Multiple Adnominal Modification in Dinka: Chaining Construct States

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In Dinka, a Western Nilotic language, most adnominal modifiers follow the head noun. Before most of these modifiers, the head noun is in one of two construct states. One construct state, CS1, occurs before, among others, demonstratives, nominal possessors and relative clauses as CS1-modifiers. The other construct state, CS2, which is morphologically more complex, occurs before, among others, possessive pronouns, a few numerals and a diminutivizer as CS2-modifiers. When a construct-state triggering modifier is added to a CS2-modifier, the latter itself gets construct state marking, and the head noun changes from CS2 to CS1. Some CS1-modifiers also get construct state marking when followed by a construct-state triggering modifier. Multiple adnominal modification in Dinka may thus result in a chain of construct states, which is similar to what is found in Iranian languages with so-called ezafe marking.

Keywords: Dinka, Western Nilotic, adnominal modification, construct state, ezafe

1. Introduction

In Dinka, a Western Nilotic language spoken in South Sudan, a noun may be in a morphologically marked construct state, which indicates that it is followed by a modifier, while an unmodified noun is in the morphologically unmarked absolute state (Andersen 2002). There are two morphologically distinct construct states, First Construct State (CS1), which is triggered by one set of modifiers (CS1-modifiers), and Second Construct State (CS2), which is triggered by another set of modifiers (CS2-modifiers).1 The present article deals with noun phrases in which the head noun is followed by more than one modifier. It is demonstrated that some modifiers themselves get a construct state when followed by another modifier and that this may also affect the form of the head noun. Such constructions seem typologically similar to chains of Ezafe-marked words in Iranian languages.2

A noun or noun phrase in Dinka is in one of four cases. The Nominative is morphologically unmarked and is the citation form. It is used in clause-initial position before the finite verb whether the NP is subject, object or adverbial. It is also used postverbally as object and as complement of most prepositions; for a description of the order of clausal constituents in Dinka, see Andersen (1991, 2019). The Genitive is used as possessor and as postverbal subject. The remaining two cases have spatial meaning and are used with adverbial function in clause-final position: The Allative expresses a goal, and the Essive/Ablative expresses a location or a source; when they syncretize, I call them Locative. The description of construct state inflection given in Andersen (2002) is restricted to NPs that occur in Nominative positions, while Andersen (2016) describes state

1 Following Comrie (1976: 10), I use initial capitals for names of language-particular grammatical categories.
2 This article is based on fieldwork carried out during a number of trips to South Sudan and Sudan between 1984 and 1995 and again in 2009. I gratefully acknowledge financial support from the Danish Research Council for the Humanities and from the Nordic Africa Institute. I also wish to thank my principal Dinka informants Isaac Maker, Kuyok Abol Kuyok, David Daniel Marial and Peter Gum Panther for their assistance. In addition, I wish to thank an anonymous reviewer for useful comments on an earlier version of this article.
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inflection in the three other case positions, showing how case marking interacts with state marking. The present article deals with multiple adnominal modification in Nominative positions only. It remains to be seen how non-Nominative positions affect the expression of construct states in such constructions. The variety of Dinka described here is the Agar dialect.

The article is organized as follows. Section 2 summarizes the facts of construct state marking described in Andersen (2002) and provides information on postverbal modifiers that do not trigger a construct state and on prenominal modifiers. Section 3 examines constructions in which a CS2-modifier is followed by an additional modifier. Section 4, correspondingly, examines constructions in which a CS1-modifier is followed by an additional modifier. Section 5 shows that an NP may contain more than two postnominal modifiers, which may lead to longish chains of construct state forms, and it exemplifies some of the restrictions on and variations in the order of postnominal modifiers. Section 6 points out some typological similarities of multiple adnominal modification in Dinka with such constructions in Iranian languages and Dogon languages. Section 7 concludes the article.

My transcription of Dinka basically uses IPA. Thus, while /ɟ/ is a voiced palatal stop, /j/ is a palatal glide; but /t̪/, /d̪/, /n̪/ have interdental rather than dental point of articulation. Dinka has three contrastive vowel lengths, here distinguished by the number of vowel symbols: short /a/, long /aa/, and overlong /aaa/. In addition, there is a binary phonation contrast in vowels: non-breathy (modal or creaky) /a̰/ and breathy /a̤/. Moreover, Dinka is a tone language, and the Agar dialect has three contrastive tones: high /á/, low /à/, and falling (i.e. high-low) /â/.

Phonation and tone diacritics are placed on the first symbol in a sequence of vowel symbols. A “(t.)” following the translation of an example indicates that the example is from my text corpus rather than elicited. In the interlinear translation of examples, brackets indicate phrasal boundaries (but phrasal boundaries are not always indicated).

2. Construct states and adnominal modifiers

2.1. Formation of the construct states. Most nouns in Dinka, whether singular or plural, are monosyllables with the shape C(w)(j)V(V)(V)C; that is, they begin with a consonant, optionally followed by one or both of the glides /w/ and /j/ (in that order), followed by a vowel which is short, long or overlong, and ending in a consonant. Another common noun type is disyllabic with /a̰/ before C(w)(j)V(V(V))C. Very few monosyllabic nouns lack a root-final consonant, and they have the shape CV.

In the construct states, many singular nouns have either a suffix -n or traces of a former nasal suffix as an exponent of construct state. Firstly, the suffix appears as -n or -ŋ in the few nouns that end in a vowel, as seen in Table 1. The first column shows the absolute state form (ABS), and the next columns show the forms of First Construct State (CS1) and Second Construct State (CS2).

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3 However, it is uncertain whether there is a contrast between a high tone and a falling tone in short vowels. In such cases my choice of tone symbol (high or falling) reflects my perception in each individual instance.

4 This /a̰/ is either a prefix, as in ą-twee-et ‘liar’ derived from the noun tweët ‘lie’ and as in ą-biur ‘cowless person’ derived from the verb biur ‘get cowless’, or it is part of the root, as in ą-gkɔɔk ‘monkey’ and ą-lán ‘cloth’.
For 'son' and 'girl' in Table 1, there are two alternating Second Construct State forms. The CS2 forms \( \text{we}^n \) ‘son’ and \( \text{nj}^a \) ‘girl’ occur before possessive pronouns, as in \( \text{we}^n=dj \) ‘my son’ and \( \text{nj}^a=d \) ‘his daughter’, while the CS2 forms \( \text{wa}^n \) and \( \text{nj}^a \) occur before the numeral 'one'. Such alternations are rare.

Secondly, if the absolute state ends in a glide /w/ or /j/, then for many such nouns (but not all) the construct state suffix \(-n\) is added, while the root-final glide is deleted, as seen in Table 2. If the root vowel of the absolute state is short, then the deletion of the root-final glide normally causes compensatory lengthening of the vowel.

Thirdly, if the absolute state of the noun ends in a stop, then for many such nouns (but not all) this stop is replaced with a homorganic nasal, which presumably reflects an original suffixal /n/ seen in the examples given above. Some instances are given in Table 3.

For nouns ending in a nasal in the absolute state, there is no trace of a nasal suffix, as illustrated in Table 4.
Table 4. Construct state inflection of singular nouns ending in a nasal

<table>
<thead>
<tr>
<th>ABS</th>
<th>CS1</th>
<th>CS2</th>
</tr>
</thead>
<tbody>
<tr>
<td>dôm</td>
<td>dôm</td>
<td>dwɔ̀m</td>
</tr>
<tr>
<td>cwĩn</td>
<td>cwĩn</td>
<td>cwjẽn</td>
</tr>
<tr>
<td>pĩn</td>
<td>pĩn</td>
<td>pjẽn</td>
</tr>
<tr>
<td>tɔŋ</td>
<td>tɔŋ</td>
<td>tɔŋaj</td>
</tr>
<tr>
<td>wɔŋ</td>
<td>wɔŋ</td>
<td>wẽŋ</td>
</tr>
</tbody>
</table>

In plural nouns, there is no trace of a nasal suffix in the construct state forms. Thus, plural nouns do not exhibit alternation in the root-final consonant. When First Construct State differs phonologically from the absolute state, the difference concerns vowel length and/or tone and/or occasionally also vowel quality. Examples are given in Table 5. For more details, see Andersen (2002).

Table 5. Construct state inflection of plural nouns

<table>
<thead>
<tr>
<th>ABS</th>
<th>CS1</th>
<th>CS2</th>
</tr>
</thead>
<tbody>
<tr>
<td>lɔaj</td>
<td>lɔaj</td>
<td>lɔaj</td>
</tr>
<tr>
<td>bɔoc</td>
<td>bɔoc</td>
<td>bɔɔc</td>
</tr>
<tr>
<td>jẽt̪</td>
<td>jẽt̪</td>
<td>jẽet̪</td>
</tr>
<tr>
<td>rj̪m</td>
<td>rj̪m</td>
<td>rjẽm</td>
</tr>
<tr>
<td>tɔɔ̃ŋ</td>
<td>tɔɔ̃ŋ</td>
<td>tɔŋaj</td>
</tr>
<tr>
<td>kɔc</td>
<td>kɔɔc</td>
<td>kɔac</td>
</tr>
</tbody>
</table>

There seems to be only one monosyllabic plural noun that ends in a vowel in the absolute state, namely the lexically plural noun cɛk ‘milk’. This noun has the form cɛk in First Construct State, as in cɛk=kã ‘this milk’, and the forms cɛk and cãk in Second Construct State, as in cɛk ɔgi ‘little milk’ and cãk=cjɛ ‘my milk’. The added /k/ in the construct state forms suggests that suffixal /k/ was originally the plural counterpart of singular /n/ as an exponent of construct state.

Although the state category clearly has three members, there are many nouns that exhibit syncretism, as exemplified in Table 6.

Table 6. Syncretism in construct state inflection

<table>
<thead>
<tr>
<th>ABS</th>
<th>CS1</th>
<th>CS2</th>
</tr>
</thead>
<tbody>
<tr>
<td>rjẽm</td>
<td>rjẽm</td>
<td>rjẽm</td>
</tr>
<tr>
<td>kãaw</td>
<td>kãaw</td>
<td>kãaw</td>
</tr>
<tr>
<td>r̪aap</td>
<td>r̪aap</td>
<td>r̪aap</td>
</tr>
<tr>
<td>ɔgwɔ̃ŋ</td>
<td>ɔgwɔ̃ŋ</td>
<td>ɔgwɔ̃ŋ</td>
</tr>
<tr>
<td>tjẽt</td>
<td>tjẽt</td>
<td>tjẽt</td>
</tr>
</tbody>
</table>

Tables 1–6 above also illustrate that Second Construct State (CS2) shares the changes made in First Construct State (CS1) relative to the absolute state and adds two changes on top of them. Firstly, a root vowel that is short in CS1 normally becomes long in CS2. For instance, CS1 ɔlãŋ ‘cloth’ becomes ɔlãq in CS2, and CS1 djĩn ‘bird’ becomes djẽn in CS2 (Table 3). Secondly, there may be a change in the quality of the root vowel in terms of the vowel grade system described in Andersen (1993, 2002) and according to which a root vowel may alternate morphophonologically between three grades as summarized in Table 7, taken from Andersen (2017: 9). For each root there is a basic vowel quality, Grade 1, from which Grades 2 and 3 may be derived. The table distinguishes between non-breathy vowels and breathy vowels, and between three phonological contexts for
Grade 1 vowels: not preceded by a postconsonantal glide, preceded by a postconsonantal /j/, and preceded by a postconsonantal /w/. In Grade 2 the basic vowel quality /a/ is raised and fronted to /ɛ/ or /e/, and in Grade 3 the other basic vowel qualities are either lowered or turned into a glide plus a lowered vowel. A root vowel that belongs to Grade 1 or 2 in First Construct State regularly changes to Grade 3 in Second Construct State. For instance, Grade 1 in CS1 d̪ɔ ̤ ɔŋ ‘boy’ is changed to Grade 3 in CS2 d̪a ̤ aŋ, and Grade 1 in CS1 d̪i ̰ n ‘bird’ is changed to Grade 3 in CS2 djɛ ̰ n (Table 3).

The exponents of First Construct State may be both affixal, namely the nasal suffix, and non-affixal, primarily changes in the root-final consonant and in the length and the tone of the root vowel. Since Second Construct State shares these exponents and in addition may have two non-affixal exponents, namely vowel lengthening and Grade 3, it may be analysed as based on First Construct State and thus as involving two construct state morphemes, CS1 and CS2. This analysis will be used in the interlinear morphemic translation of examples.

### 2.2. Uses of the construct states

First Construct State of the head noun is used before the types of modifier exemplified in (1), among others: nominal possessors (1a), demonstratives (1b), the pronoun ‘other’ (1c), interrogative pronouns (1d), time particles (1e), adverbials (e.g. a noun in a spatial case) (1f), adjectival verbs as relative clauses (1g), and ordinary relative clauses (1h). The examples use some of the head nouns shown in tables of Section 2.1.

(1) a. wē-ŋ ɛ bān
   son.SG-CS1 [of chief.SG.GEN]
   ‘the chief’s son

b. d̪jɛn =g  
   bird.SG-CS1 =DEM1.SG
   ‘this bird’

c. ɖɔŋ dɔ̀
   boy.SG-CS1 other.SG
   ‘another boy’

d. t̪iŋ njiŋ
   woman.SG-CS1 which.SG
   ‘which woman?’

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5 Time particles used as modifiers mean ‘aforementioned’ and distinguish four degrees of temporal distance from the utterance time: njà ‘recent past of today’ (P1), wɔn ‘distant past of today’ (P2), wɛɛɛ and wɔaar ‘earlier than last midnight’ (P3), and ujɔn and ɖɛɛɛ ‘long ago’ (P4).
e. mọ̀n  wàñ  
man.SG.CS1  p2  
‘the aforementioned man’

f. kóoc  pëeen  
person.PL.CS1  town.LOC  
‘town people’

g. pà-ñ  pàl  
girl.SG-CS1  be_good  
‘good girl’

h. jọ-ŋ  cè  mèt  càm  
dog.SG-CS1  [PF  child.SG  eat.NF]  
‘the dog which has bitten the child’

Second Construct State of the head noun is used before the types of modifier exemplified in (2), among others: possessive pronouns (2a), the numeral ‘one’ (2b), the diminutivizer Ỉị (2c), and adjectival nouns (2d). 6 Again the examples use some of the head nouns listed in tables in Section 2.1.

(2)  
a. wèŋẹ  =d-jè  
cow.SG.CS1.CS2  =SG-1SG  
‘my cow’

b. wèŋẹ  tok  
cow.SG.CS1.CS2  one  
‘one cow’

c. tjèŋẹ  Ỉị  
woman.SG.CS1.CS2  DIM  
‘junior wife’

d. mwèŋẹ  ผลกระท�  
man.SG.CS1.CS2  cowless_one.SG  
‘cowless man’

2.3. Postnominal modifiers that do not trigger construct state marking. The only postnominal modifiers that do not trigger a construct state in the head noun are numerals above ‘one’ (or ‘two’) and some other quantifiers. Numerals from ‘two’ to ‘nine’ are preceded by a quantification marker, which is ʨa if the head is third person as in (3). 7

(3)  
iquement  ʨa  ɖjèec  
boy.PL  [3PL.QUANT  five]  
‘five boys’

---

6 The construction with what I call an “adjectival noun” as modifier seems to correspond to what Nikolaeva and Spencer (2013: 221) call “modification-by-noun”.

7 The numeral ‘two’ may alternatively be a CS2-modifier, see Section 3.2.2.
For numerals above ‘nine’ there is an alternative to the construction with the marker kāa, namely a construction without this marker and with the noun being singular rather than plural, and also here the noun is in the absolute state. Thus, (4b) is an alternative to (4a).

(4)  
\[
\begin{align*}
  &a. \quad \hat{a}=n\hat{\eta} \quad j\hat{\alpha}ok \quad k\hat{\alpha}a \quad t\hat{\eta}\hat{\alpha}ar. \\
  &D.\ SG=\hat{h}ave \quad [\hat{g}oat.\ PL \quad [3PL.\ QUANT \quad ten.\ SG]]
\end{align*}
\]

‘He has ten goats.’

\[
\begin{align*}
  &b. \quad \hat{a}=n\hat{\eta} \quad j\hat{\alpha}ok \quad t\hat{\eta}\hat{\alpha}ar. \\
  &D.\ SG=\hat{h}ave \quad [\hat{g}oat.\ SG \quad ten.\ SG]
\end{align*}
\]

‘He has ten goats.’

The fact that numerals above ‘one’ and other quantifiers do not trigger a construct state form of the head noun may be related to another property of such modifiers, namely that numerals with the marker kāa and some other quantifiers may occur outside the NP of their scope, a possibility that does not exist for other modifiers. Thus, they may be right-dislocated so that they are separated from the NP by other constituents of the clause, as exemplified in (5). In (5a) the numeral phrase kāa rōw ‘two’ occurs within the same NP as the modified noun in preverbal position, but in (5b), with the same meaning, it occurs clause-finally and separated from the NP in its scope by the finite Perfect auxiliary verb ceŋ and the non-finite main verb māaar ‘get lost’.8

(5)  
\[
\begin{align*}
  &a. \quad u\hat{\iota}\hat{\alpha}ak \quad =c-j\hat{\varepsilon} \quad k\hat{\alpha}a \quad r\hat{o}w \quad \hat{a}=c\hat{\varepsilon} \quad m\hat{\alpha}aar. \\
  &D.\ PL.\ CS1.\ CS2 \quad =PL.-1SG \quad [3PL.\ QUANT \quad two] \quad D.\ PL.=PF \quad get\_lost.NF
\end{align*}
\]

‘Two of my cows got lost.’

\[
\begin{align*}
  &b. \quad u\hat{\iota}\hat{\alpha}ak \quad =c-j\hat{\varepsilon} \quad \hat{a}=c\hat{\varepsilon} \quad m\hat{\alpha}aar \quad k\hat{\alpha}a \quad r\hat{o}w. \\
  &D.\ PL.\ CS1.\ CS2 \quad =PL.-1SG \quad D.\ PL.=PF \quad get\_lost.NF \quad [3PL.\ QUANT \quad two]
\end{align*}
\]

‘Two of my cows got lost.’

Similarly, the quantifier ēbān ‘all’ may occur both inside and outside the NP of the head noun. Thus, in (6a) it occurs in preverbal position together with ‘our money’, while in (6b) and (6c), it occurs clause-finally and separated from ‘your people’ and ‘cow’ by other clausal constituents.

(6)  
\[
\begin{align*}
  &a. \quad w\hat{\varepsilon}\varepsilon w \quad =k-w\hat{\alpha} \quad \hat{e}\hat{\beta}\hat{\alpha}n \quad \hat{a}=c\hat{\iota}i \quad k\hat{\varepsilon}\hat{\alpha}l \quad n\hat{\varepsilon} \hat{r}\hat{\alpha}aan. \\
  &D.\ PL.\ CS1.\ CS2 \quad =PL.-1PL \quad all \quad D.\ PL.=PF.PASS \quad steal.NF \quad by\ person.SG.GEN
\end{align*}
\]

‘All our money has been stolen by somebody.’

\[
\begin{align*}
  &b. \quad j\hat{j}\hat{\iota}k \quad k\hat{\varepsilon}\hat{\alpha}c \quad =k-\hat{\mu} \quad k=\hat{\alpha}=b\hat{\varepsilon} \quad r\hat{j}\hat{\varepsilon}\hat{\ell} \quad \hat{e}\hat{\beta}\hat{\alpha}n. \\
  &D.\ PL.\ CS1.\ CS2 \quad =PL.-2SG \quad ASS=D.\ PL.=FUT \quad be\_strong.NF \quad all
\end{align*}
\]

‘All your people will be strong.’ (t.)

\[
\begin{align*}
  &c. \quad w\hat{\varepsilon}n \quad \hat{a}=c\hat{\iota}i \quad d\hat{\varepsilon}w\hat{\varepsilon}l \quad c\hat{\varepsilon}\hat{\iota}\hat{e}\hat{\varepsilon}en \quad \hat{e}\hat{\beta}\hat{\alpha}n. \\
  &D.\ SG \quad D.\ SG.=PF.PASS \quad return.CP.NF \quad back.ALL \quad all
\end{align*}
\]

‘All the cows have been brought back.’

So, quantifiers are clearly less strongly tied to the head noun than the construct state triggering modifiers.

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8 As mentioned in footnote 1, I use initial capitals for names of language-particular grammatical categories, such as Perfect.
2.4. Prenominal modifiers. In addition to postnominal modifiers, Dinka also has a few (types of) prenominal modifiers, but they have no morphological effect on the following head noun. These modifiers include (i) the associative plural marker ji̧ik, as in (7a) and as in (6b) above; (ii) the demonstrative proclitic ȩ̂=, which is neutral both with respect to distance from the deictic center and with respect to number, and which seems only to occur in combination with a postnominal modifier, as in (7b); and (iii) personal pronouns which agree in person and number with the head noun and which emphasize the particularity of what the head noun refers to, as j̧en in (7c).

(7) a. ji̧ik ɲa
ASSOC girl.SG
‘the girl and her family’
b. ȩ̂= tjiim =kà
DEM= tree.PL.CS1 =DEM1.PL
‘these trees’
c. kù j̧en ę̧̂ wa̧ar =ę̧̂ ę̧̂ tôoc.
and [3SG DEM= river.SG.CS1 =DEM2.SG] D.SG.be swamp.SG
‘And that very river is a swampy area.’ (t.)

In some syntactic contexts (Andersen 2019: 151–156), moreover, the possessor of a body-part noun precedes its possessum, as in (8), where the possessum çin ‘hands’ is preceded by the third person singular possessor pronoun ȩ, which is coreferential with the subject mèt̪ ‘child’.

(8) mèt̪ ę̧̂=çaw ę̧̂ çin.
child.SG D.SG=wash [3SG hand.PL]
‘The child is washing his hands.’

2.5. Multiple postnominal modification. In the examples given in Section 2.2 above, the head noun is followed by a single modifier. However, a head noun may be followed by more than one modifier, and the addition of a modifier may affect the morphological composition of both the preceding modifier and the head noun. Thus, multiple postnominal modification involves more than mere juxtaposition. First I will show what happens when a CS1-modifier or CS2-modifier is added to a CS2-modifier (Section 3), and then what happens when a modifier is added to a CS1-modifier (Section 4).

3. CS2-modifier + modifier

In the following subsections, I will show that CS2-modifiers can be followed by another construct-state triggering modifier and that when they do so, they themselves get construct state marking, while the head shifts state from Second Construct State to First Construct State. CS2-modifiers with this possibility include at least possessive pronouns, the numerals ‘one’ and ‘two’, and the diminutivizer. It is unknown (to me) whether adjectival nouns have the same possibility.

3.1. Possessive pronoun + modifier. Possessive pronouns, which are CS2-modifiers, may be followed by any of the following CS1-modifiers: demonstrative, time particle, adverbial, ‘other’, adjectival verb, nominal possessor, and relative clause. They may also be followed by the following CS2-modifiers: diminutivizer and ‘one’. Each of these combinations is illustrated below.
3.1.1. Possessive pronoun + demonstrative. The NPs in (9) illustrate what happens when a possessive pronoun as the first modifier is followed by a demonstrative as a second modifier. (9a) shows the noun tìik ‘woman’ in the absolute state. In (9b) this noun is followed by the demonstrative enclitic =è ‘this’ and is thereby changed to the First Construct State form tìŋ. In (9c) the same noun is instead followed by the possessive pronominal enclitic =d-je ‘my’ and is thereby changed to the Second Construct State form tìjeŋ. In (9d) these two modifiers are combined, the demonstrative following the possessive pronoun, and this operation causes two changes relative to (9c). Firstly, the head noun gets the First Construct State form tìŋ just like in (9b). Secondly, the possessive pronoun changes from =d-je to =d-je-n, with the short vowel /e/ lengthened to /e̤e/, with the alveolar nasal /n/ added, and with the tone changed from low to high.

(9)

a. tìik
   ‘woman’ (sg.)

b. tìŋ =è
   woman.SG.CS1 =DEM1.SG
   ‘this woman’

c. tìjeŋ =d-je
   woman.SG.CS1.CS2 =SG-1SG
   ‘my wife’

d. tìŋ =d-je-n =è
   [[woman.SG.CS1 =SG-1SG-CS1] =DEM1.SG]
   ‘this wife of mine’

A parallel set of NPs is given in (10) with the head noun dòm ‘field’. As seen in (10d), the addition of the modifier ‘this’ to ‘your field’ again causes a change in both the head noun and the possessive modifier. The head dòm (10c) changes to dòm (10d), the form also found in (10b), and the modifier =d-ù ‘your’ (10c) changes to =d-ù-n (10d).

(10)

a. dòm
   ‘field’ (sg.)

b. dòm =è
   field.SG.CS1 =DEM1.SG
   ‘this field’

c. dòm =d-ù
   field.SG.CS1.CS2 =SG-2SG
   ‘your field’

d. dòm =d-ù-n =è
   [[field.SG.CS1 =SG-2SG-CS1] =DEM1.SG]
   ‘this field of yours’

The nasal suffix -n which is added to the possessive pronouns when another modifier follows is analysed as an exponent of construct state (glossed as CS1 in the interlinear translation) along with the vowel lengthening and the tone change. This suffix is taken to be the same morpheme as the construct state suffix -n found in singular nouns whose root ends in a vowel and in many singular nouns whose root ends in a glide, cf. Section 2.1 above.
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Moreover, if the CS2 form of the head noun is analysed as consisting of a CS1 form plus a CS2 morpheme, as argued in Section 2.1 above, then what happens to the head noun when a modifier is added to its modifier is that the CS2 morpheme is removed.

In the interlinear translation the bracketing indicates my analysis of the constituent structure of NPs with multiple modification. The assumption is that each additional modifier has scope over the preceding part of the NP, which is thus an extended head being modified. This is schematized in (11) for an NP with three postnominal modifiers.


The fact that both the head noun and the following modifier are morphologically sensitive to the addition of a second modifier may be taken as evidence for this structure.

Table 8 shows full paradigms with the possessive pronouns modifying the singular noun ‘meat’, which is riŋ in the absolute state, and the plural noun ‘meats’, which is riŋ in the absolute state. The table displays these expressions both in the absolute state (i.e., unmodified) and in the construct state (i.e., modified).

Table 8. Possessive pronouns after the singular (riŋ) and the plural (riŋ) of the noun for ‘meat’, unmodified and modified

<table>
<thead>
<tr>
<th></th>
<th>Singular unmodified, absolute state</th>
<th>Modified, construct state</th>
<th>Plural unmodified, absolute state</th>
<th>Modified, construct state</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG riŋ=ŋ=d-jeŋ</td>
<td>riŋ=ŋ=d-jeŋ-n=/d-jeŋ-n</td>
<td>riŋ=ŋ=d-jeŋ-n=ŋ=d-jeŋ-n</td>
<td>riŋ=ŋ=d-jeŋ-n=ŋ=d-jeŋ-n</td>
<td></td>
</tr>
<tr>
<td>2SG riŋ=ŋ=d-ŋŋ</td>
<td>riŋ=ŋ=d-ŋŋ-n=ŋ=d-ŋŋ-n</td>
<td>riŋ=ŋ=d-ŋŋ-n=ŋ=d-ŋŋ-n</td>
<td></td>
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</tr>
<tr>
<td>3SG riŋ=ŋ=d-ŋŋ</td>
<td>riŋ=ŋ=d-ŋŋ-n=ŋ=d-ŋŋ-n</td>
<td>riŋ=ŋ=d-ŋŋ-n=ŋ=d-ŋŋ-n</td>
<td></td>
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</tr>
<tr>
<td>1PL riŋ=ŋ=d-ŋŋ</td>
<td>riŋ=ŋ=d-ŋŋ-n=ŋ=d-ŋŋ-n</td>
<td>riŋ=ŋ=d-ŋŋ-n=ŋ=d-ŋŋ-n</td>
<td></td>
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</tr>
<tr>
<td>2PL riŋ=ŋ=d-ŋŋ</td>
<td>riŋ=ŋ=d-ŋŋ-n=ŋ=d-ŋŋ-n</td>
<td>riŋ=ŋ=d-ŋŋ-n=ŋ=d-ŋŋ-n</td>
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<tr>
<td>3PL riŋ=ŋ=d-ŋŋ</td>
<td>riŋ=ŋ=d-ŋŋ-n=ŋ=d-ŋŋ-n</td>
<td>riŋ=ŋ=d-ŋŋ-n=ŋ=d-ŋŋ-n</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen in the table, all possessive pronouns that end in a vowel in the absolute state take the suffix -ŋ and lengthen their vowel from short to long in the construct state. The rest of the pronouns (2PL and 3PL) end in a long vowel plus /ŋ/ in the absolute state, so they do not exhibit any segmental change in the construct state. Although the construct state suffix -ŋ is specifically singular in nouns, it not only occurs in the singular possessive pronouns, but also in 1PL. This is presumably due to analogy with the other plural possessive pronouns (whose /ŋ/ is not a construct state suffix).

The tones of the possessive pronouns in Table 8 should also be noticed. In their absolute state (whether singular or plural), 1SG, 2SG, 3SG and 1PL are low-toned, while 2PL and 3PL are high-toned. In their construct state, by contrast, all six pronouns, whether singular or plural, have the same tone, which is either low or high as determined by the following modifier. The low tone occurs before certain high-toned modifiers, such as the demonstratives =ŋ ‘that’ (DEM2.SG) and =ká ‘those’ (DEM2.PL) and the time particles njá (P1) and wón (P2), while the high tone occurs before other modifiers. The tone alternation is seen in (12), where ‘our’ is high-toned =ŋa-a-n before low-toned =ŋ ‘this’ and low-toned =ŋa-a-n before high-toned =ŋ ‘that’.

(12) a. pálal =d-ŋa-n =ŋ 'this knife of ours'

[[knife.SG.CS1 =SG-1PL-CS1] =DEM1.SG]
b. pəal =d-à-a-n =é
[[knife.SG.CS1 =SG-1PL-CS1] =DEM2.SG]
‘that knife of ours’

The same tone alternation occurs in (13), with ‘my’ being high-toned =c-ğe-e-n before low-toned =kå ‘these’ and low-toned =c-ğe-e-n before high-toned =kå ‘those’.

(13) a. jəsk =c-ğe-e-n =kå
[[dog.PL.CS1 =PL-1SG-CS1] =DEM1.PL]
‘these dogs of mine’

b. jəsk =c-ğe-e-n =kå
[[dog.PL.CS1 =PL-1SG-CS1] =DEM2.PL]
‘those dogs of mine’

In this way, possessive pronouns behave tonally like one of three tonal classes of nouns in First Construct State (Andersen 2002: 21–23). This is illustrated in (14)–(15) with dít ‘bird’ and njír ‘girls’. In (14) ‘bird’ is high-toned before =ę and low-toned before =ę. In (15), similarly, ‘girls’ is high-toned before =kå and low-toned before =kå.

(14) a. ðiŋ =ę
bird.SG.CS1 =DEM1.SG
‘this bird’

b. ðiŋ =ę
bird.SG.CS1 =DEM2.SG
‘that bird’

(15) a. njír =kå
girl.PL.CS1 =DEM1.PL
‘these girls’

b. njír =kå
girl.PL.CS1 =DEM2.PL
‘those girls’

3.1.2. Possessive pronoun + time particle. Other additional modifiers have the same effect on noun + possessive pronoun as demonstratives have. In the sets of examples given in this and the following subsections, I show NPs in the following order (a) unmodified noun, (b) noun + CS1-modifier, (c) noun + possessive modifier, and (d) noun + possessive modifier + modifier. In this way it can be seen how the head noun changes its form.

In (16) and (17) the extra modifier is the P2 time particle wàń. The possessive pronouns get CS1 form, and consequently, CS2 rjéen ‘meat’ (16c) changes to CS1 rjíŋ (16d), and CS2 kàac ‘people’ (17c) changes to CS1 kàxc (17d).

(16) a. ðiŋ
‘meat’ (sg.)

b. ðiŋ ę márjáal
meat.SG.CS1 of Marial.SG.Gen
‘Marial’s meat’
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c. rjéen =d-jè
meat.SG.CS1.CS2 =SG-1SG
‘my meat’

d. rjèn =d-jèe-n wán
[[meat.SG.CS1 =SG-1SG-CS1] p2] ‘my aforementioned meat’

(17) a. kóc
‘people’ (pl.)

b. kóc =kà
person.PL.CS1 =DEM1.PL
‘these people’

c. kàc =k-è
person.PL.CS1.CS2 =PL-3SG
‘his people’

d. kóc =k-èe-n wán
[[person.PL.CS1 =PL-3SG-CS1] p2] ‘his aforementioned people’

3.1.3. Possessive pronoun + adverbial. In (18d) the additional modifier is an adverbial, the word cèem, which is the Locative form of the noun cäm ‘left-hand side’. In (18d) this adverbial modifier causes the head noun ‘hand’ to change from CS2 cjèn to CS1 cjìn.

(18) a. cjìn
‘hand’ (sg.)

b. cjìn è rjàan
hand.SG.CS1 of person.SG.GEN
‘hand of person’

c. cjèn =d-jè
hand.SG.CS1.CS2 =SG-1SG
‘my hand’

d. ì=càqèt è cjìn =d-jèe-n cèem.
D.SG=walk [PREP [[hand.SG.CS1 =SG-1SG-CS1] left_hand_side.LOC]]
‘He is walking on my left side.’

3.1.4. Possessive pronoun + ‘other’. In (19) the additional modifier is the singular pronoun dà ‘other, some’. The noun for ‘thing’ shown in (19) is always followed by a modifier, so it has no absolute state form. Before a modifier beginning with a consonant, this head noun has no -n suffix, and there is syncretism between its First Construct State and Second Construct State. In (19d) the 3SG possessive pronoun =d-è seen in (19c) gets the construct state form =d-èe-n.

(19) a. (non-existent in absolute state)

9 Before a modifier beginning with a vowel, however, the noun for ‘thing’ does have the -n suffix, as in kë-n=è ‘this thing’ (thing.SG-CS1=DEM1.SG) and kë-n è jlàlc ‘something of God’ (thing.SG-CS1 of God.SG.GEN).
b. ke̤ =t̄uj thing.SG.CS1 =DEM3.SG
   ‘that thing’

c. ke̤ =d-è thing.SG.CS1.CS2 =SG-3SG
   ‘his thing’

d. ke̤ =d-èe-n dà [[thing.SG.CS1 =SG-3SG-CS1] other.SG]
   ‘his other thing’ (t.)

The plural counterpart of sg. dà ‘other, some’ is kòk, which is the additional modifier in (20d). The grammatically plural head noun ‘name(s)’ here changes from CS2 ri generics(20c) back to CS1 ri, which is also seen in (20b).

(20) a. ri generics
   ’name(s)’ (pl.)

b. ri generics è kòc kòk
   [name.PL.CS1 [of [person.PL.CS1.GEN other.PL.GEN]]]
   ‘names of other people’

c. cò̤al ri generics =k-ù ñà?
call.PASS [name.PL.CS1.CS2 =PL-2SG] who.SG
   ‘What is your name?’
   Lit. ‘Who is your name called?’

d. ri generics =k-èe-n kòk
   [[name.PL.CS1 =PL-3SG-CS1] other.PL]
   ‘his other name’ (t.)

3.1.5. Possessive pronoun + adjectival verb. In (21) the additional modifier after the possessive pronoun ‘my’ is the adjectival verb mòt ‘be sharp’. The head noun péal ‘knife’ syncretizes all three states, so in this case there is no observable difference between its forms in (21d) and (21c).

(21) a. péal
   ‘knife’ (sg.)

b. péal =è knife.SG.CS1 =DEM1.SG
   ‘this knife’

c. péal =d-jè knife.SG.CS1.CS2 =SG-1SG
   ‘my knife’

d. péal =d-jèe-n mòt [[knife.SG.CS1 =SG-1SG-CS1] be_sharp]
   ‘my sharp knife’

3.1.6. Possessive pronoun + nominal possessor. A nominal possessor, which is expressed by a prepositional phrase with the preposition è ‘of’, has the same effect as other CS1-modifiers, as seen
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In (22)–(24). In (22d), gwọng=d-é ‘his gourd’ (22c) is changed to gúun=d-én before the possessor è tāap ‘of tobacco’. And in (23d), rjèn=c-jè ‘my name’ (23c) is changed to rìn=c-jèè-n before the possessor è mòor ‘of bull’.

(22) a. ġut
‘type of gourd’ (sg.)

b. gúun è kêt
gourd.pl.sg.cs1 of cow urine.pl.gen
‘gourd of cow urine’

c. gwọng
gourd.pl.sg.cs1.cs2 =sg-3sg
‘his gourd’

d. gúun =d-èè-n è tāap
[[gourd.pl.sg.cs1 =sg-3sg-CS1] [of tobacco.sg.gen]]
‘his tobacco gourd’ (t.)

(23) a. rìn
‘name(s)’ (pl.)

b. rìn è mòor
name.pl.cs1 of bull.pl.gen
‘nickname’ (Lit. ‘name of bulls’)

c. rjèn
name.pl.cs1.cs2 =pl-1sg
‘my name’

d. rìn =c-jèè-n è mòor
[[name.pl.cs1 =pl-1sg-CS1] [of bull.pl.gen]]
‘my nickname’

In the textual example (24) with the head noun būr ‘fishing camp’, ‘their fishing camp’ first occurs unmodified as bwoṅ=d-èèn and then as būr=d-èèn modified by è rēc ‘of fish’.

(24) kāpè è rēc
[person.pl.cs1 of fish.pl.gen] d.pl=be_able
bjiŋ nāŋ bwoṅ =d-èèn,
fut.3pl have.pf [fishing_camp.pl.sg.cs1.cs2 =sg-3pl]
būr =d-èèn è rēc.
[[fishing_camp.pl.sg.cs1 =sg-3pl-CS1] of fish.pl.gen]
‘Fishermen can have their own camp, their camp of fish.’ (t.)

3.1.7. Possessive pronoun + relative clause. The effect of relative clauses as additional modifiers is shown in (25)–(26). In (25d), tijèn=d-jè ‘my wife’ (25c) is changed to tij=d-jèè-n before the relative clause cỳòl jìm ‘who is called Yom’.

(25) a. tijè
‘woman’ (sg.)
b. tịŋ ę bǎn
   woman.SG.CS1 of chief.SG.GEN
   ‘the chief’s wife’

c. tịęŋ =d-jè
   woman.SG.CS1.CS2 =SG-1SG
   ‘my wife’

d. tịŋ =d-jje-n cʒọl jọm ǝ=ii̠aar ǝpćej.
   [[woman.SG.CS1 =SG-1SG-CS1] [call.PASS Yom.SG]] D.SG=love.1SG very.much
   ‘My wife called Yom I love very much.’ (t.)

In (26d), similarly, kọ́ay=c-k-έɛn ‘their people’ (26c) becomes kọ́ay=c-k-έɛn before the relative clause è jwär ātāp ‘who collect tax’.

(26)

a. kọ́ay
   ‘people’ (pl.)

b. kọ́ay ę bǎn
   person.PL.CS1 of chief.SG.GEN
   ‘the chief’s people’

c. kọ́ay =k-έɛn
   person.PL.CS1.CS2 =PL-3PL
   ‘their people’

d. bǎn ǝa=nɛŋ kọ́ay =k-έɛn ǝ
d. chief.PL D.PL=have [[person.PL.CS1 =PL-3PL.CS1] [HAB
collect.AP.NF ǝtāp.10
    PREP.tax.SG]]
   ‘Chiefs have their own people who collect tax.’ (t.)

3.1.8. Possessive pronoun + CS2-modifiers ‘small’ and ‘one’. The additional modifiers shown above are CS1-modifiers. But possessive pronouns may also be followed by the CS2-modifiers ğjì ‘small’ as diminutivizer and the numeral tòk ‘one’. These modifiers have the same effect as CS1-modifiers, as illustrated in (27)–(28). In (27) the possessive pronoun ‘our’ has the form =k-wáa-n, rather than =k-wâ, before the diminutivizer ğjì ‘small’.11

(27) lịım =k-wáa-n ğjì
   [[vegetable.PL.CS1 =PL-1PL.CS1] DIM]
   ‘our small vegetables’ (t.)

In (28d), similarly, the possessive pronoun ‘your’ has the form =d-ụu-n, rather than =d-ụ, before the numeral ‘one’. In this example the numeral is itself followed by a modifier (a relative clause) and therefore has the construct state form tọ́g rather than the absolute state form tọ́g, cf. Section 3.2 below.

10 In (26d) the noun ātāp ‘tax’ is a demoted patient of the antipassive verb jwär ‘collect’. A demoted patient is preceded by the preposition ǝ, but this preposition is deleted before nouns beginning with /a/.

11 The absolute state of ‘vegetables’ in (27) is lịım. Second Construct State has not be attested for this plural noun.
(28)  a.  më́t 'child' (sg.)

b.  män child.SG.CS1 =g̥ child.SG 'this child'\(^{12}\)

c.  mà̰n child.SG.CS1.CS2 =d̪-ŋ 'your child'

d.  män =d̪-ŋu-n tøŋ ë̱n că dʒə̱e̱t [([child.SG.CS1 =SG-2SG.CS1] one.CS1) [3SG PF.2SG bear.NF]]
‘your only child that you have borne’ (t.)

3.2. Numerals ‘one’ and ‘two’ + modifier. Like the possessive pronouns, the numerals ‘one’ and ‘two’ as CS2-modifiers can be followed by another modifier, as illustrated below. In Section 3.2.1 the additional demonstrative is a demonstrative, in Section 3.2.2 it is a relative clause.

3.2.1. Numerals + demonstrative. The CS2-modifier t\ ö̱k ‘one’ behaves in the same way as possessive pronouns when followed by another modifier. This is illustrated in (29) with t\ ö̱k modifying the noun for ‘heifer’. The latter is d\ å̱w in the absolute state (29a), d\ å̱n in First Construct State (29b), and d\ å̱n in Second Construct State, as in (29c), where it is modified by the numeral t\ ö̱k ‘one’.\(^{13}\) In (29d) ‘one’ is followed by another modifier, namely the demonstrative enclitic =g̥ ‘that’. As seen here, ‘one’ changes from t\ ö̱k to tøŋ, and the preceding head noun ‘heifer’ changes from d\ å̱a-n (29c) to d\ å̱-n, which is identical to the First Construct State form seen in (29b). So when followed by another modifier, the numeral ‘one’ shifts from being a CS2-modifier to being a CS1-modifier and itself enters First Construct State.

(29)  a.  dǻw å̱=g̥t lè̱c.
      heifer.SG D.SG=extract peg.SG
      ‘The heifer is pulling the peg out.’

b.  dǻ-n è̱ wùn
      heifer.SG.CS1 of cow.SG.GEN
      ‘heifer’

c.  u\ ö̱jk å̱a=cwë̱t dǻ-n tø̱k.
      1PL D.PL=eat [heifer.SG.CS2.CS1 one]
      ‘We’d better eat one heifer.’ (t.)

\(^{12}\) The alternation between the vowel qualities /e/ and /a/ in ‘child’ is irregular.

\(^{13}\) Since the cs2 morpheme is not affixal, but expressed by alternations in the root, the gloss cs2 occurs before the gloss cs1 in the interlinear morphemic translation in (29c) and (33a), where the suffix -n is one of the exponents of First Construct State. In cases without this suffix, I use the opposite order, which reflects the order of the morphological layers in the noun, cf. Andersen (2002: 29). For instance, the translation of njî̱er as “girl.PL.CS1.CS2” in (33b) indicates that the Second Construct State is based on the First Construct State, which is based on the plural of ‘girl’.
d.  kè  jéen  ḗ=  dà-n  tēŋ  =ḡ.
then  [3SG  DEM=  [[heifer.SG-CS1  one.CS1]  =DEM2]]
k=Ḡ=bjuk  tēk.
then=D.SG=FUT.1PL  divide.NF
‘then we can share that one heifer.’ (t.)

The shift from root-final /k/ to /ŋ/ in ‘one’ is the same as in the construct state of nouns, cf. Section 2.1 above.

3.2.2. Numeral + relative clause. In (30) it is seen that tōk ‘one’ behaves in the same way as in (29) when the following modifier is a relative clause. In (30c) ‘one’ modifies the noun rāaan ‘person’, a Second Construct State form which happens to be phonologically identical to the absolute state form seen in (30a), but different from the First Construct State form rān seen in (30b). In (30d) ‘one person’ is followed by the relative clause 碡 iệu ניוז =k-ेण  ‘who was expected with his people’ as another modifier, and here tōk changes to the First Construct State form tōŋ, and at the same time the head noun changes back to the First Construct State form rān.

(30)

a. rāaan  ḗ=ṃjut  ḗ  tōk.
person.SG  D.SG=shave  [3SG  mouth.SG]
‘Somebody is shaving.’ (Lit. ‘A person is shaving his mouth.’)

b. mēt  ḗ=łat  rān  djit.
child.SG  D.SG=insult  [person.SG.CS1  be_big]
‘The child is insulting an elder.’

c. rāaan  tōk  ḗ=cē  ḗ=ṃjut.
[person.SG.CS1.CS2  one]  D.SG=shave  remain.CF.NF
‘One person remained.’

d. kū  rān  tōŋ  ḗ  㙍  tjit  kē
and  [[person.SG.CS1  one.CS1]  [PST  expect.PASS  COM]
kēajjaan.
person.PL.CS1.CS2  =PL-3SG]  D.SG.PST=be  Wuol.SG.CS1  of.Athian.SG.GEN
‘and one person who was expected with his people was Wuol Athian.’ (t.)

As an alternative to being preceded by the numeral marker kā, the numeral rōw ‘two’ may be used as a modifier without this marker, but in that case it means ‘a few’ or ‘a little’ rather than strictly ‘two’ and thus has paucal meaning. When used in this way, rōw triggers Second Construct State in the head noun, just like tōk ‘one’. This is exemplified in (31) with the plural noun ‘water’ as head. In the absolute state (31a) and in First Construct State (31b), ‘water’ has the form pjiïw, and in Second Construct State it has the form pjiïeeew as seen in (31c) before the possessive pronoun =c-jē ‘my’ and in (31d) before rōw ‘two’.

(31)

a. pjiïw
‘water’ (pl.)

b. pjiïw  =kā
water.PL.CS1  =DEM1.PL
‘this water’
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c.  ámb=dék pjeew =c-jé.
d.SG=drink water.PL.CS1.CS2 =PL-1SG
‘He is drinking my water.’

d. mwōc e pjeew rōw.
give.2SG [PREP [water.PL.CS1.CS2 two]] ‘Give him a little water!’

The CS2-modifier rōw ‘two’ gets a construct state form when followed by another modifier, just like tōk ‘one’. As seen in (32d) this form is rē-e-n, with the construct state suffix -n having replaced the root-final glide /w/ and the root vowel having undergone compensatory lengthening from short to long. The examples in (32) show NPs with the plural noun ‘money’ as head. The absolute state of this noun is wēgew (32a), First Construct State is wēgew (32b), and Second Construct State is wēgew (32c). In (32d), the shift of ‘two’ from rōw to rē-e-n occurs before the relative clause cē dōŋŋ ‘which remained’, and the head noun ‘money’ shifts from the CS2 form wēgew to the CS1 form wēgew.

(32)  a.  wēgew á= ámb=tēk.
money.PL D.PL=divide.PASS
‘The money is being divided.’

b.  wēt kēec jīn á a jījēk wēgew jwēc.
because PF.NEG.NTS 2SG.GEN 1SG give.APPL.NF [money.PL.CS1 be_many.PL]
‘because you did not give me much money.’

c.  wēgew =k-wā ḋbān á=cjī kwāal nē ṭāan.
[[money.PL.CS1.CS2 =PL-1PL] all] D.PL=PF.PASS steal.NF by person.SG.GEN
‘All our money has been stolen by somebody.’

d.  kū nēcŋ wēew ṭōe-n cē dōŋŋ [...] and have.3SG [[money.PL.CS1 [two-Cs1] [PF remain.CF.NF]]
‘and if there was a little money left [...]’

The shift in vowel quality from /o/ to /e/ in ‘two’ (32d) is irregular. Presumably, the root vowel was originally /e/, which rounded to /o/ by assimilating to the root-final /w/. A similar change has taken place in the word for ‘cow’, which in the Agar dialect (the variety described here) is wōŋ, but which in other dialects is wēŋ.

3.3. Diminutivizer + modifier. In its absolute state, the diminutivizer (DIM) jīj ‘small’ is neutral with respect to number, as seen in (33), where it modifies both the singular noun jān ‘girl’ and the plural noun jījēr ‘girls’.

(33)  a.  jā-n jīj
girl.SG.CS2.CS1 DIM
‘small girl’

14 Example (32d) is a cosubordinate clause in the sense of Foley and Van Valin (1984: 240—242). It gets its function as a conditional clause from the clause preceding it in the text from which it has been extracted.
When followed by another modifier, however, the diminutivizer makes a distinction between singular ɲi(n) and plural ɲi(k) in agreement with the number of the head noun. This is exemplified in (34), where the diminutivizer is followed by a demonstrative, in (34a) the singular enclitic =e ‘this’, in (34b) the plural enclitic =kà ‘these’.

(34)  

a. ɲa-n  ŋii-n =e  
[[girl.SG-CS1 DIM-SG.CS1] =DEM1.SG]  
‘that small girl’

b. ɲiir  ŋii-k =kà  
[[girl.PL.CS1 DIM-PL.CS1] =DEM1.PL]  
‘those small girls’

The singular construct state form of the diminutivizer has the suffix -n, which is also seen in the construct state of some singular nouns, for instance ɲa-n ‘girl’ in (34a). The plural construct state form has the suffix -k, which is also found in the construct state form of the plural noun ‘milk’, cf. Section 2.1 above. Both the singular form and the plural form seem to vary freely in vowel length between long and overlong. The plural is invariably low-toned, but the singular varies tonally between high and low, apparently in a polar manner relative to the tone of some following modifiers in the same way as possessive pronouns. Thus, while the singular is high-toned before the low-toned demonstrative =e in (34a), it is low-toned before the high-toned demonstrative =kà in (35a). By contrast, the plural form is low-toned both before the low-toned demonstrative =kà in (34b) and before the high-toned demonstrative =kà in (35b) as well as before the low-toned modifier kàk ‘other’ in (35c) and the relative clause beginning with the high-toned Perfect auxiliary verb cè in (35d).

(35)  

a. ɲa-n  ŋii-n =e  
[[girl.SG-CS1 DIM-SG.CS1] =DEM2.SG]  
‘that small girl’

b. ɲiir  ŋii-k =kà  
[[girl.PL.CS1 DIM-PL.CS1] =DEM2.PL]  
‘those small girls’

c. baan  ŋii-k kàk  
[[chief.PL.CS1 DIM-PL.CS1] other.PL]  
‘other subchiefs’ (t.)

d. kà  ŋii-k çe dòon wèj  
[[thing.PL.CS1 DIM-PL.CS1] [PF remain.CF.NF away]]  
‘small things left out’

When there is no syncretism between the two construct state forms of a noun, it is seen again that an additional modifier causes a change from CS2 to CS1 in the head noun. This can be

15 The First Construct State form kà is an irregular counterpart of the absolute state form kàŋ ‘things’.
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observed with the noun for ‘girls’, which changes from the CS2 form ḳje ̤̂ er in (33b) to the CS1 form ḳiir in (34b).

The additional modifiers in (34)–(35) are CS1-modifiers, but the diminutivizer may also be followed by a CS2-modifier, namely the numeral tịk ‘one’, as in (36). Since the vowel of the diminutivizer does not change from Grade 1 /ị/ to Grade 3 /j̞ɛ̰/, I assume that the non-affixal morpheme CS2 is not present here.16

(36) ɲa ̰ -n  tji-n  tịk
[[girl.SG-CS1  DIM.SG.CS1]  one]
‘one young girl’

Unlike many other property concepts in Dinka, the diminutivizer ḳi is not a verb, the corresponding verb being kọor ‘be small’ as in (37).

(37) a. męg  ə=koor.
child.SG  D.SG=be_small
‘The child is small.’

b. əlęg  koor
cloth.SG.CS1  be_small
‘small cloth’

The diminutivizer is likely to go back to a noun meaning ‘small one’ and thus to a construction in which other adjectival nouns as modifiers also trigger Second Construct State in the head noun, as in (38b).17 The adjectival noun ənjəan ‘poor one’ in (38b) is derived from the adjectival verb əŋəan ‘be poor’ in (38a).

(38) a. tịŋ  əŋəan
woman.SG.CS1  be_poor
‘poor woman’

b. tjɛŋ  ənjəan
woman.SG.CS1.CS2  poor_one.SG
‘poor woman (who has nothing to eat)’

4. CS1-modifier + modifier

In the following subsections, it will be shown that most CS1-modifiers can be followed by another modifier. When this happens, some of them themselves get construct state marking. This is the case for adjectival verbs and some other intransitive verbs functioning as relative clauses. Other CS1-modifiers do not receive construct state marking. They are, among others, the pronoun ‘other’, time particles, adverbials, nominal possessors, and transitive relative clauses. Demonstratives can apparently not be followed by another modifier. In constructions with CS1-modifier + modifier, the additional modifier has no effect on the head noun, since the latter is already in First Construct State.

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16 As noted above, there seems to be free vowel length variation between long and overlong in the First Construct State forms of the diminutivizer, with the vowel being long in (36) and overlong in (34)–(35).

17 The diminutivizer ḳi is probably cognate with tịŋ, the adjectival verb for ‘small’ in Päri (Andersen 1988: 94), which belongs to the Northern Lwoo subbranch of the Western Nilotic family.
4.1. Adjectival verb + modifier. The inflectionally unmarked form of virtually all non-derived adjectival verbs has the shape CVC or CVVC; that is, its vowel is short or long, and its tone is low; moreover, its vowel quality has Grade 1. When the adjectival verb is followed by another modifier, its form changes. This is exemplified in (39)–(40) with the adjectival verbs diɲ ‘be sweet’, which has a short vowel, and baar ‘be tall’, whose vowel is long. The (a)-examples are clauses in which the adjectival verb is used predicatively, while the (b)-examples are NPs in which the adjectival verb is used attributively without any additional modifier. The verbs are followed by the low-toned demonstrative =ê ‘this’ in the (c)-phrases and by the high-toned demonstrative =è ‘that’ in the (d)-phrases.

(39)  

a. cjèec diɲ.  
    honey.SG.D.SG=be_sweet  
    ‘The honey is sweet.’

b. cjèec [honey.SG.cs1 be_sweet]  
    ‘sweet honey’

c. cjèec [honey.SG.cs1 be_sweet.cs1]=ê  
    DEM1.SG  
    ‘this sweet honey’

d. cjèec [honey.SG.cs1 be_sweet.cs1]=è  
    DEM2.SG  
    ‘that sweet honey’

(40)  

a. pà baar.  
    girl.SG.D.SG=be_tall  
    ‘The girl is tall.’

b. pà-n [girl.SG.cs1 be_tall]  
    ‘tall girl’

c. pà-n [girl.SG.cs1 be_tall.cs1]=ê  
    DEM1.SG  
    ‘this tall girl’

d. pà-n [girl.SG.cs1 be_tall.cs1]=è  
    DEM2.SG  
    ‘that tall girl’

As illustrated in (39)–(40), three changes occur in an adjectival verb when followed by another modifier. Firstly, the vowel is (generally) lengthened to overlong. Secondly, the vowel quality changes from Grade 1 to Grade 2; that is, /a/ changes to /ɛ/. And thirdly, the low tone changes to a high tone, except before certain high-toned modifiers. I call the changed form a construct state (CS1) form, since it shares one essential function with the construct state forms of nouns, namely that of indicating that what follows is a modifier. Again, however, what that modifier modifies is not the adjectival verb itself, but the whole preceding part of the noun phrase.

The tone alternation between high and low in the adjectival verbs in (39c) and (39d) and in (40c) and (40d) is identical to what is found in some nouns in First Construct State, as in (14)–
(15), and in some other modifiers followed by a modifier, namely possessive pronouns, as in (12)–(13), and the singular diminutivizer, as in (34a) and (35a).

The same changes in the form of an adjectival verb occur when it is followed by other modifiers that trigger First Construct State in a modified noun. This is illustrated in (41)–(43) with the verbs mög ‘be sharp’, cóol ‘be black’ and cëek ‘be short’. Here the (a)-examples show the verbs used attributively without any additional modifier. In (41b) the additional modifier is the P2 time particle wän, before which the short vowel of mög ‘be sharp’ becomes overlong.

(41) a. pâal mög [knife.sg.cs1 be-sharp] ‘sharp knife’
b. pâal mòoq wän [[knife.sg.cs1 be_sharp.cs1] r2] ‘the aforementioned sharp knife’

In (42b) the additional modifier is the pronoun dâ ‘other’, before which the long vowel of cóol ‘be black’ also becomes overlong.

(42) a. âlàŋ cóol [cloth.sg.cs1 be_black] ‘black cloth’
b. âlàŋ cóo̱ol dâ [[cloth.sg.cs1 be_black.cs1] other.sg] ‘another black cloth’

In (43b) the additional modifier is another adjectival verb, dëŋ ‘be beautiful’, before which cëek ‘be short’ becomes cé̱ek.

(43) a. pà-n cëek [girl.sg.cs1 be_short] ‘short girl’
b. ĝe pà-n cëek dëŋ āpɛ̱j. d.sg.be [[girl.sg.cs1 be_short.cs1] be_beautiful] indeed ‘She is indeed a beautiful short girl.’

The same changes in adjectival verbs are seen before a nominal possessor, as in (44), where cóol ‘be black’ again becomes cóool before the possessor phrase ĝ wûuur ‘of your father’. In (45b), similarly, pât ‘be good’ (45a) becomes pwët before ĝ wûun=k-wà ‘of our fathers’. The vowel quality alternation between /a/ and /wɔ/ in ‘be good’ is irregular.

(44) âlàŋ cóo̱ol ē wûuur [[cloth.sg.cs1 be_black.cs1] of father.2sg.gen] ‘your father’s black cloth’

(45) a. pà-n pât [girl.sg.cs1 be_good] ‘a beautiful girl’
b. cɛɛŋ pwɛɔŋ ɛɛŋ wɔ Ʉ=t̪e Ʉ[live.NMLZ.SG.CS1 be_good.CS1] [of [father.PL.CS1.CS2.GEN =PL-1PL]]

‘our fathers’ good way of living’ (t.)

In (46b) the adjectival verb tjɔɔp ‘be wet’ (46a) becomes tjɔɔɔp before the relative clause pwɛc múaaj ‘which has recently been caught’.

(46)

a. rɛɛc tjɔɔp [fish.SG.CS1 be_wet]

‘fresh fish’

b. rɛɛc tjɔɔɔp pwɛc múaaj [[fish.SG.CS1 be_wet.CS1] [do_recently.PASS fish.NF]]

‘fresh fish caught recently’

4.2. Non-adjectival intransitive verbs as relative clauses + modifier. Unlike adjectival verbs, non-adjectival intransitive verbs which function as relative clauses keep their segmental form when followed by another modifier. That is, they do not change vowel length and vowel quality. However, intransitive verbs with a high tone become low-toned before some high-toned modifiers, apparently the same modifiers that cause tone alternation in adjectival verbs. This is illustrated in (47) with the verb cɑɑt ‘walk’ and in (48) with the verb pwɔɔt ‘fight’. The (a)-examples are clauses in which the verb is used predicatively, while the (b)-examples are NPs with the verb used attributively (as a relative clause) without any additional modifier. The verb cɑɑt keeps its high tone before the low-toned enclitic demonstrative =ɛ ‘this’ (47c), but gets a low tone before the high-toned =ɛ ‘that’. The final stop /t/ in ‘walk’ is phonetically [Ʉ] in (47c) and (47d) as a result of a general process of intervocalic voicing of root-final stops word-internally. So phonologically, the demonstratives are clearly part of the same word as the preceding verb, although grammatically, what they modify is not that verb, but the whole preceding part of the NP.

(47)

a. mɔc Ʉ=cɑɑt [man.SG D.SG=walk]

‘The man is walking.’

b. mɔn cɑɑt [man.SG.CS1 walk]

‘walking man’

c. mɔn cɑɑt =ɛ [[man.SG.CS1 walk.CS1] =DEM1.SG]

‘this walking man’

d. mɔn cɑɑt =ɛ [[man.SG.CS1 walk.CS1] =DEM2.SG]

‘that walking man’

The same tonal alternation is seen in (48), with the verb ‘fight’ keeping its high tone before the low-toned demonstrative enclitic =kɔ ‘these’, but changing it to a low tone before the high-toned enclitic =kɔ ‘those’.
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(48)  
a.  mijoŋ  ṣa=pwojot.  
    child.PL  D.PL=fight  
    ‘Children are fighting.’  

b.  mijoŋ  pwojot  
    [child.PL.cs1  fight]  
    ‘fighting children’  

c.  mijoŋ  pwojot  =ką  
    [[child.PL.cs1  fight.cs1]  =DEM1.PL]  
    ‘these fighting children’  

d.  mijoŋ  pwojot  =ką  
    [[child.PL.cs1  fight.cs1]  =DEM2.PL]  
    ‘those fighting children’  

Intransitive verbs with a low or falling tone do not exhibit any tone alternation. This is illustrated in (49) with the low-toned verb ḏọja ‘cry’ and in (50) with ḏaŋal ‘laugh’, which has a falling tone. As before, the (a)-examples are clauses in which the verb is used predicatively, while the (b)-examples are NPs with the verb used attributively without any additional modifier. The additional modifiers in (49c) and (49d) and in (50c) and (50d) are again demonstrative enclitics.

(49)  
a.  męŋ  ṣa=ḍọja.  
    child.SG  D.SG=weep  
    ‘The child is weeping.’  

b.  męŋ  ḏọja  
    [child.SG.cs1  weep]  
    ‘weeping child’  

c.  męŋ  ḏọja  =ę  
    [[child.SG.cs1  weep]  =DEM1.SG]  
    ‘this weeping child’  

d.  męŋ  ḏọja  =ę  
    [[child.SG.cs1  weep]  =DEM2.SG]  
    ‘that weeping child’  

(50)  
a.  tjiŋ  ṣa=ḍaŋal.  
    woman.SG  D.SG=laugh  
    ‘The woman is laughing.’  

b.  tjiŋ  ḏaŋal  
    [woman.SG.cs1  laugh]  
    ‘laughing woman’  

c.  tjiŋ  ḏaŋal  =ę  
    [[woman.SG.cs1  laugh]  =DEM1.SG]  
    ‘this laughing woman’  

d.  tjiŋ  ḏaŋal  =ę  
    [[woman.SG.cs1  laugh]  =DEM2.SG]  
    ‘that laughing woman’
4.3. CS1-modifiers without a construct state. Some CS1-modifiers are morphologically unaffected by a following modifier. As shown in the following subsections, such modifiers include the pronoun dâ ‘other’ and its plural counterpart kâk (Section 4.3.1), the time particles (Section 4.3.2), adverbials (Section 4.3.3), nominal possessors (Section 4.3.4), and relative clauses that are not adjectival verbs or a high-toned non-adjectival intransitive verbs (Section 4.3.5). So it seems that, apart from adjectival verbs and high-toned non-adjectival intransitive verbs, CS1-modifiers do not get construct-state marking before another modifier. Demonstratives, which are also CS1-modifiers, are never followed by another modifier that triggers construct-state marking.

4.3.1. Pronoun ‘other, some’ + modifier. That dâ ‘other, some’ does not get a construct state is seen in (51a) and (51b), where it is followed by a relative clause. The same applies to its plural counterpart kâk, as seen (51c), here followed by a demonstrative.

(51) a. kù َّn=mɔṉ rûn dâ ḏe̱k u̱ḵ. and D.SG=have [[person.SG.CS1 other.SG] [be_insufficient.NTS cow.PL.GEN]] ‘and there is somebody whose cows are insufficient’ (t.)

b. rûn dâ ḵek ṯe̱ek
[[person.SG.CS1 other.SG] [PF.NEG marry.AP.NF]] ‘some person who has not married’ (t.)

c. ḵek َّn= w̱̱w̱j̱ṯ ḵḵ =ḵa
[3PL DEM= [clan.PL.CS1 other.PL] =DEM2.PL] ‘those other clans’ (t.)

4.3.2. Time particle + modifier. The absence of construct state marking in time particles is illustrated in (52). In (52a) the P4 time particle u̱j̱m̱ is followed by a demonstrative. In (52b) and (52c), P2 w̱n and P1 nj̱j̱, respectively, are followed by a relative clause.

(52) a. ḵ ḵ j̱m̱ =ḵa
[[thing.PL.CS1 P4] =DEM2.PL] ‘those past things’\(^{18}\) (t.)

b. ṟ̱m̱ w̱n c̱̱a lw̱e̱e̱l
[[Rup.SG.CS1 P2] [PF.1SG say.NF]] ‘that Rup which I mentioned’\(^{19}\) (t.)

c. j̱̱o̱̱l =ḏ-g̱e̱-ṉ ṉj̱a̱ ḏj̱ur ɔ̱̱e̱n w̱a̱ṯ
[[tail.SG.CS1=SG-3SG-CS1] P1] [almost_do.NTS 3SG.GEN transform_oneself.NF]] ‘his aforementioned tail with which he was about to transform himself (into a lion)’ (t.)

4.3.3. Adverbial + modifier. That adverbial modifiers are unaffected by a following modifier is illustrated in (53). In (53a) the adverbial tw̱̱e̱̱̱̱eners ‘in front’, which is the Essive/Ablative case form of the noun tw̱̱e̱̱̱̱eners ‘front’, is followed by the distant demonstrative ṯj̱ ‘that’. In (53b) the adverbial ḇ̱e̱̱̱̱eners ‘outside’, which is also in the Essive/Ablative case, is followed by a relative clause.

\(^{18}\) The absolute state form of ‘things’ is ḵj̱j̱, while CS1 of this plural noun is ḵ or ḵ (alternating with ḵ and ḵ) before a consonant and ḵ̱ before a vowel.

\(^{19}\) Rup is a section of the Agar subtribe.
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(53) a. े bāk =d-ेe-n ːwēn =tūj
     [PREP [[[dawn.NMLZ.SG.CS1 =SG-3SG-CS1] front.ESS/ABL] =DEM3.SG]]
     ‘the day after the day after tomorrow’ (Lit. ‘on that (far) its dawn in front’)

b. .pan =d-jēe-n bēec
     [[[home.SG.CS1 =SG-1SG-CS1] outside.ESS/ABL]
     ḍēw bā lōooj lān =tīuuj
     [be_able.1SG [FUT.1SG make.NF side.SG.CS1 =DEM3.SG.ESS/ABL]]
     ‘my house in the village which I will be able to construct on the other side’ (t.)
     Lit. ‘my outside home which I will be able to make on the other side’

4.3.4. Nominal possessor + modifier. A complex head consisting of a head and a following nominal possessor is not inflectionally affected by an additional modifier, as illustrated with four sets of examples here. In (54a), the addition of the possessive pronoun =d-ेen ‘his’ to े jāmāa al ‘bull of sheep, ram’ does not impose any construct state marking on the latter. That is, jāmāa al ‘sheep’, the final word of ‘bull of sheep’, is in the absolute state with an overlong root vowel. If ‘sheep’ were in First Construct State, its root vowel would be short, as in (54b), and if it were in Second Construct State, its root vowel would be long, as in (54c). Semantically, moreover, what the possessive pronoun modifies is not ‘sheep’, but ‘bull of sheep’.

(54) a. े jāmāa al =d-ेe-n wān
     [[[bull.SG.CS1 of.sheep.SG.GEN] =SG-3SG-CS1] p2]
     ‘his aforementioned ram’ (t.)

b. े jāmāa al
     sheep.SG.CS1 of father.SG.1SG.GEN
     ‘my father’s sheep’

c. े jāmāa al
     sheep.SG.CS1.CS2 =SG-3SG
     ‘his sheep’

In (55a), similarly, the addition of the possessive pronoun =dū ‘your’ has no morphological effect on the head े jān ‘knowledge of things, wisdom’. That is, the head NP is in the absolute state just as in (55b), where it is unmodified. Note also that the morpheme /d/ in the possessive pronoun cross-references the possessum as singular and thus agrees with the singular head े jān ‘knowledge’ in ‘knowledge of things’, not with the plural possessor jān ‘things’. This also shows that the possessive pronoun is a phrasal enclitic rather than a suffix.

(55) a. े jān =d-ù
     [[[know.NMLZ.SG.CS1 of thing.PL.GEN] =SG-2SG]
     ‘your wisdom’

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20 The initial long vowel of jāmāa al in (54a) results from contraction of the preposition े ‘of’ with the noun jāmāa al ‘sheep’.
21 The possessor ‘sheep’ in (54a) is in a Genitive position, but the Genitive case here syncretizes with the Nominative case.
In (56), the plural demonstrative =kà ‘these’ modifies the head NP wēew āarj̱op ‘money of payment’. In this head NP, the head noun wēew ‘money’ is plural and the possessive modifier ‘of payment’ is singular. Clearly, therefore, the plural demonstrative does not modify the immediately preceding noun ‘payment’ but the whole NP ‘money of payment’, which is plural because its head is plural. That the whole NP ‘this money of payment’ is plural is also evidenced by the fact that the Declarative particle āa= is plural (Andersen 1991: 271–272 and Andersen 2019: 142–143). This particle exhibits number agreement with the Topic, which here is the patient-object of the ditransitive applicative main verb ḏom ‘catch for’.

(56)    kù    kēek    ē=    wēew     āarj̱op     =ḵ̄a
        and  [3PL  DEM=  [money.PL.CS1 of payment.SG.GEN]  =DEM1.PL]

āa=jāakūm̱̄u ḏom  ā
D.PL=HAB.NTS.government.SG.GEN     catch.APPL.NF  2SG
‘and this amount the government used to pay you’ (t.)
Lit. ‘and this money of payment the government used to catch for you’

In (57a) the head NP m̱iuc ē lāj ‘shooting of animal’ is modified by the nominal possessor ē ḏok ‘of boy’ without having any morphological change imposed on it. The constituent structure of the full NP in (57a) is [[X of Y] of Z], as opposed to that of the NP (57b), which is a male name based on patronymy and whose constituent structure is [X of [Y of Z]].

(57)  a.   m̱ecek    ē=   m̱iuc     ē   lāj    ē   ḏok.
       man.SG  D.SG=hate [[shoot.NMLZ.SG.CS1 of animal.SG.GEN] of boy.SG.GEN]
       ‘The man hates the boy’s shooting of the animal.’

    b.    m̱aŋj̱an    ē   m̱awijit    ē   m̱arḇal
       [Mathiang.SG.CS1 of [Mayuit.SG.CS1.GEN of Marial.SG.GEN]]
       ‘Mathiang Mayuit Marial’ (t.)
       Lit. ‘Mathiang (son) of [Mayuit (son) of Marial]’

4.3.5. Relative clause + modifier. A relative clause can be followed by a demonstrative, and unless the relative clause is an adjectival verb (Section 4.1) or a high-toned non-adjectival intransitive verb (Section 4.2), it is not morphologically affected by the demonstrative. This is exemplified in (58), where the singular demonstrative =ē ‘this’ encliticizes to the relative clause j̱e j̱el ‘which you pull’ headed by the singular noun ḵe ‘thing’.

(58)    ē=    ḵe    j̱e    j̱el     =ē
        [DEM=  [thing.SG.CS1 of [HAB.2SG pull.NF]]  =DEM1.SG]
        ‘this thing which you pull along’ (t.)

Thus, there is a contrast between (59a) and (59b). In (59a) the postverbal subject of the relative clause has the First Construct State form tiŋ ‘woman’ before the demonstrative =ē ‘that’,

22 The initial long vowel of āarj̱op in (56) results from contraction of the preposition ē ‘of’ with the noun ārj̱op ‘payment’. [jāakūm̱̄u] in the same example is a contraction of the Habitual auxiliary verb j̱e and the borrowed noun ākūm̱̄u ‘government’.
and the latter therefore modifies this immediately preceding noun. In (59b), by contrast, the postverbal subject of the relative clause has the absolute state form $t$ik ‘woman’ before the demonstrative =$\acute{e}$, and the latter therefore does not modify ‘woman’ but the whole preceding part of the NP.

(59) a. rɛɛc jɛɛl tɛf =ɛ $\ddot{u}$=p̣aŋ,

[fish.SG.CS1 [cook.NTS [woman.SG.CS1.GEN =DEM2.SG]]] D.SG=be_good

‘The fish which that woman is cooking is good.’

b. rɛɛc jɛɛl tɛk =ɛ $\ddot{u}$=p̣aŋ,

[[fish.SG.CS1 [cook.NTS woman.SG.GEN]] =DEM2.SG] D.SG=be_good

‘That fish which the woman is cooking is good.’

5. Order of postnominal modifiers

In a noun phrase with multiple postnominal modifiers, some variation in word order is possible, but there are also some restrictions. If one of the modifiers is a numeral in the form of a kāa-phrase or is the quantifier $\acute{e}$bân ‘all’ (cf. Section 2.3), it comes last, as in (60). In (60a) and (60b) ‘two’ and ‘all’, respectively, are preceded by the demonstrative =kā ‘those’. In (60c) ‘three’ is preceded by the possessor phrase ‘of my father’.

(60) a. uɔɔk =kā kâa rɔw

[[cow.PL.CS1 =DEM2.PL] [3PL.QUANT two]]

‘those two cows’

b. uɔan =kâ $\acute{e}$bân $\acute{u}$=nɔŋ wɔt.

[[place.PL.CS1 =DEM2.PL] all] D.PL=have cattle_camp.PL

‘All those places have cattle camps.’ (t.)

c. jɔɔk $\acute{e}$ wɔaa kâa djɔak $\acute{u}$=cɛ tɔw.

[[dog.PL.CS1 of father.SG.1SG.GEN] [3PL.QUANT three]] D.PL=PF die.NF

‘My father’s three dogs have died.’

Otherwise, if there is a demonstrative, it has the phrase-final position, as seen in (61)–(64), whose head nouns are followed by three or four modifiers. In (61) the demonstrative =$t$ij ‘that’ is preceded by two adjectival verbs in construct state.

(61) tɔɔŋ djiit mɛɛɛc =$t$ij

[[[swamp.SG.CS1 be_big.CS1] be_far.CS1] =DEM3.SG]

‘that far big swamp’

In (62) the same demonstrative is preceded by three modifiers: two adjectival verbs in construct state and a relative clause in the form of the non-adjectival intransitive verb $d$al ‘who is laughing’, which lexically has a falling tone and therefore does not exhibit construct state marking.

(62) tɛf pwɔɔa $\ddot{d}$ɛɛɛ d$\ddot{a}$al =$t$ij

[[[woman.SG.CS1 be_good.CS1] be_beautiful.CS1] laugh] =DEM3.SG

‘that beautiful charming woman laughing over there’

In (63) the demonstrative =$\acute{e}$ is preceded by a possessive pronoun followed by a relative clause.
And in (64) the demonstrative =ê is preceded by three other modifiers: the possessive pronoun =d-ṭa-n ‘our’ in construct state, the numeral tòŋ ‘one’, also in construct state, and the relative clause çë dòŋŋ ‘which has remained’, to whose last word the demonstrative encliticizes.

(64) jë̤en è̤ = dà-n =d-ṭa-n tòŋ
[3SG [DEM= [[heifer.CG-CS1 =SG-1PL-CS1] one.CG1]  
çë dòŋŋ =ê
[PF remain.CF.NF] =DEM1.SG]]
‘this one heifer of ours which has remained’ (t.)

So (61), (62) and (64) each contains a chain of three construct states.

The order of a possessive pronoun and an adjectival verb is variable, at least before a demonstrative. Thus, there are alternatives like those in (65). In (65a) the possessive pronoun precedes the adjectival verb, while in (65b) the order is reversed. The same two orders are found in (66).

(65) a. pâal =d-ṭe-n ã̤ẽen =ê
[[[knife.CG-CS1 =SG-1CG-CS1] be_blunt.CG1] =DEM1.SG]
‘this blunt knife of mine’

b. pâal ã̤ẽen =d-ṭe-n =ê
[[[knife.CG-CS1 be_blunt.CG1] =SG-1CG-CS1] =DEM1.SG]
‘this blunt knife of mine’

(66) a. lòom pâal =d-ṭe-n mòogò̤ =ê.
take.2SG [[[knife.CG-CS1 =SG-3PL-CS1] be_sharp.CG1] =DEM2.SG]
‘Take that sharp knife of theirs!’

b. lòom pâal mòogò̤ =d-ṭe-n =ê.
take.2SG [[[knife.CG-CS1 be_sharp.CG1] =SG-3PL-CS1] =DEM2.SG]
‘Take that sharp knife of theirs!’

6. Typological similarities in other languages

The fact that construct state forms in Dinka may be chained makes this language typologically similar to some other languages with construct state marking. Such languages are, for instance, the Iranian languages, in whose description the construct state (marker) is called “Ezafe”. Samvelian (2007) gives example (67) from Persian. Here the head ‘book’ is followed by three modifiers: the adjective ‘ancient’, the prepositional phrase ‘without value’ and the possessor ‘Maryam’. Both the head and the non-final modifiers take the construct state suffix, which is here glossed as “EZ” for Ezafe.

(67) (Det) N-EZ AP-EZ PP-EZ NP(Poss)
in ketâb-e kohne-ye bi arzeš-e maryam
this book-EZ ancient-EZ without value-EZ Maryam
‘this ancient worthless book of Maryam’s’ (Samvelian 2007: 606)
Gutman (2018) gives a similar example from the Sorani dialect of Kurdish, seen in (68). Here the head noun ‘city’ is followed by two modifying adjectives, ‘big’ and ‘modern’, and both the head and the first adjective take the construct state suffix.

(68) [shar-êk-î Gewre]-y taze
city-INDEF-EZ big-EZ modern
‘a big modern city’ (Gutman 2018: 269)

Chained construct state forms are also found in Dogon languages as described by Heath and McPherson (2013), although they do not use the concept “construct state”. Examples of NPs with multiple modifiers in Jamsay (Heath 2008) are given in (69)–(70). In (69) the head ‘dog’ is followed by the adjectival modifiers ‘black’ and ‘large’. The lexical tones of ‘dog’ and ‘black’ are L.H and H, respectively, but in this construction they are low-toned, thereby indicating that they are followed by a modifier. “L” in the interlinear translation indicates a syntactically conditioned low-tone overlay.

(69) ìjù jém dügü
dog.L black.L large
‘a big black dog’ (ìjú, jém) (Heath 2008: 245)

In (70) the head noun ‘aunt’ is preceded by a possessor NP consisting of the possessor ‘I’ and the possessum ‘father’, and it is followed by a relative clause. Both the possessed noun ‘aunt’ and the possessed noun ‘father’ are affected by low-tone overlay, which shows that they are modified.

(70) [[mi dê:] nêrê] bâmakô wê-n kùê
[[1SgP.L father.L] aunt.L] Bamako be.Hum-Ppl.Sg Def
‘my father’s aunt who lives in Bamako’24 (Heath 2008: 240)

7. Conclusion

As demonstrated in this article, multiple postnominal modification in Dinka to a large extent involves chains of construct state forms. The head noun and, to some extent, all but the final modifier are marked as being in a construct state. Thus, multiple postnominal modification in Dinka is strikingly similar to multiple postnominal modification in Iranian languages, which may have chains of words marked by an ezafe suffix, and also similar to Dogon languages, where tonal overlays function in an analogous way.

In single postnominal modification in Dinka, the construct state inflection of the head noun indicates to which of two classes the modifier belongs, CS1-modifiers triggering First Construct State, and CS2-modifiers triggering Second Construct State. This binary distinction in the head noun between First and Second Construct State is cancelled when the construct-state triggering modifier is followed by another construct-state triggering modifier. In this construction the head invariably is in First Construct State. Since Second Construct State is morphologically based on First Construct State, what happens is that the non-affixal Second Construct State morpheme is removed.

23 That it is, in fact, a construct state construction is also noted by Creissel (2018: 732).
24 Abbreviations used in example (70): 1SgP = first person singular possessor; Def = Definite; Hum = Human; Ppl = Participle; L = low-tone overlay; Sg = Singular.
The means used for forming the construct state of (singular) CS2-modifiers are the same as those used for forming First Construct State of singular nouns: (i) addition of the suffix \(-n\) to a root that ends in a vowel, (ii) replacement of a root-final glide with the suffix \(-n\) with compensatory lengthening of the preceding vowel, (iii) nasalization of a root-final stop, and (iv) tone shift.

Among the CS1-modifiers, two subclasses of intransitive verbs used as relative clauses get construct state form: adjectival verbs and high-toned non-adjectival verbs. Adjectival verbs undergo vowel lengthening from short or long to overlong, their vowel shifts from Grade 1 to Grade 2, and their tone shifts from low to variable high. High-toned non-adjectival intransitive verbs undergo tone shift to variable high. The other CS1-modifiers are not morphologically affected by a following construct-state triggering modifier.

**Abbreviations**

<table>
<thead>
<tr>
<th>1PL</th>
<th>first person plural</th>
<th>EZ</th>
<th>Ezafe</th>
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<tbody>
<tr>
<td>1SG</td>
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<td>Centrifugal</td>
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**References**


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