘heavy’ in (1a) and **tîk** ‘smelling badly of goat’ in (1c). Both of these adjectives have a contingent form, illustrated in (1b) and (1d), respectively. The contingent form expresses that the attribute expressed by the adjective is time-specific, whereas the base form conveys that this attribute is a permanent characteristic. In the case of **pêek** (1a,b), the contingent can yield the meaning ‘pregnant’, i.e., heavy in a time-specific sense. Similarly in (1c,d), the base

form **tík** is used when the attribute is predicated in a generic sense (1c), while the contingent form is used when it is predicated in time-specific sense.





































- (1) a. **ɲàaan-ání pêek** b. **ɲàaan-ání péek**
 person.CS-DEF heavy  person.CS-DEF heavy:CTG
 ‘That person is fat.’ ‘That person is pregnant.’
- c. **óɲòook tík** d. **óɲwóɔɲ-ání ù-tík-ɔ̀**
 billy.goat:PL smelling.bad.of.goat  billy.goat:CS-DEF CTG-smelling.bad.of.goat
 ‘Billy goats smell bad.’ ‘That billy goat is smelling bad (now).’

Note that the pattern of morphological exponence of the contingent form in these two examples is not the same: in the case of **pêek**, the contingent form **péek** is marked purely suprasegmentally (1b); in the case of **tík**, the marking of its contingent form **ù-tík-ɔ̀** is primarily affixal in nature (1d). We will describe the morphophonological characteristics of these forms in Section 2.1.1, and their functional range in Section 2.1.2.

2.1.1 Form classes of the contingent form

In this section we describe the formal properties of both the base and contingent forms. Table 1 presents a number of examples. Starting out with the base forms, the data show that these share a number of phonological properties. They are all stems without affixes, with either the Low Fall or the High Fall as tonal specification, and with a vowel that is short or long, but not overlong.

Table 1. Examples of the base and contingent (ctg.) forms. Members of the suprasegmental form class of the contingent appear on the left, and members of the affixal form class on the right. In the recordings, the adjectives are predicated of **gín** ‘thing:DEM’, yielding ‘This thing is [target]’

	Base	Contingent		Base	Contingent		
	 bɔ̀ɔɔr	 bɔ̀ɔɔɔɔ̀	long		 mêɔ̀	 ù-mèɔ̀-ɔ̀	tasty
	 cjêk	 cjéek	short		 mɔ̀r	 ù-mòr-ɔ̀	lukewarm
	 dóɔ̀c	 dóɔ̀cè	good		 ɲíc	 ù-ɲic-ɔ̀	cool (temp.)
	 dɔ̀wóɔ̀ɲ	 dɔ̀wóɔ̀ɲ	big		 pêet	 ù-pèet-ɔ̀	smelling rotten
	 kéec	 kéecè	bitter		 líp	 ù-lip-ɔ̀	cold
	 ljêɔ̀	 léeeɔ̀	hot		 wác	 ù-wàaac-ɔ̀	sour

As for the contingent form, it has one of two patterns of exponence. The first, illustrated on the left in Table 1, has the shape C(w/j)VVVĈ. This suprasegmental pattern involves:


- a) morphological lengthening of the stem vowel to overlong, irrespective of whether the base form has a short vowel or a long one;
- b) the Late Fall specification for tone, irrespective of whether the base has the Low Fall or the High Fall.

The second pattern has the shape ù-CV̇(VV)C-ḥ. This affixal pattern of exponence includes:

- a) affixation: prefix /ù-/ and suffix /-ḥ/;
- b) the Low specification for tone on the stem syllable;
- c) vowel length in the stem syllable is either short or overlong.

In the affixal class, the alternations in vowel length between the base form and the contingent form conform to one of three patterns. First, there are Fixed Short paradigms, that have a short stem vowel across the two inflections, such as **mêt** ~ **ù-mêt-ḥ** ‘tasty’. Then there are Short with Grade paradigms, that alternate between short and overlong levels of vowel length, such as **wâc** ~ **ù-wâaac-ḥ** ‘sour’. And finally there are Long with Grade paradigms, which alternate between long and overlong levels of vowel length, such as **pêet** ~ **ù-pêeet-ḥ** ‘smelling rotten’. The same three patterns of alternation can be found in the inflectional paradigms of nouns and verbs (Remijsen, Ayoker & Jørgensen 2019). In the suprasegmental class, we find only two patterns of alternation between base and contingent forms, i.e., Short with Grade and Long with Grade, but not Fixed Short.

In relation to the affixes that are part of the exponence of the affixal class, the suffix /-ḥ/ is of particular interest: it has a long vowel, which is not reduced. Illustration (2) presents an example from a narrative, where this suffix appears in utterance-final position. The embedded sound clip shows that the suffix vowel is salient in duration.¹

- (2)  **kāā** **ᵐwᵔᵔl-í** **jéeeē-ᵔ** **ù-dᵔᵔᵔk-ᵔ** **pêet-í** **gén** **ù-mêt-ḥ**
 CONJ offspring-PRT.PL rat-SG IMPF-return emotion:PL-PRT.PL PR.3PL CTG-tasty
 ‘And the children of Rat returned home happy (lit. their hearts tasty).’
 [RatAndCat 50.4–53.4]

1 In the glosses, circumfixes are glossed only for the first component affix. For example, we gloss **ù-dᵔᵔᵔk-ᵔ** as ‘IMPF-return’ rather than as ‘IMPF-return-IMPF’, and **ù-mêt-ḥ** as ‘CTG-tasty’ rather than ‘CTG-tasty-CTG’.

It is worthwhile to note that the suffix /-ɔ̃/ is formally different from suffixes with the segmental form /-ɔ/. The latter have a high functional load in Shilluk grammar. They are found, among others, on a sizeable proportion of singular nouns in the base form, e.g. **ǰáaak-ɔ̃** ‘chief-SG’ (Chapter 2, Section 3.1); on the Non-Evidential Past form of transitive verbs, e.g. **ú-ŋɔ̃l-ɔ̃** ‘NEVP-cut’ (Chapter 1, Section 5.4); and, as we will see in Section 2.2 below, on the plural form of adjectives. All of these /-ɔ/ suffixes are weakly realized, to the effect that in prepausal position they are often realized just as aspiration, and before another vowel they are elided (albeit with compensatory lengthening).

The contingent inflection may belong to the suprasegmental form class or to the affixal form class. The question presents itself as to whether the choice between these two patterns of exponence is in any way predictable. In terms of the formal properties of the base, it is worth noticing that most of the adjectives that have the affixal contingent form have a short vowel in the base form. In contrast, the adjectives whose contingent form is marked suprasegmentally have either a long vowel in the base, or a short vowel preceded by a complex onset.² As for semantic factors, those attributes that are cross-linguistically most likely to be lexicalised as adjectives (cf. Dixon 1982) follow the C(w/j)V̄VV̄C̄ pattern for the contingent form, including the words for ‘short’, ‘long’, ‘small’, ‘big’, ‘good’, and ‘bad’. Beyond this, there is no clear pattern. Note, for example, that ‘cold’ has an affixal contingent form, whereas ‘hot’ has the suprasegmental contingent form. And while ‘sour’ has an affixal contingent form, another adjective expressing a taste sensation, ‘bitter’, has a suprasegmental contingent form. Finally, two adjectives have contingent forms in both form classes: **jôot** ‘light’ has **jóoot̄** and **ù-jòoot-ɔ̃**; and **jôom** ‘soft’ has **jóoom̄** and **ù-jòoom-ɔ̃**.

There are also a few adjectives whose contingent form does not conform to either of the two form classes outlined above. One of these is **pár** ‘identical’, which has the contingent form **páaar** ‘similar’, i.e., carrying a High tone rather than a Late Fall.³ Then there is **kwáaar** ‘red’, which has the contingent form **kwáaar-ɔ̃**. The latter form is used, for example, in relation to a referent that is somewhat red. The difference in meaning is illustrated in (3). Note that **kwáaar** in (3a) is functionally like a base form, in that it references the attribute of redness to its full extent, even though in form it has the same specifications for vowel length and tone as a contingent inflection belonging










2 Complex onsets in Shilluk invariably have a semivowel /w/ or /j/ as the second element.

3 The semantic relation between **pár** ‘identical’ and **páaar** ‘similar’ fits within the functional range of the contingent inflection, in that the latter form expresses the attribute to a lesser degree (cf. Section 2.1.2).

to the suprasegmental form class. Finally, **târ** ‘white’ and **mâr** ‘green’ have contingent forms **ù-tàaar-ò** and **ù-màaar-ò**, respectively.

- (3) a. **wâp-ò kwáaar** b. **wâp-ò kwáaar-ò**
 book-SG red  book-SG red-CTG
 ‘The book is red.’ ‘The book is reddish.’

There are also adjectives that do not present the distinction between base and contingent forms, and which we still analyse as adjectives on syntactic grounds. A first group of these fits the template of adjectives that do have a contingent form, in that they have a short or a long stem vowel, either with the High Fall (4a) or with a Low Fall (4b). Deviating from these specifications for syllabic composition and tone are **lálwí** ‘far’, **cjálákí** ‘near’. Finally, there are several terms with a semantic relation to ‘black’: **lúuuc** ‘black’ is a colour term, but **lúuuc-ò** ‘dirty, defiled’ and **lúuc** ‘morally bad (re. people)’ are metaphorically related.

- (4) a.  **bé̃t̃** ‘sharp’ b.  **ɲl̃l̃n** ‘new’  **tíl** ‘transparent’
 **gúk** ‘blunt’  **t̃ɔ̃k** ‘absent’  **l̃w** ‘better’
 **p̃l̃ɲ** ‘full’  **t̃ic** ‘wet’  **b̃ɔ̃p** ‘bigger’



We analyse this group of lexical items as adjectives rather than as verbs, because they behave syntactically just as adjectives that present both a base form and a contingent form. For example, when a verb expresses past tense, this is marked morphologically, through a verb prefix. An adjectival predicate, in contrast, requires an auxiliary verb to express past tense. This holds both for adjectives that have a contingent form – whichever way it is formed – and for adjectives that do not have it. We will return to the question of how adjectives and verbs can be distinguished in Section 5.2.

In summary, most adjectives have a contingent form, which tends to belong to one of two classes: a suprasegmental one (C(w/j)ṼVV̂Ĉ), or an affixal one (ù-CṼ(VV)C-ḥ̂). There are also adjectives that do not present the distinction between base and contingent forms at all.





2.1.2 Functions of the base form vs. the contingent form

The base form of an adjective is used felicitously when the referent property applies a) permanently, b) completely, or c) objectively. In contrast, the contingent form is used felicitously when a property is referenced a)

temperature of e.g. 38 Celsius – is not hot in an absolute sense. If the base form **ljêṭ** had been used instead, the speaker could not have survived.

- (10) a. [^] **dèeel-ī** **jóooṭ**
 body:PRT-2SG light:CTG YNQ
 ‘How are you?’ (lit.: Does your body feel light?)
- b. [^] **dèeel-āa** **léeeṭ** **jêṭ-í** **cj̄ΛΛη** **běeen**
 body:PRT-1SG hot:CTG belly:PL-PRT.PL day all
 ‘My body felt hot every day.’ [DownWithIllness 109–110.7]

In summary, we hypothesize the following in relation to adjectives that present a base form and a contingent form (i.e., the majority of adjectives): the contingent conveys the attribute a) non-permanently, b) to a lesser degree, or c) subjectively; the base form conveys the attribute a) permanently, b) to the full extent, or c) objectively. Evidence to-date shows that the above-mentioned functions of the contingent form apply without difference to contingent forms that belong to the suprasegmental form class (C(w/j)V̄VVC̄) and to those belong to the affixal form class (ù-CV̄(VV)C-ṣ̄). In support of this interpretation, consider the adjectives **líp** ‘cold’ and **ljêṭ** ‘hot’ in (11). While both refer to attributes of temperature, they form their contingent form differently – the former through the affixal pattern (11b), the latter suprasegmentally (11d). Nonetheless, the function of the contingent forms is the same. The hypothesized state of affairs, then, is the same as that of past tense formation in English, where past tense formation through regular -ed suffixation has the same function as past tense formation through stem-internal changes or suppletion in the case of strong verbs.

- (11) a. **p̄ii** **líp**
 water cold
 ‘The water is cold.’
- b. **p̄ii** **ù-líp-ṣ̄**
 water CTG-cold
 ‘The water is cold at the moment / cool / feels cold.’
- c. **p̄ii** **ljêṭ**
 water hot
 ‘The water is hot.’
- d. **p̄ii** **léeeṭ**
 water hot:CTG
 ‘The water is hot at the moment / warm / feels hot.’

2.2 Number marking in adjectives

The great majority of adjectives do not express number morphologically. However, seven adjectives do have a plural form. They are listed in Table 2. The phonological shape of the base form of these adjectives does not deviate from that of adjectives that do not have a plural form: the vowel is short or long, and the tone is either Low Fall or High Fall. The corresponding plural

forms all have the suffix /-ə/. As noted above, segmentally identical suffixes also appears in the paradigms of nouns, where it is found on many singular base forms, and of verbs, e.g. in the imperfective and in the non-evidential past. But while /-ə/ suffixation often goes together with lengthening of long vowels in the paradigms of nouns (Remijsen, Ayoker & Jørgensen 2019) and verbs (Chapter 1), it does not here. In fact, in most cases the morphological marked plural forms have a short stem vowel, even though the corresponding base forms have a long vowel. The specification for tone of the stem syllable is consistently Low, and there are changes in vowel quality in some cases.

Table 2. Shilluk adjectives that have a morphologically distinct plural form

Base	Plural	Meaning	Base	Plural	Meaning
b̄l̄ar	b̄l̄r-ə	long	l̄aac	l̄ac-ə	wide
c̄j̄ɛk	c̄ɛk-ə	short	p̄out	p̄ət-ə	narrow
d̄w̄ɔ̄ŋ	d̄ɔ̄ŋ-ə	big	r̄aac	r̄ic-ə	bad
t̄ɪ̄ŋ	t̄ɪ̄ŋ-ə	small			



In the northernmost part of the Shilluk-speaking region, northwards from Detwok, the same words have a different plural form, with a High tone on the stem syllable, and a suffix **-ɪ̄**, with Late Fall specification for tone, i.e., **b̄l̄r-ɪ̄**, **c̄ɛk-ɪ̄**, etc. (cf. Kohnen 1933:46).

Semantically, six of the adjectives that have a plural form are organised into three sets of antonyms: ‘short’ vs. ‘long’, ‘small’ vs. ‘big’, and ‘narrow’ vs. ‘wide’. **r̄aac** ‘bad’ stands out here: its antonym **d̄ɔ̄ɔ̄c** ‘good’ does not have a plural. The adjectives that have a plural form in Shilluk represent concepts that are cross-linguistically likely to be expressed as adjectives (Dixon 1982).⁴ Related languages also present plural forms for a small set of comparable lexical morphemes – e.g. Reh (1996:258-260) on Anywa; Blum (ms.) on Dinka.



As for the functional scope of the plural forms, their distribution is not

⁴ Kohnen (1933:46) additionally has plural forms for – using our transcriptions and glosses – **b̄out** ‘bigger’ and **d̄aa d̄er** ‘be gigantic’. The first one, **b̄out** ‘bigger’, we find to be an adjective, but we do not find a plural (nor a contingent form). As for the latter, **d̄aa d̄er** ‘be gigantic’, which has the plural **d̄aa d̄aar**, we hypothesize it to have its origin in a two-word syntactic constituent, consisting of the existential predicate marker {d̄i}, which yields **d̄aa** when combined with the focus marker **à**, and which takes a noun complement. The preverbal argument can express a location or a possessor. Hence **p̄aac d̄aa d̄er** ‘The village is enormous’ is structurally equivalent to **p̄aac d̄aa j̄it̄** ‘The village has a well.’ This nominal source explains the stem-internal marking of the singular-plural distinction, which is common in nouns.



transitive verbs require morphological marking for tense-aspect-modality (TAM), as in (13b), unless the clause includes a focus marker **à / a**, which licenses the use of verb forms without morphosyntactic marking for TAM.⁵ The only verbs that can be used without morphological marking for TAM and that are not subject to this licensing requirement are transitive verbs that express progressive aspect inherently as part of their lexical meaning. Such verbs can appear without TAM marking in Object voice. This is illustrated by the verbs in (14), which can be compared with the adjective in (13a).

- (14) a. **twóŋ mǎár** b. **twóŋ búur**
 Twong love:OV  Twong surpass:OV
 'Twong is loved.' 'Twong is surpassed.'

Adjectives do not inflect for TAM at all, to the effect that that the difference between verbal predicates and adjectival predicates is clear-cut in clauses where TAM is overtly expressed. Lacking morphological marking for TAM, adjectival predicates express these functions through serialisation with an auxiliary verb that can carry morphological marking for TAM. This is illustrated in (15a,b). Note that in (15b), **á-bèeet** supplies the meaning of past tense. This is an inflection of the verb {bèeet} 'stay', used in a grammaticalised manner, contributing not its lexical meaning of 'stay' but rather past tense. In parallel, **ú-bèeet** 'FUT-stay' and **bèeet-ò** 'stay-NEVP' contribute future tense and non-evidential past, respectively, in serialisations with adjectival predicates.


- (15) a. **càak wác** b. **càak á-bèeet gé wác**
 milk sour  milk PST-stay PR.3PL sour
 'The milk is sour.' 'The milk was sour.'

However, past tense does not need to be expressed morphosyntactically at all. Illustration (16) shows two examples of sentences that are unambiguously set in the past: a historical battle in (16a), and a personal recollection from childhood in (16b).

- (16) a. **líŋ téeek**
 war hard:CTG [TheDescendantsOfWaang 504.5–505.5]
 'The fighting was fierce!'
 b. **dèeel-āa léeeɛ̄ jêeɛ̄-í cǰáŋ bëeen**
 body:PRT-1SG hot:CTG inside-PRT.PL day:PL all [DownWithIllness 109–110.7]
 'My body was hot every day.'

5 This is explained in Section 6 of Chapter 1.

Serialisation with {bèet} is also used to contribute inflection for voice, which, just like TAM, cannot be expressed morphologically on an adjective. This is shown by the narrative example in (17). By itself, the adjectival predicate **pôot-ì c̄s̄l-ò dwówòŋ** means ‘The land of the Shilluk nation is big.’ The subject of which big size is predicated here is **pôot-ì c̄s̄l-ò** ‘the land of the Shilluk’. In (17), however, this subject is not the topic, which is instead a reason. On a verbal predicate, the presence of a reason as a topic within a clause is marked through inflection for applicative voice on the verb (cf. Section 3.2.3 of Chapter 1). But an adjective cannot be inflected for applicative. Instead, we find that a serialization with {bèet} is used to contribute applicative voice: **bēeet** is the applicative voice form of {bèet}.



- (17)⁶ **kì báaaŋ kàa bēeet pôot-ì c̄s̄l-ò dwówòŋ**
 PRP after-PRT SUB stay:XV territory-PRT Shilluk-SG big:CTG
 ‘Because the Shilluk land is big, [...]’ [TheDescendantsOfWaang 714-716]

In contrast, any verb, be it transitive or intransitive, can be morphologically marked for TAM, voice and subject. For example, any verb can express past tense morphologically through the prefix **á-**. This is shown in (18), with present (18a) and past tense (18b) uses of an intransitive verb.

- (18) a. **twówòŋ ò-ním-ò** b. **twówòŋ á-ním**
 Twong IMPF-sleep  Twong PST-sleep
 ‘Twong is sleeping.’ ‘Twong was sleeping.’

How TAM is marked – through serialisation on adjectives vs. through inflection on verbs – clearly distinguishes between the lexical categories of adjectives and verbs.

Note that the construction used to express TAM on adjectival predicates displays the same characteristics as a serial verb. This can be seen from (19), which juxtaposes a serialisation involving two verbs in (19a) with the serialisation of an auxiliary verb with an adjective in (19b).⁶ In both cases, the subject is resumed as a pronoun before the second constituent, and the first constituent in the serialisation is marked for tense.

- (19) a. **ji á-c̄l̄l̄l̄m gé ó-c̄òŋ-ò** b. **c̄aak á-bēeet gé ò-wàaac-ò**
 people PST-eat:ATP PR.3PL IMPF-stand  milk PST-stay PR.3PL CTG-sour
 ‘They were eating while standing.’ ‘The milk was sour.’

⁶ The corresponding construction with the base form of the adjective is presented in (15b).

3.2 Adjectives as modifiers

In this section we describe the use of adjectives as modifiers to nouns. We will first describe the use of the base form of the adjective as a modifier (Section 3.2.1), and then that of the contingent form in this role (Section 3.2.2).



3.2.1 Modification using the base form of adjectives

There are three morphosyntactic structures through which the base form of an adjective can modify a noun. These constructions differ functionally in terms of definiteness and semantic specificity. A first illustration is presented in (20), which shows elicited examples for each of the three constructions.⁷ Because definiteness and semantic specificity have to do with information structure, each example involves a precursor question that serves to clarify the framework of reference shared by speaker and hearer. At issue here are the structures used in the answers. In (20a,b,c) alike, the answer includes a noun phrase headed by **lùm** ‘vegetables’, accompanied by the modifier **kééc** ‘bitter’. In (20a), the modifier is marked by **à**, and here the referent of the noun phrase is definite, as the answer restricts reference to the bitter vegetables. In (20b), the modifier is marked by **mó**, and here the referent of the noun phrase represents new information, and as such it is indefinite. Finally, the construction in (20c) does not include any morphological marker. As in (20b), the referent of the noun phrase is indefinite here. The difference is that the referent is semantically specific in (20b), where the person answering has particular bitter vegetables in mind. In (20c), in contrast, the referent is not semantically specific. In the remainder of this section we will describe the use of these three constructions in further detail.

- (20) a. **áa lùm-ì áa a cá̄m ìr ábác ábác cá̄m a lùm-ì**
 WHQ plant:PL-CS which MDF eat:OV PRP Abac Abac eat:NT FOC plant:PL-CS
à kééc
 MDF bitter
 Q: ‘Which vegetables is Abac eating?’ A: ‘Abac is eating the bitter vegetables.’
- b. **ábác gwôk a η̄ō ábác cá̄m a lùm^u mó kééc**
 Abac make:NT FOC what Abac eat:NT FOC plant:PL MDF.PL bitter
 Q: ‘What is Abac doing?’ A: ‘Abac is eating bitter vegetables.’
- c. **ábác mâar a η̄ō ábác mâar a lùm-ì kééc**
 Abac like:NT FOC what Abac eat:NT FOC plant:PL-CS bitter
 Q: ‘What does Abac like (to eat)?’ A: ‘Abac likes (to eat) bitter vegetables.’

⁷ In these examples, the verb is followed by a focus marker, which licenses the No Tense form of the verb (cf. Section 6 of Chapter 1).

As noted in relation to (18a), if the modifier is marked using the function morpheme **à**, this conveys that the referent of the noun phrase is definite. This is evidenced by the examples in (21), both of which are drawn from narratives. The utterance in (21a) is drawn from a retelling of The North Wind and the Sun, at a point in the narrative where the central issue of determining who is the stronger one is well established in the preceding discourse, and therefore part of the common ground shared with the hearer. The example in (21b) is drawn from a narrative about the founding of the Shilluk nation, and the prominent families are center-stage throughout this story. Both of these examples show that noun phrases in which the modifier is marked using **à** may have a restrictive connotation: in (21a), only the stronger one will be able to take off the coat, not the weaker one; in (21b), marrying among relatives is presented as characteristic of the royal families, to the exclusion of the rest of the community.



- (21) a. [^] **ɲàaan** **à** **tɛek** **úgɔ́t-è** **ú-lǔp-é** **wák**
 person.CS MDF strong cloth:PRT-3S FUT-dress:PET-3SG away
 ‘The strong one, he will take off his (the man’s) coat.’
 [TheNorthWindAndTheSun 20.0–23.0]
- b. [^] **ɲwɔ́m-í** **wàaat** **ī** **kálál-ī** **à** **dɔ́ŋ-ɔ́**
 marry:INF-PRT.P relative.P ERG.P family-PL:CS MDF big-PL
á-bèet é **bǎa** **miit-ì** **rēm-ì** **kàl**
 PST-stay PR.3S NOMP protect:INF-PRT blood-PRT family
 ‘The marrying of relatives by the royal (lit. big) families was to preserve the
 blood of the family.’
 [TheDescendantsOfWaang 399.9–402.8]

Aside from the presence of the marker **à**, this modification construction involves head marking on the noun. That is, when followed by **à**, the noun head is in the construct state form. This inflection signposts the presence of a variety of non-possessor modifiers. In (20a), **lùm-ì** is the regularly derived construct state form of the plural base form **lùm** ‘vegetables’. In (21a), **ɲàaan** is the suppletive construct state form of **ɲáaaŋ-ɔ́** ‘person’, and in (21b) **kálál-ī** is a regularly derived construct state plural form, which is syncretic with the formally identical plural base form meaning ‘compounds, families’.⁸




The second modification construction illustrated in (20b) involves the modification marker **mé/mó**. This marker displays agreement with the grammatical number of the noun: **mé** is used if the head noun is grammatically

8 The pattern of exponence marking the construct state form is described in Sections 3 and 4 of Chapter 2.

singular, and **mó** if the head noun is grammatically plural. These options are shown in (22a,b). When a noun is modified using **mé/mó**, there is no morphological marking on the noun head, which appears in its base form, rather than in its construct state form (cf. Section 2.1 of Chapter 2).


- (22) a. **ábác cáṁ a móuṭ mé mâr**
 Abac eat:NT FOC banana MDF.SG green
 ‘Abac is eating a green banana.’
- b. **ábác cáṁ a móuṭ^u mó mâr**
 Abac eat:NT FOC banana:PL MDF.PL green
 ‘Abac is eating green bananas.’

We analyse the function of this construction with **mé / mó** as conveying that the referent of the noun phrase is indefinite and specific. This is illustrated by the examples from narratives in (23): in each case, the referent entity – the conflict in (23a), the voice in (23b), the pain caused by the ashes in (23c) – have not been introduced in discourse before, and in each case, there is a particular referent.


- (23) a. **á-káṁ-ì wéeer-ḏ mé ḏwḏḏḏ**
 PST-carry-PET conflict-sg MDF.SG big
 ‘It led to a big conflict.’ [TheDescendantsOfWaang 29.3–30.9]
- b. **káā ú-ḡèḡ-ḏ kí cwāak mó ḏḏḏḏ-ḏ**
 CONJ IMPF-laugh PRP voice.PL MDF.PL big-PL
 ‘And he laughed with a loud voice.’ [AchangVillage 118.8–120.6]
- c. **útwḏḏḏḏ-ání mēñ à cáā cáṁ kí cáṁ**
 water.hyacinth:CS-DEF IDP.SG MDF AUX:NT:FOC eat:INF.A PRP eat:INF.A
mé téḡḡk
 MDF.SG hard:CTG
 ‘The (ashes of the) water hyacinth, which was biting (into the lesions) terribly (lit. with a terrible biting).’ [DownWithIllness 160–162]

In the third modification construction illustrated in (20c), the adjective follows the noun without an intervening function morpheme, and the noun is in the construct-state inflection. This is illustrated by the narrative example in (24), where the main clause contains the noun phrase **jáaak̄ tēek̄** ‘strong men’; **jáaak̄** is a suppletive construct state form – the corresponding base form is **cwḏw** ‘men’. As noted in relation to (20c), we hypothesize that this modification construction conveys that the referent is indefinite and non-specific. This is supported by (24): the referent of ‘strong men’ is non-specific,




i.e., it is referenced in a generic or abstract sense. For the same reason, the modification construction is sometimes found in negations.

- (24) [^] cáak m̄eɛl n̄l̄k̄ pwōt̄-í j̄i b̄een,
 SUB drought kill:NT field:PL-PRT:PL people all
 ‘Even though drought kills the fields of all people alike,’
 p̄at̄ kí j̄áaak̄ t̄ɛk̄ à c̄iŋ-í ḡén ní jwóok̄
 NEG PRP men:CS strong MDF hand:P-PRT:PL PR.3PL HAB mourn:OV
 ‘is it not strong men whose labours are usually mourned?’
 [AchangVillage 122.9–128.7]

The crucial difference in relation to the construction involving **m̄é/m̄ó** is semantic specificity. To test this, we elicited the Shilluk equivalent of the English sentences in (25), asking our language consultant to imagine these sentences at the beginning of a story. Here ‘strong men’ is newly introduced into the discourse, and therefore it is indefinite; and yet, it is a semantically specific entity. Crucially, in the Shilluk translation offered by the second author, the noun phrase ‘strong men’ is translated as **j̄aak̄ m̄ó t̄ɛk̄**, i.e., with the modification marker **m̄é/m̄ó**, rather than the construction **j̄áaak̄ t̄ɛk̄** seen in (24) above.

- (25) á-d̄aa p̄aac m̄é cwól̄i áa l̄ul/
 PST-EXSP=FOC village MDF.SG call:ITER:OV NOMP Lul
 j̄ic-ē á-d̄aa j̄aak̄ m̄ó t̄ɛk̄
 in-3SG PST-EXSP=FOC men MDF.PL strong
 ‘There was a village called Lul. In it there were strong men.’

The plural forms of adjectives, which are only available for seven adjectives, can be used as modifiers in all three of the morphosyntactic structures. This is illustrated in (26).⁹




- (26) a. t̄j̄aaŋ-ī à c̄ɛk-ò b. t̄j̄aaŋ m̄ó c̄ɛk-ò c. t̄j̄aaŋ-ī c̄ɛk-ò
 stalk:PL-CS MDF short-PL ‘the short stalks’
 stalk:PL MDF.PL short-PL ‘short stalks’ (specific)
 stalk:PL-CS short-PL ‘short stalks’ (non-specific)

The base form of an adjective can also be used in a noun phrase headed by a pronoun rather than by a lexical noun. These constructions are illustrated in (27).¹⁰ The construction with **m̄é/m̄ó** serves as a noun phrase by itself (27b);

9 In (26a), the vowels in hiatus in **t̄j̄aaŋ-ī à** coalesce to [t̄j̄aaŋàa].

10 In these examples, the verb is followed by a focus marker. This is because the No Tense form of the verb requires syntactic licensing (cf. Chapter 1).

the other two modification constructions involve the independent pronoun **mén** (singular) / **mók** (plural). Note that the construction in (27c) is definite, presumably because of the independent pronoun. In contrast, the use of an adjective by itself in a position that requires a noun-phrase argument is ungrammatical. In relation to the seven adjectives that have them, the same goes for the plural form of adjectives: **mók à bār-ə**, **mó bār-ə**, and **mók bār-ə** can be used as a core argument of the verb in, but not **bār-ə** by itself.

- (27) a. **já pář a mók à tēek**
 PR.1SG remember:NT FOC IDP.PL MDF strong
 'I remember the strong ones.'
- b. **já pář a mó tēek**
 PR.1SG remember:NT FOC MDF.PL strong
 'I remember strong ones.'
- c. **já pář a mók tēek**
 PR.1SG remember:NT FOC IDP.PL strong
 'I remember the strong ones.'

Example (27a) shows that **à** functions as a relativizer, in the sense that **à tēek** requires a head, and the independent pronoun **mén** (singular) / **mók** (plural) can fulfill this role. In (27b), in contrast, the constituent **mó tēek** can serve as an internal argument of the verb without the support of an independent pronoun, indicating that this constituent is not genuinely a dependent within the noun-phrase, but rather equivalent to a noun phrase in its own right. In this context, it is worthwhile to note that while most modifiers require the head noun to be morphologically marked, either through pertensive inflection or through construct state, a head noun modified using the modification marker **mé** / **mó** appears in the base form (cf. Section 2 of Chapter 2).

3.2.2 Modification using the contingent form of adjectives

Summarizing the descriptive analysis so far, all adjectival forms – base form, plural form, and contingent form irrespective of the form class – are used as predicates (Section 3.1). In addition, the base and plural forms are used as modifiers by means of three morphosyntactic structures (Section 3.2.1). Now we come to the use of contingent forms as modifiers. As noted above (Section 2.1.1), there are two form classes here: a suprasegmental form class and an affixal one – schematically C(w/j)VVVÇ and ù-CV(VV)C-ô, respectively. Which form class a contingent form belongs to determines whether it can be used as a modifier. Contingent forms that belong to the suprasegmental

form class can be used as modifiers through the use of two of the three morphosyntactic structures outlined above in Section 3.2.1. First, there is the construction with à, which conveys definiteness. This is illustrated in (28). This interaction is identical to the one in (20a), except for the fact that the adjective in the answer appears in the contingent form. The functional difference is that whereas (20a) can be uttered felicitously in relation to vegetables that are by nature bitter, (28) could be uttered felicitously in relation to vegetables that are more variable in taste, and which on this occasion turn out to taste bitter.

- (28) áa lùm-ì áa a cáṃ ìr ábác ábác cáṃ a lùm-ì
 WHQ plant:PL-CS which MDF eat:OV PRP Abac Abac eat:NT FOC plant:PL-CS
 a kééèè
 MDF bitter:CTG
 Q: ‘Which vegetables is Abac eating?’
 A: ‘Abac is eating the bitter vegetables.’

Second, there is the construction with mé / mó, which expresses indefiniteness, illustrated in (29). This interaction is identical to the one in (20b), again except for the fact that the adjective in the answer appears in the contingent form.

- (29) ábác gwǝk a ṅǝ ábác cáṃ a lùm^h mó kééèè
 Abac make:NT FOC what Abac eat:NT FOC plant:PL MDF.PL bitter:CTG
 Q: ‘What is Abac doing?’
 A: ‘Abac is eating bitter vegetables.’

The use of the third construction, which does not involve a segmental function morpheme, is not grammatical if the modifier is a contingent form that belongs to the suprasegmental class. This is shown in (30). In this respect, contingent forms that belong to the suprasegmental class diverge from the corresponding base forms, which can be used in this way, as seen from (20c) above. We speculate that the reason for this may have to do with the semantics. The modification construction without a segmental function morpheme is used in generic statements, and we hypothesize that it conveys indefiniteness and non-specificity (Section 3.2.1). We speculate that this may be incompatible with the time-specific meaning of the contingent form.

- (30) ábác mâar a ṅǝ *ábác mâar a lùm-ì kééèè
 Abac like:NT FOC what Abac eat:NT FOC plant:PL-CS bitter:CTG
 Q: ‘What does Abac like (to eat)?’
 A: ‘Abac likes (to eat) bitter vegetables.’

The affixal form class of the contingent inflection cannot be used as a modifier

at all. That is, none of the three morphosyntactic modification structures that are available to use with the base form and the plural form are grammatical in a juncture with contingent forms that are of the shape \grave{u} -C \grave{V} (VV)C- $\acute{\text{ɔ}}$. Hence, the structures in (31) are all ungrammatical.



- (31) ***móuḽ-ī** **à** **ù-màaar- $\acute{\text{ɔ}}$** ***móuḽ** **mó** **ù-màaar- $\acute{\text{ɔ}}$**
 banana:PL-CS MDF CTG-green banana:PL MDF.PL CTG-green
 ‘the green bananas’ ‘green bananas’ (spec.)
- ***móuḽ-ī** **ù-màaar- $\acute{\text{ɔ}}$**
 banana:PL-CS CTG-green
 ‘green bananas’ (non-spec.)

In summary, adjectives in the base form can be used as modifiers of nouns in three different ways, listed in Table 3. The same goes for the seven plural adjective forms. In contrast, adjectives in the contingent form are restricted: suprasegmental contingent forms can be used as modifiers using two of the three structures, and affixal contingent forms cannot be used as modifiers at all.

Table 3. Syntactic structures to use adjectives as noun modifiers.


	N mé / mó _	N-CS à _	N-CS _
Base form	Yes	Yes	Yes
Plural form	Yes	Yes	Yes
Contingent form, suprasegmental	Yes	Yes	No
Contingent form, affixal	No	No	No

At the end of Section 3.2.1, we described how the base and plural forms of the adjective can be used in a noun phrase headed by a pronoun rather than by a lexical noun. When a contingent form of the suprasegmental class is used as a modifier to a pronominal head, only two of the three of the modification constructions are available: the one with the relativizer **à** (32a), and the one with **mé** / **mó** (32b). In line with the characterization in Section 2.1.2, the contingent form in these examples conveys that the referent entities were strong in a particular situational context, rather than permanently. The third modification construction, whereby the contingent form modifies the independent pronoun directly, is not grammatical (32c).

- (32) a. **já pá̄r a mók à téek̄k**
 PR.1SG remember:NT FOC IDP.PL MDF strong:CTG
 'I remember the strong ones.'
- b. **já pá̄r a mós téek̄k**
 PR.1SG remember:NT FOC IDP.PL strong:CTG
 'I remember strong ones.'
- c. * **já pá̄r a mók téek̄k**
 PR.1SG remember:NT FOC IDP.PL strong:CTG
 'I remember strong ones.'

3.3 Comparative and superlative

A given communicative function can be fulfilled a) through the lexicon, b) through morphology or c) analytically/periphrastically, i.e., through the combination of lexical items (Payne 1997:9–10). When it comes to the expression of comparative and superlative meanings in Shilluk, there is no morphological marking. Instead, comparative and superlative meanings can be expressed solely through the use of the base form with definiteness / specificity. This is illustrated in the retelling of “The North Wind and the Sun” (Remijnsen, Ayoker & Mills 2011). At three points in the story, all shown in (33), mention is made of what in English would be ‘the stronger one / the strongest’. The Shilluk retelling each time has **à t̄ek̄k**, i.e., the modification marker followed by the base form of the adjective. The constituent introduced by **à** is to be interpreted as specific, singled out from among alternative candidates. In this context, the fact that the sun is singled out in strength implies that it is stronger / the strongest, without any explicit marking of comparative or superlative.

- (33)[^] **káā gé ù-kôop-ò kìnì áa m̄n à t̄ek̄k** [...] **w̄lk** [...]
 CONJ PR.3PL IMPF-say QUOT WHQ WHO MDF strong
 ‘And they said: “Who is the strongest?”’
ḡàaan à t̄ek̄k úḡt̄-è ú-l̄ŋ-é w̄lk [...]
 person:CS MDF strong cloth:PRT-3SG FUT-dress.PET-3SG away
 ‘The strongest one, he will take of his (the man’s) coat.’
káā w̄uut-ò ù-koo c̄ē íŋ a dj̄er / bãa j̄ín à t̄ek̄k
 CONJ wind-SG IMPF-say:ATP EXCL NOMP FOC truth NOMP PR.2SG FOC strong
 ‘And the North Wind said: “Wow, it is true, you are the strongest.”’


In addition there are a few adjectives whose lexical meaning includes comparative meaning: **l̄w** ‘better’ and **b̄uup** ‘bigger’. Otherwise, comparative and superlative are expressed periphrastically, using lexical and syntactic

4. Derivation on the basis of adjective roots

In the following subsections we describe three largely productive patterns of derivation that take adjectives as their input, yielding verbs (Section 4.1), nouns (Section 4.2), and adjectives (Section 4.3) respectively. In addition, there are sporadic cases of derivation, which we will discuss in Section 4.4.

4.1 Derivation of verbs from adjectives

There is a largely productive derivational process, whereby intransitive verbs are derived from adjectives. The resulting verb has the meaning ‘become X’, where X is the meaning of the adjective. For example, the adjective **mêt** ‘tasty’ yields the intransitive verb stem {mìn} ‘become tasty’, illustrated in (39). These derived verbs play an important role in the expression of emotions, in a juncture with the nouns **pjéw** and **cúp**, both of which mean ‘emotion’. When **mêt** is predicated of these nouns, it means ‘be happy’, and correspondingly, when the derived intransitive {mìn} is predicated of **pjéw**, it means ‘to become happy’.

- (39) **kàa** **ŋēɛɾī** **dēɛŋ** **pjéw-āa** **ŋí** **ó-mìn-ò**
 WHEN laugh:VS Deng emotion:PRT-1SG HAB IMPF-become.tasty
 ‘Whenever Deng laughs, I become happy.’
 (lit. ‘Whenever Deng laughs, my emotion becomes sweet.’)

This example of the adjective **mêt** ‘tasty’ yielding the intransitive verb stem {mìn} shows that the intransitive verb stem is derived from the base form of the adjective through a combination of several exponents. First, if the adjective base has a plosive coda consonant, the derived verb has the nasal of the same place of articulation. That is, coda consonants /p,t,c,k/ will change to /m,ŋ,n,ŋ/, respectively. Other coda consonants remain unchanged. Second, there is change in the stem vowel: a -ATR root monophthong vowel will become +ATR. And, in addition to this, if the vowel is short and the vowel quality is mid in height, then the derived stem raises in vowel height. This means that /ɛ/ becomes /i/, and /ɔ/ becomes /u/. Third, the tonal specification of the base form of the adjective is replaced by Low tone. Semivowels in the onset of the adjectival root are lost in the derived verb stem. Vowel length remains unchanged relative to the adjectival base. Table 4 illustrates the intransitive verb forms in all five levels of tense-aspect-modality (TAM). In the case of **râac** ‘bad’, the change of the root vowel – from /a/ to /e/ rather than to /ʌ/ – is irregular and exceptional.

Table 4. Examples of the intransitive verb derivation based on adjectives, in all five of the levels of tense-aspect-modality (TAM) that are used with Subject-Verb constituent order

Base	Meaning	Past, Non-Ev. Past, Imperf., No Tense, Fut.	Meaning
têék	‘strong’	á-tèeŋ-ì, tèeŋ-ò, ú-tèeŋ-ò, tēeŋ-í, ú-tēeŋ-í	‘become strong’
mêt	‘tasty’	á-mìn-ì, mìn-ò, ú-mìn-ò, mīn-í, ú-mīn-í	‘become tasty’
dwóóŋ	‘big’	á-dòóŋ-ì, dòóŋ-ò, ú-dòóŋ-ò, dōóŋ-í, ú-dōóŋ-í	‘become big’
wâc	‘sour’	á-wàŋ-ì, wàŋ-ò, ú-wàŋ-ò, wāŋ-í, ú-wāŋ-í	‘become sour’
râac	‘bad’	á-rèeŋ-ì, rēeŋ-ò, ú-rēeŋ-ò, rēeŋ-í, ú-rēeŋ-í	‘become bad’
ljêṭ	‘hot’	á-lèeŋ-ì, lēeŋ-ò, ú-lēeŋ-ò, lēeŋ-í, ú-lēeŋ-í	‘become hot’
lâac	‘wide’	á-làŋ-ì, làŋ-ò, ú-làŋ-ò, lāŋ-í, ú-lāŋ-í	‘become wide’
cân	‘scarce’	á-càn-ì, càn-ò, ú-càn-ò, cān-í, ú-cān-í	‘become scarce’

The affixes are the same as found in ambitransitives derived from transitive verbs (Remijsen, Miller-Naudé & Gilley 2016), and in a particular class of intransitive verbs. This can be seen from Table 5, which shows an intransitive verb derived from an adjective, an ambitransitive verb derived from a transitive verb, and a non-derived intransitive verb. Apart from the affixes, the specifications for tone of the stem and the suffix are also the same, alternating between $C\check{V}(V)C-\check{V}$ in past, non-evidential past and imperfective on the one hand vs. $C\bar{V}(V)C-\bar{V}$ in no tense and future on the other. This parallel extends to the morphological marking that is found when these intransitive verbs are not preceded by the subject but followed by it.

Table 5. The paradigms for voice (S[ubject]-V[erb] and V[erb]-S[ubject]) and TAM of an intransitive verb derivation based on adjective **têék** ‘strong’, the ambitransitive derivation of the transitive verb {càm} ‘eat’, and the non-derived intransitive verb {ŋèeṭ} ‘laugh’

Type	Syntax	Past, Non-Ev. Past, Imperf., No Tense, Fut.	Meaning
Intr. < adj.	SV	á-tèeŋ-ì, tèeŋ-ò, ú-tèeŋ-ò, tēeŋ-í, ú-tēeŋ-í	‘become strong’
	VS	á-tēeŋ-ī, tèeŋ-ì, Ø, tēeŋ-ī, ú-tēeŋ-ī	
Intr. < tr.	SV	á-càm-ì, càm-ò, ú-càm-ò, cām-í, cām-í	‘eat’
	VS	á-cām-ī, càm-ì, Ø, cām-ī, ú-cām-ī	
Intr.	SV	á-ŋèeṭ-ì, ŋèeṭ-ò, ú-ŋèeṭ-ò, ŋēeṭ-í, ú-ŋēeṭ-í	‘laugh’
	VS	á-ŋēeṭ-ī, ŋèeṭ-ì, Ø, ŋēeṭ-ī, ú-ŋēeṭ-ī	

In the case of two adjectives, **lóúúè** ‘black’ and **kwáaaṛ** ‘red’, this intransitive derivation involves the same changes in the segmentals, vowel length, and

affixation, but higher tone targets on the stem syllable. This is shown in Table 6. This can be attributed to the higher specifications for tone on the adjectival bases of these two adjectives, both of which have the Late Fall. This compositionality of the lexical and morphological specifications for tone mirrors the situation elsewhere in the grammar, for example in the paradigms of transitive verb classes (see Section 2 of Chapter 1).

Table 6. The paradigms for voice (S[subject]-V[erb] and V[erb]-S[subject]) and TAM of the intransitive verb derivations based on the adjectives **lóóòè** ‘black’ and **kwáaaà** ‘red’.

Adjective	Syntax	Past, Non-Ev. Past, Imperf., No Tense, Fut.	Meaning
lóóòè	SV	á-lúuŋ-ì, lúuŋ-ò, ó-lúuŋ-ò, lúuŋ-í, ó-lúuŋ-í	‘become black’
	VS	á-lúuŋ-ī, lúuŋ-ì, Ø, lúuŋ-ī, ó-lúuŋ-ī	
kwáaaà	SV	á-kwáaà-ì, kwáaà-ò, ó-kwáaà-ò, kwáaà-í, ó-kwáaà-í	‘become red’
	VS	á-kwáaà-ī, kwáaà-ì, Ø, kwáaà-ī, ó-kwáaà-ī	

This derivation of intransitive verbs is largely productive, but not completely. Among the adjectives that do not have a contingent form, listed in (4) above, some derive an intransitive following the pattern in Table 5, but other do not. This is shown in Table 7.

Table 7. Examples of adjectives that have a contingent form (on the left) and those that do not (on the right)

With intransitive derivation	Without intransitive derivation
bé̂t̂ ‘sharp’ > á-bìŋ-ì ‘become sharp’	páŋ ‘full’ > * á-páŋ-ì ‘become full’
gúk ‘blunt’ > á-gùŋ-ì ‘become blunt’	ŋán ‘new’ > * á-ŋán-ì ‘become new’
tíl ‘transparent’ > á-tíl-ì ‘become transparent’	tòk ‘absent’ > * á-tòŋ-ì ‘become absent’
tíc ‘wet’ > á-tìŋ-ì ‘become wet’	lāw ‘better’ > * á-lāw-ì ‘become better’

4.2 Derivation of nouns from adjectives

Nouns referring to the quality of an adjective can be derived from adjectives, and this derivation is again largely productive. For example, **têek** ‘strong’ yields **têek-ò** ‘strength’, and **mêt** ‘tasty’ yields **mêt-ò** ‘tastiness’. The most common pattern of derivation of these ‘essence nouns’ is illustrated in Table 8. The segmental composition of the stem syllable of the essence noun is the same as that of the adjective base. This stem takes the suffix -ò, and a Low Fall

specification for tone. As singular nouns, these words display the inflectional paradigm described in Chapter 2: they have a base form, a pertensive form with singular possessor, a pertensive with plural possessor, a construct state form, and a proximal form. They do not have a corresponding plural.

Table 8. Examples of the most common pattern through which essence nouns are derived from adjectives

Adj., base	Adj. contingent	Derived essence noun	Pertensive (sg.), proximal demonstrative of noun	Meaning of essence noun
dóɔc	dóɔcɛ	dóɔc-ɔ	dóɔc-ì, dóɔɲ-ì	‘goodness’
kéec	kéecɛ	kéec-ɔ	kéec-ì, kéɛɲ-ì	‘bitterness’
lúuc	lúucɛ	lúuc-ɔ	lúuc-ì, lúuɲ-ì	‘blackness’
líp	ù-líp-ɔ	líp-ɔ	líp-ì, lím-ì	‘coldness’
pêet	ù-pêet-ɔ	pêet-ɔ	pêet-ì, pêen-ì	‘bad smell’
târ	ù-tâaar-ɔ	tâaar-ɔ	târ-ì, târ-ì	‘whiteness’
wâc	ú-wâaac-ɔ	wâaac-ɔ	wâc-ì, wâɲ-ì	‘sourness’

The patterns of length alternation within the paradigms of these nouns are the same as those in non-derived nouns that end in the suffix /-ɔ/ (cf. Section 3.2 in Chapter 2). That is, they can be Fixed Short, such as **líp-ɔ** ‘coldness’, which has pertensive (sg.) **líp-ì**; Short with Grade, such as **wâaac-ɔ** ‘sourness’, with pertensive (sg.) **wâc-ì**; or Long with Grade, such as **dóɔc-ɔ** ‘goodness’, with pertensive (sg.) **dóɔc-ì**. If there is grade alternation, then the base form has an overlong stem vowel, and the inflected forms have either a short or a long stem vowel.

The pattern of length alternation in the inflectional paradigm of an essence noun, i.e., Fixed Short, Short with Grade, or Long with Grade, is the same as that found in the inflectional paradigm of the source adjective. For example, the vowel length alternation in the paradigm of the essence noun **têek-ɔ** ‘strength’ is Long with Grade, as there is a long vowel in the inflected forms, such as pertensive (sg.) **têek-ì**, as opposed to the overlong vowel in the base form. Crucially, the pattern of length alternation in the adjective from which this noun is derived is also Long with Grade, i.e., it alternates between the same two levels of vowel length: **têek** ‘strong’ has a long vowel, and its contingent form **téek** has an overlong vowel.

The essence noun **râaac-ɔ** ‘evil’, which is derived from **râac** ‘bad’,

conforms to the pattern illustrated in Table 8 to some extent, except for the fact that the specification for tone of the noun is Low rather than Low Fall, and the vowel quality is +ATR.

A second set of essence nouns is listed in Table 9 below. Their formation involves a Mid-toned stem syllable, and a shortening of the vowel relative to the adjectival base.¹¹ The lack of shortening in the case of **jōot** and the raising in vowel quality in the case of **ṭim** and **būp** follow from the fact that morphological processes in Shilluk never result in qualities /I,U,e,o/ in a short vowel (cf. Remijsen, Miller-Naudé & Gilley 2015:588).

Just like the members of the first set of essence nouns, the members of this second set are grammatically singular, and there is no corresponding plural form. As singular nouns, their paradigms stand out in the sense that, while the base form is suffixless, the inflected forms are suffixed. In this respect, they pattern along with the set of nouns described in Section 3.6.2 of Chapter 2. Different from the latter, however, the base form does not have floating quantity.

Table 9. A second pattern of essence nouns derived from adjectives.

Adj., base	Adj. contingent	Meaning	Derived essence noun	Pertensive (sg.), proximal demonstrative of noun	Meaning
b̄l̄ar	b̄l̄l̄l̄t̄	‘long’	b̄l̄r	b̄l̄r-ī, b̄l̄r-ì	‘length’
cj̄ɛk	cj̄ɛɛk̄	‘short’	c̄ik	c̄ik-ī, c̄iŋ-ì	‘shortness’
ṭim	ṭim̄	‘small’	ṭim̄	ṭim̄-ī, ṭim̄-ì	‘smallness’
būp	<i>none</i>	‘bigger’	būp	būm̄-ī, būm̄-ì	‘greatness’
jōot	jōoot̄	‘light’	jōot	jōot-ì, jōon-ì	‘lightness’
d̄w̄ɔŋ	d̄w̄ɔɔŋ̄	‘big’	d̄ɔŋ	d̄ɔŋ-ī, d̄ɔŋ-ì	‘age’

The specifications for tone in the inflected forms of these essence nouns are predictable given the tone in the base in the case of **b̄l̄r**, **c̄ik**, and **ṭim̄**, but not in the case of **būp**, **jōot**, and **d̄ɔŋ**. In the cases of **jōot**, and **d̄ɔŋ**, it appears that the inflected forms are morphologically based on differently formed essence nouns, **jōoot-ḏ** ‘lightness’, and **d̄ɔŋ-ḏ** ‘size’; **jōoot-ḏ** has the same meaning as **jōot**, while **d̄ɔŋ** ‘age’ and **d̄ɔŋ-ḏ** ‘size’ have related meanings.



11 Shortening of the stem vowel is also attested elsewhere in Shilluk morphophonology, e.g. in the derivational morphology of transitive verbs and in number marking on nouns (Remijsen, Ayoker & Jørgensen 2019:100–101).

Note that in the case of ‘long’, the same lexical root appears with a short vowel in the essence noun **b̄ar**, with a long vowel in the adjectival base form **b̄aar**, and with an overlong vowel in the contingent form **b̄aaar̄**. Elsewhere in Shilluk morphophonology as well, we find vowel lengthening in inflection, and both vowel lengthening and vowel shortening in derivation (Remijsen, Ayoker & Jørgensen 2019).


Many of the adjectives that do not present a contingent form (cf. Section 2.1.1) also do not present an essence noun. So while for example **b̄ét̄** ‘sharp’ yields **b̄ét̄-ə** ‘sharpness’, **ḡúk** ‘blunt’ does not have an essence noun.

4.3 Reduplication


The base form of an adjective can be reduplicated to convey that the referent entity has the property in question to a very high degree. Two examples are presented in (40a,b).

- (40) a. **át̄íííííííí m̄ét̄-m̄ét̄** b. **p̄aal mé d̄w̄óóóó-d̄w̄óóóó**
 milk.porridge tasty-tasty  spoon MDF.SG big-big
 ‘Milk-based porridge is very tasty.’ ‘A very big spoon.’

Reduplication is available for the great majority of adjectives. It is not grammatical in relation to adjectives whose meaning cannot be conceived of easily in scalar terms, such as **t̄óók** ‘absent’ and **ɲ̄ân** ‘new’. Morphologically marked plural forms can also be reduplicated. This is illustrated in (41). In contrast, contingent forms are not reduplicated – neither those belong to the suprasegmental form class, nor those belonging to the affixal form class.




- (41) **j̄éɲ̄ b̄ar-ə b̄ar-ə**
 tree tall-PL tall-PL
 ‘The trees are very tall.’

Intensive meaning is otherwise expressed using adverbial expressions. The highest-frequency adverb is **c̄aaar̄ə** ‘very’, which follows the adjective, as in **ù-l̄ip-ə̄ c̄aaar̄ə** ‘very cold (subjectively)’. This adverb is used with base forms, plural forms, and contingent forms belonging to both of the form classes. Another means of expressing intensity in relation to an adjective is the periphrastic expression **kí m̄én̄ d̄w̄óóóó** ‘greatly’. Both of these are illustrated in (42), which is drawn from a narrative describing what it is like for a woman to move to a different village after marriage.

- (42)^{*} **băa** **gic-Ḷ** **mé** **lêṭ** **càaarḶ** **kí** **mén** **dwóṅ** **ṭwóṅw**
 NOMP something-SG MDF.SG difficult very PRP IDP.SG big also
 ‘Also, [it] is something very very painful actually. [SweetnessOfTheDrum36.7–38.3]

4.4 Non-productive derivation

There are other nouns and verbs that are clearly derived from adjectives, but where there is no productive pattern in terms of meaning and form. A few examples of such derivations are presented in (43).

- (43) a.  **òṭṭíṭ** ‘child (re. age, not re. kinship)’ < **ṭíṭ** ‘small’
 b.  **áwāaac-Ḷ** ‘sour kind of fruit’ < **wác** ‘sour’
 c.  **ókèèèè** ‘initial period of pregnancy’ < **kéèè** ‘bitter, taboo’

An example of sporadic derivation of a verb from an adjective is the verb ‘praise’, with past tense **á-dḶṅ-ì**, and imperfective **Ḷ-dḶṅ-Ḷ**, derived from **dwóṅ** ‘big’. This verb may also be the source of the essence noun **dḶṅ-Ḷ** ‘size’.

5. Discussion and conclusion: adjectives as a lexical category in Shilluk

Based on the descriptive analysis presented above, we are now well placed to consider whether adjectives represent a distinct lexical category in Shilluk. This question can be rephrased more specifically as follows: can a class of adjectives be distinguished from both nouns and verbs, based on morphological and/or syntactic criteria? We will consider how adjectives can be distinguished from nouns in Section 5.1, and from verbs in Section 5.2.

5.1 Distinguishing adjectives from nouns

In syntactic terms, adjectives differ from nouns in that, unlike nouns, they cannot serve as an argument to a verb or a preposition. This is illustrated in (44). Note that a noun like **dâk** ‘pot’ can serve as the internal argument of a clause (44a), whereas the adjective **têèk** cannot (44b). Instead, an acceptable way to express ‘the strong one’ would be **mén à têèk**, or **mé têèk** (cf. Section 3.2.1).

- (44) a. **dâk á-lîŋ-à**
 pot PST-look.at-1SG
 'I looked at the pot.'
- b. ***têek á-lîŋ-à**
 strong PST-look.at-1SG
 'I looked at the strong one.'



In turn, whereas an adjective can head a predicate by itself, a noun cannot. Example (45b) is grammatical because adjectives can be used as predicates without any morphosyntactic marking. In contrast, the nominal predicate in (45a) is ungrammatical; for it to be grammatical, the nominal predicate marker **băa** needs to precede the noun.

- (45) a. ***gîn-ání** **dâk**
 something:CS-DEF pot
 'That thing is a pot.'
- b. **gîn-ání** **têek**
 something:CS-DEF strong
 'That thing is hard.'

As for the morphological difference between nouns and adjectives, each presents its own inflectional paradigm: nouns have pertensive, construct state and demonstrative inflections; adjectives may have a contingent form and a plural. But whereas the inflectional paradigm is fully productive for nouns (Chapter 2), we saw in Section 2.1.1 that there are some adjectives that do not have a contingent form, and most do not have a plural. Hence, adjectives and nouns can be distinguished consistently from one another in morphological terms on the basis of the nominal inflectional paradigm, which adjectives lack.

In summary, adjectives can be distinguished from nouns consistently on syntactic criteria – the ability to serve as an internal argument to a verb (nouns can, adjectives cannot) and the ability to head a predicate (nouns cannot, adjectives can) – and on the basis of morphological criteria (nouns have pertensive, construct state and demonstrative inflections, adjectives do not).







The usefulness of these criteria is borne out by exploring the semantic domain of attributes that refer to colour. The following colours are adjectives in Shilluk: **lúooè** 'black', **kwáaãr** 'red', **mâr** 'green', and **târ** 'white'. However, there are also many colour terms that are nouns, including the terms **úbwôoorò** 'yellow', **úwóow** 'blue', and **lîŋ** 'pink'. Example (46a) shows that, when used as a predicate, colour attributes that are nouns require the presence of the nominal predicate marker **băa**: when they are used as a predicate without this marker, the sentence is ungrammatical. In the case of colour attributes that are adjectives (46b), it is the way around: they are ungrammatical with nominal predicate marker, and grammatical without it.

- (46) a. **dòoor-ò** *(bǎa) **óbwòoorò** / **ówóow** / **lĩt**
 wall-SG NOMP yellow blue pink
 ‘The wall is yellow / blue / pink.’
- b. **dòoor-ò** *(bǎa) **lúuùè** / **kwáaaɾ** / **mâr** / **târ**
 wall-SG NOMP black red green white
 ‘The wall is black / red / green / white.’

The fact that the colour terms in (44a) are nouns is further supported by the fact that they have all the inflections of nouns, i.e., pertensive, construct state, and demonstrative, but no contingent form, while the colour terms that are adjectives have a contingent form, but no pertensive, construct state and demonstrative.¹²

5.2 Distinguishing adjectives from verbs

Adjectives and verbs diverge substantially in terms of their morphological paradigms. Consider, for example, the expression of tense. Whereas predicates headed by verbs express tense through morphology, adjectival predicates do not have morphological marking for tense, which is expressed instead through serialisation. This is shown in (47). The sentences in (47a–c) show an adjectival predicate with present, past and future tense reference; the ones in (47d–f) show how the same meanings are expressed on an intransitive verb. Whereas past and future are expressed through serialisation with the grammaticalised verb {bèet} ‘stay’ in the adjectival predicates, they are expressed morphologically on the intransitive verb {nîm} ‘sleep’.

- | | |
|---|--|
| <p>(47) a. gwôk têek
  dog strong
 ‘The dog is strong.’</p> <p>b. gwôk á-bèet é têek
  dog PST-stay PR.3SG strong
 ‘The dog was strong.’</p> <p>c. gwôk ó-bèet é têek
  dog FUT-stay PR.3SG strong
 ‘The dog will be strong.’</p> | <p>d. gwôk ó-nîm-ò
  dog IMPF-sleep
 ‘The dog is sleeping.’</p> <p>e. gwôk á-nîm
  dog PST-sleep
 ‘The dog slept.’</p> <p>f. gwôk ó-nîm
  dog FUT-sleep
 ‘The dog will sleep.’</p> |
|---|--|

12 There are also some interesting semantic differences here. The colour terms that are adjectives additionally express states of mind. That is, **kwáaaɾ** means ‘angry’ in addition to ‘red’, as in **nîŋ-áa kwáaaɾ** ‘I am angry (lit. ‘My eyes / face is red)’); **mâr** means ‘cowardly’ in addition to ‘green’; and **târ** means ‘peaceful’ in addition to ‘white’, as in **bòol-è târ** ‘She is peaceful (lit. Her forehead is white)’. The colour terms that are nouns are associated with particular domains of life, such as cattle and beads (cf. Martin 2018). For example, **lĩt** ‘pink’ is culturally important, as it refers to the colour of cloth traditionally worn by Shilluk men, and it is also a cattle colour. The colour term **óbwòoorò** ‘yellow’ is also a cattle term, and **ówóow** ‘blue’ is also the name of a bird.



2nd, and 3rd singular form in the Past, No Tense and Future. These forms are shown for the No Tense level of TAM in Table 11. The Past and Future are identical but for the addition of the prefixes **á-** and **ú-**, respectively. In the Non-evidential Past, and when the subject is plural, then the subject is expressed by a case-marked independent pronoun, and the verb is in the corresponding VS form.¹³

Table 11. The inflections for subject marking of three intransitive verbs in the No Tense form

	{t̩aar} 'lie on back'	{l̩l̩l̩l̩r} 'disappear'	{ŋ̩e̩t̩i} 'laugh'
1st singular	t̩aar-á	l̩l̩l̩r-á	ŋ̩e̩t̩i-á
2nd singular	t̩̩aar	l̩l̩l̩r	ŋ̩e̩t̩i-í
3rd singular	t̩aar-é	l̩l̩l̩r-é	ŋ̩e̩t̩i-é

In addition to this inflectional paradigm, intransitive verbs present various derived paradigms: iterative, applicative, centrifugal and centripetal. Which of these derived paradigms are available varies from verb to verb. Irrespectively of this, it is clear that both transitive and intransitive verbs can be distinguished consistently from adjectives, which present only three forms: a base form; a contingent form (in most cases), a plural form (in seven cases).







The part of the grammar where adjectives are the most similar to verbs is in the affixal form class of the contingent inflection, which is similar in form to the imperfective form of most transitive and intransitive verbs.¹⁴ Consider example (49). The predicates in (49a) and (49b) present similar meanings, in the sense that it is not obvious from the English translation that one would be a verb and the other an adjective. Moreover, affixal contingent forms are only used predicatively (Section 3.2.2), just like the imperfective form of the verb. Nonetheless, we analyze {c̩an} 'scarce' as an adjective that belongs to the affixal class, and {j̩at} 'have nothing' as an intransitive verb, inflected for imperfective.

- (49) a. c̩aak ù-c̩aan-òò
 milk CTG-scarce
 'Milk is scarce (at present).'
- b. twóòŋ ù-j̩aat-òò
 Twong IMPF-have.nothing
 'Twong is destitute.'



13 This state of affairs is the same as in transitive verbs (cf. Chapters 1,3).

14 We leave aside here suffixed intransitives such {ŋ̩e̩t̩i} 'laugh', which have a High tone on the prefix /ú-/ in the imperfective.

The motivation for this is that the two forms are not the same. The morphological exponence of the affixal contingent form of the adjective involves a suffix -ḥḥ, i.e., with a long vowel and a Low Fall specification for tone, whereas the suffix -ḥ on the imperfective verb forms is prosodically weak. This is further illustrated by three examples of this contingent form presented in (50a,c,e), that can be compared with the imperfective forms of segmentally identical verbs in (50b,d,f). As seen from these minimal pairs, the only difference lies in the specification for vowel length and tone of the suffix vowel.

- | | |
|--|--|
| (50) a. dāk ḥ-ḥic-ḥḥ
 pot CTG-cool
‘The pot feels cool.’ | b. dāk ḥ-ḥic-ḥ
 pot IMPF-recognize
‘Someone recognizes the pot.’ |
| c. kùl ḥ-jòoom-ḥḥ
 Kul CTG-sour
‘Kul is somewhat soft.’ | d. kùl ḥ-jòoom-ḥ
 Kul IMPF-overtake
‘Someone overtakes Kul.’ |
| e. gìn-ání ḥ-wàaac-ḥḥ
 thing-DEF CTG-sour
‘The thing is somewhat sour.’ | f. gìn-ání ḥ-wàaac-ḥ
 thing-DEF IMPF-bleach
‘Someone is bleaching the thing.’ |

The analysis that the predicate in (49a) is adjectival whereas the one in (49b) is verbal can be confirmed further by eliciting the corresponding sentences with past tense reference. The evidence is presented in (51). On {jât}, past tense is marked morphologically through a prefix, supporting the interpretation that it is a verb (51b). In the case of {càn}, past tense is marked instead through serialization (51a).

- | | |
|---|---|
| (51) a. càak á-bèeet gé ḥ-càaan-ḥḥ
 milk PST-stay PR.3PL CTG-scarce
‘Milk was scarce (at times).’ | b. twóng á-jât
 Twong PST-have.nothing
‘Twong was destitute.’ |
|---|---|

5.3 Conclusion

Adjectives in Shilluk are saliently different both from nouns and from verbs. In morphological terms, they can most easily be defined in a negative manner, in the sense that they lack both the inflectional forms of nouns (pertensive, construct state, proximal) and those of verbs (inflections for tense-aspect-modality, voice, and subject). A positive definition of adjectives on morphological grounds is complicated by the fact that none of the instances of morphological marking that are found on adjectives are

completely productive. This applies most notably to the contingent inflection, which appears in two form classes, but is not available for all adjectives. An inflection for plural is available for seven adjectives. With respect to derivational morphology, adjectives yield intransitive verbs, essence nouns, and adjectival reduplications.

As for the syntactic properties of adjectives, adjectival predicates do not involve any copula or morphological marking. In contrast, when they are used as modifiers, this is marked in the morphosyntax either a) on the dominating noun (construct state), b) through the use of a function morpheme – either *à* or *mé / mǒ* – or c) in both of these ways. The three different morphosyntactic constructions that are available for using adjectives as modifiers differ functionally in terms of definiteness and semantic specificity.

As a direction for further research, we commend the study of the contingent form, which has not been reported in earlier work. We hypothesize that the use of this form conveys that the attribute applies to the referent entity non-permanently, incompletely or to a limited degree. On this topic, our description is informed primarily by native-speaker intuition, and it would be worthwhile to evaluate this analysis in depth, i.e., experimentally and by using corpus-based approaches.

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Abbreviations

The following abbreviations are used in the glosses.

AD	animate destination	MDF	modification marker
ATP	antipassive	NEG	negation marker
AUX	auxiliary verb	NOMP	noun predicate
ADV	adverb	NOM	nominalisation
CONJ	conjunction	NEVP	non-evidential past
CS	construct state	NT	no tense
CTG	contingent	OV	object voice
DEM	demonstrative	PL	plural
DEF	definiteness	PR	pronoun
EXSP	existential predicate	PST	past
FOC	focus	PET	centripetal deixis
FUG	centrifugal deixis	PRP	preposition
FUT	future	PRT	pertensive
HAB	habitual	QUOT	quotative
IDP	independent pronoun	SG	singular
IMPF	imperfective	SUB	subordination marker
INF	infinitive nominalisation	VS	verb-subject
INF.A	agentive inf. nom.	WHQ	question-word question marker
INTERJ	interjection	XV	applicative voice
ITER	iterative		

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