The Structure of Dholuo Nominals

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Abstract:
The findings of this study have demonstrated that nominals in Dholuo display a productive overt nominal marking system. Nominals in Dholuo constitute: nouns, adjectives, numerals, personal pronouns, genitives, demonstratives, interrogatives and their composite. Nominal categories such as nouns, adjectives and numerals may exist as bare forms of mono-morphemic single words. They can also occur with suffixes as single words or as NPs made up of two separate words. The other nominal categories (personal pronouns, demonstratives, interrogatives and genitives) occur as bound morphemes which only derive their semantic implications from a context. When nominal constituents admit suffixes, the final segment of the host constituent displays morphophonological alternations which are identical in almost all the classes of sounds, i.e., obstruents, nasals, approximants and vowels. The root final consonants surface as weakened or hardened segments in all inflectional processes. In other words, if the root final consonant is weak it hardens word internally but remains weak word finally or when the root final sound is hard, it weakens word internally but remains hard word finally.

Key Word: Nominals; structure; Morphemes; Suffix; Dholuo; Productive; Marking

I. Introduction

In linguistics, the term nominal refers to a category used to group together nouns and adjectives based on shared properties.[1] The nominal grouping is motivated by the fact that nouns and adjectives, in many languages, share a number of morphological and syntactic properties.[1] Typically, an affix related to a noun appears attached to the other words within a group, such as determiners and adjectives, to create agreement. Such morphological agreement usually occurs in parts within the noun phrase (NP).

Languages with overt nominal marking system vary in how and to what extent agreement is required. In these languages (with overt nominal agreement) nominals can be seen in the shared morphemes that attach to the ends of nouns and adjectives and agree in case, gender, number or person.[13] According to Chierchia (1998) whose work elaborately explains nominal mapping parameter, languages vary in terms of what they allow their Noun Phrases (NPs) to denote. Semantic parameter encodes this variation to determine whether NPs denote names of kinds (and are therefore argumental) **[+arg, -pred]**, predicates (and therefore require a determiner to be in an argument position) **[-arg, +pred]** or either **[+arg, +pred]**.

However, not all languages would neatly fall into the parameter described above. Furthermore, the analysis offered by Chierchia (1998) is not an "all or none" typological classification. In his own admission, he states that there "is a great deal of resistance" to this typological description[6] making the assumptions above "not so standard," (p.345). Consequently, this study takes the view that Nominals in Dholuo may not fit neatly into these mappings and therefore will either take part or whole of the proposed parameters. Dholuo will lean heavily onto the argumental **[+arg, -pred]** language typology proposed by Chierchia (1998) but with certain variations. Dholuo may have a number of nominal particles, but this paper has identified and will only discuss nouns, adjectives, personal pronouns, numerals, genitives, demonstratives and interrogatives.

II.   Review of Related Literature

In languages with overt nominal morphology, grasping the inter-relation of specific morphemes and a particular grammatical category is as key as understanding its semantics without which utterances appear as little more than a string of words[17]. In their study of Polish, Vaux and Cooper (2003) argue that the following two constructions with the same word order can mean very different things.

[1]   (a) Mężczyzna caluje kobietę (The man kisses the woman)
     (b) Mężczyznę caluje kobieta (The woman kisses the man)

In (1a) above, the nominative ending –a in 'mężczyzna' identifies the man as the subject and the accusative ending –ę in 'kobietę' identifies the woman as the direct object; in (1b) the change in the endings have effect in change of meaning.

These languages, with overt nominal morphology, categorize the nouns in classes or declensions based on the morphological endings[17] so that there is a straightforward way of eliciting inflections based on the nominative endings. In languages like Latin with overt nominal morphology, nouns are grouped into one of the five declensions, or noun classes[17]. In Latin, the case and number endings, for example, are different for each declension, so that, for instance, the morpheme **–a** is the nominative singular ending for nouns of the first declension, but not for any other declension.

The present study reviewed related literature with regard to the nominal constituents discussed in this paper and with particular bias to aspects invaluable in nominal morphology. The first aspect crucial in nominal morphology is the grammatical case gender. Drawing their description from Heath (2011), Dow and Green, (2013) offer an account of Najamba suffixation in two classes of inanimate **/-ŋgo/** and animate **/-ŋge/** nouns that draws upon principles of stem versus affix faithfulness, as well as the phonotactics of permissible syllable margins and syllable contact in Najamba language[11].

According to Creissels (2002) most sub-Saharan languages, and a number of Nilo-Saharan languages as well, display a binary gender system with the sex distinction as their semantic basis (masculine vs. feminine). However, he notes there are other forms of expressing gender for example "generic gender" as seen in Hamar. Creissels (2002) also notes that there are languages that gender assignment rules is phonologically defined with a particular interesting type of interaction between gender and number as is the case of Afar language. In Afar, gender assignment rules operate regardless of the morphological status of the ending of nouns, and they operate on noun forms (not on lexemes) regardless of the singular vs. plural distinction: the gender of plural noun forms is simply determined by their phonological form, and consequently does not necessarily coincide with the gender of the corresponding singular form. Dholuo may be structurally and phonologically unidentical with both Hamar and Afar, but the particular interesting relationship of gender with the corresponding number assignment in Afar is within the object of this study.

Numeral classifiers are also important in the analysis of nominal morphology[18]. Numerals according to Cooper and Vaux (2003) are common in many East African languages, but it has not been adequately documented in Dholuo making it a crucial component for description by this study as part of Dholuo nominal structure.

Pronouns are also crucial in nominal morphology. It is easy to test if a word or a morpheme is a pronoun since pronouns replace whole NPs (Noun Phrases), are not modifiable by adjectives and determiners[18]. In the analysis of pronominal structures, it is important to distinguish gender and number.

Another important constituent of nominals is the aspect of determiners. There are languages, which have determiners morphologically conditioned whereas there are others where determiners are syntactically conditioned like English. Laura and Morgan (2017) in their study of Somali nominals found out that nouns in Somali can be followed by a number of determiners whose distinction is gender based. They identified (a) definite –ka/-ta; (b) remote definite –kii/-tii; (c) possessives and, (d) demonstratives. This paper identifies and

describes each of the Dholuo nominal constituents as well as giving an explanation on the conditioning of each of them (morphological, phonological or syntactic).

III. Methodology

Data for analysis was collected between January 2017 and December 2020 through the targeted elicitation approach using various test frames administered to a sample of 30 respondents chosen through a systematic random sampling technique from the accessible population of the 31,573 native speakers of Dholuo in Bondo Town. This was a qualitative survey study, thus the data collected was analyzed through interpretive and descriptive process.

IV. Result and Discussion

4.1 The Structure of Nouns in Dholuo

Nouns in Dholuo occupy both the argument and predicative positions in an NP without neatly falling onto the typological description offered by Chierchia (1998). In Dholuo, nouns can exist as a bare root with neither prefixes nor suffixes, as well as a poly-morphemic word with suffixes. Unlike in some Germanic languages (for example, English) the bare noun root construction in Dholuo, (2) below, does not require a determiner to communicate grammatically.

[2] **guɔk o-gwejo**
dog   3Sg.Nom-barked
(a/the dog barked)

The construction in (2) above though fits Dholuo into the [+arg, -pred] typology in which NPs are supposed to denote names of kinds, the bare noun root guɔk (dog) does not denote any 'kind' of dog nor specify it to the hearer. Such a construction would therefore, in Germanic languages, need a determiner to denote a 'kind'. Unlike languages with argumental NPs, Dholuo constructions such as the one in (2) above are complete in structure and meaning.

However, it should not be conceived as though Dholuo nouns or NPs are unable to denote a kind. A particular type of dog (known to both the speaker and hearer) can be specified using a number of structural variations from the above construction. For example, a demonstrative can be used to specify the kind of the dog as demonstrated in the data in examples (3) and (4) below.

[3] **guɔg-ʧa   o-gwejo**
dog-DEM.that   3Sg.Nom-barked
(that dog barked)

[4] **guɔg-ŋa   mo-gwejo**
dog-DEM.whose   3Sg.Nom-barked
    (whose dog barked)

It can be notable, from the data in the examples in (3-4) above, that the final sound of the noun root, in its bare form, is key to the morphological variations realized in the affixed forms. For instance, the noun root guɔk (dog) in (2) ends in the voiceless velar stop [k] but the suffixed form guɔg-ʧa (that dog) or guɔg-ŋa (whose dog) in (3-4) ends in the voiced velar stop [g].

This study partly offers analysis of Dholuo nominal structure by giving a detailed description of the final segments of each nominal constituent and the morphophonological variations therein. The final segments of the bare noun roots form the basis of the description of the structure of nouns in Dholuo as well as Dholuo nominal structure.

4.1.1 Bare Noun Roots

Basing on the final segments of the roots, bare nouns can end in obstruents, nasals, approximants and vowels. Table 1 below summarizes noun roots whose final segments are obstruents.

Table 1: Obstruent Final Noun Roots

Noun Root	Gloss
lep	tongue
diep	field
otit	firefly
okot	bell
dek	vegetable
buk	book
atʃuɵ	vulture
jaɵ	medicine
mandas	baked bread
makas	a pair of scissors
ɲimbitʃ	intestine
rétʃ	fish

As noticed with nouns, voiced obstruents do not occur at the root final position in bare nominals in Dholuo as described in the constraint, NO(+Vc)CODA (5) below.

[5] NO(+Vc)CODA- this constraint bars voiced obstruents from being realized as the root final position in C-final bare nouns

As a result, the phonemes [b, g, ð, ʤ] are realised as final segments in a noun root in suffixed forms but not in bare noun roots.

Table 2 provides data on nasal final noun roots. Dholuo has 4 nasals [m, n, ɲ and ŋ] which all can occur at the root final positions.

Table 2: Nasal Final Noun Roots

Noun Root	Gloss
kɔm	chair
arum	an owl
tʃuɲ	liver
ajaɲ	verbal assault
kuon	ugali
rabuon	potato
ɲaŋ	crocodile
ɲatieŋ	boulder

The nasals [m, n, ɲ and ŋ] can also occupy the initial or medial positions in a noun root as seen in the last two words in Table (2) above. Though the prenasalised consonants [**mb, nd, ɲʤ, ŋg, nd**] occur in the inflected and derived forms in Dholuo, they do not occur in the root final position of bare noun roots as do nasals because they are also barred by Dholuo phonotactic constraints.

The approximants**[l, r, and w]** may also occupy the noun root final position illustrated in Table 3 below.

Table 3: Noun Roots Ending in Approximants

Noun Root	Gloss
ɵuol	snake
ogwal	frog
laktar	doctor
bɔr	animal fat
law	cloth
tʃĩew	porcupine

The data provided in Table 3 above shows that the palatal glide **[j]** does not occur in the noun root final position of bare nouns. Nonetheless, the palatal glide **[j]** and the labio-velar approximant, **[w]** occur as consonants capable of being followed by either vowels or diphthongs elsewhere in a noun root as seen in /**wuɔr**/ "a pair of shoe," /**jiɛ**/ "canoe," and /**wuɔw**/ "an adolescent boy." Similarly, the alveolar approximants [l, r] may also occur in initial and medial positions in noun roots in their bare forms, for example /**raw**/ "hippo".

Bare noun roots can also end in vowels. Table 4 summarizes all the possible vowels that can occupy the noun root final position in bare nouns.

Table 4: Vowel Final Noun Roots

Noun Root	Gloss
raʧu:ŋgi	sieve
osiki	stump
olele	lizard
ndege	aircraft
lowo	land
polo	heaven/sky
aluru	quail
buŋgu	forest
paka	cat
punda	donkey

Nearly all the vowels can occupy the noun root final position in Dholuo. (The ATR values of the vowels have not been captured here, however). From the data provided in Table 4 above, it is notable that in noun roots which have vowels in the final position, the restriction observed with voiced obstruents and prenasalised consonants does not apply if these (obstruents and prenasalised consonants) occur prevocalically.

4.1.2 Noun Roots with Suffixes
Other than the existence of bare noun roots in Dholuo, nouns can also occur as noun roots attached with inflectional affixes, mostly suffixes to form a single noun word. Noun roots can be affixed with plural suffixes, genitive suffixes, demonstrative suffixes, interrogative suffixes and with pronoun suffixes.

4.1.2.1 Noun Roots with the Plural Suffix

The plural morpheme allomorphs can be affixed to noun roots to form a single noun word. In Dholuo, the plural morpheme is realized by the suffixes **[-ni, -i,** and **-e]**. Each of the three suffixes occurs in a specific environment. Noun roots that take the **[-ni]** allomorph are V-final and have a long vowel in the penultimate syllable. The data in Table (5) summarises the V-final noun roots which take the **[-ni]** allomorph in forming plurals.

Table 5: Vowel Final Noun Roots Taking the [-ni] Plural Allomorph

Noun Root	Plural Form	Root Gloss
raʧu:ŋgi	**raʧu:ŋg-ni**	sieve
kwe:si	**kwe:s-ni**	smoking pipe
ku:be	**ku:b-ni**	jerri can
oke:be	**oke:b-ni**	a rich man
pa:ka	**pe:k-ni**	cat
ndi:ga	**ndi:g-ni**	bicycle
pe:do	**pe:d-ni**	thorny rumbler
go:go	**go:g-ni**	lump of clay
pa:la	**pe:l-ni**	knife
aba:ga	**abe:g-ni**	thorny fence

The second group admit the **[-i]** allomorph which occurs largely with noun roots whose final segment is preceded by a diphthong as exemplified by the data in Table 6.

Table 6: Obstruent Final Noun Roots Taking the [-i] Plural Allomorph

Noun root	Plural form	Root Gloss
ɲuɔk	ɲuɔg-i	billy goat
muɔk	muɔg-i	ant bear
guɔk	guɔg-i	dog
ruaθ	rueð-i	bull
ruɔθ	ruɔð-i	king

The noun roots which take the **[-e]** allomorph in forming plurals end in obstruents, nasals, approximants and some vowels. Notably, these noun roots have a short vowel or a sequence of vowels in the preceding syllable as illustrated in Table 7.

Table 7: Obstruent Final Noun Roots with the [-e] Plural Allomorph

Noun Root	Plural Form	Root Gloss
okot	okod-e	bell
otit	otid-e	firefly
dek	deg-e	vegetable
opuk	opug-e	tortoise
ɲimbitʃ	ɲimbij-e	intestine
ŋetʃ	ŋetʃ-e	monitor lizard
pap	pew-e	field
atʃuθ	atʃuð-e	vulture
jaθ	jeð-e	medicine
dis	dis-e	plate
otas	otes-e	paper

In the plural form, the obstruent in the noun root final position become either weakened or strengthened when admitting the **[-e]** allomorph.

Table 8 below summarizes data on nasal final noun roots that take the **[-e]** allomorph in forming plurals.

Table 8: Nasal Final Noun Roots with the [-e] Plural Allomorph

Noun root	Plural Form	Root Gloss
arum	arumb-e	an owl
lum	lumb-e	grass
rabuon	rabuond-e	potato
kuon	kuond-e	ugali
ajaɲ	ajeɲdʒ-e	verbal assault
tʃuɲ	tʃuɲdʒ-e	liver
ɲatieŋ	ɲitieŋ-e	boulder
tɔŋ	toŋg-e	spear

It should be notable, however, that the vowels in the nouns in Table 8, unlike those in Table 6, are vowel sequences and not diphthongs. Noun roots that neither have diphthongs nor vowel sequences must have a short vowel preceding the syllable to belong to this category of noun roots taking the **[-e]** allomorph.

Noun roots that end in vowels can also take the **[-e]** allomorph in forming plurals. Table 9 below summarises data on V-final noun roots which take the **[-e]** allomorph in plural formation.

Table 9: Vowel Final Noun Roots with the [-e] Plural Allomorph

Noun root	Plural Form	Root Gloss
kidi	kit-e	stone
olele	oletʃ-e	lizard
rombo	romb-e	sheep

ɲojo	**ɲotʃ-e**	githeri
aluru	**alutʃ-e**	quail
agulu	**agutʃ-e**	pot
punda	**pund-e**	donkey

There are only three approximants in Dholuo that can occur at the final position in a noun root. All the three take the **[-e]** allomorph in forming plurals as demonstrated in Table 10 below.

Table 10: Noun Roots Ending in Approximants with the [-e] Plural Allomorph

Noun root	Plural Form	Root Gloss
situl	**sitund-e**	stool
ouol	**ouond-e**	snake
ogwal	**ogwend-e**	frog
bur	**butʃ-e**	hole
laktar	**laktetʃ-e**	doctor
ŋgaw	**ŋgep-e**	antelope
tʃiew	**tʃiep-e**	porcupine

4.1.2.2 Noun Roots with the Genitive Suffix.

Noun roots in Dholuo also take the genitive suffix to form a single noun word. Noun roots in Dholuo inflect by suffixation to show possession, in terms of person and number simultaneously. This is expressed by genitive clitic-like suffixes **[-a, -i, -e]** and **[-wa, -u, -gi]** for 1st, 2nd, 3rd person singular and 1st, 2nd, 3rd person plural respectively as discussed below. Table 11 summarises the structure of obstruent final noun roots as they inflect with 1st, 2nd and 3rd person genitive singular suffixes **[-a, -i, -e]**.

Table 11: Obstruent Final Noun Roots with Singular Genitive Suffixes

Noun Root	1Gen Sg (My)	2Gen Sg (Your)	3Gen Sg (His/Her/Its)	Root Gloss
lep	**lew-a**	**lew-i**	**lew-e**	tongue
otit	**otid-a**	**otid-i**	**otid-e**	firefly
okot	**okod-a**	**okod-i**	**okod-e**	bell
dek	**deg-a**	**deg-i**	**deg-e**	vegetable
buk	**bug-a**	**bug-i**	**bug-e**	book
atʃuө	**atʃuð-a**	**atʃuð-i**	**atʃuð-e**	vulture
jaө	**jað-a**	**jað-i**	**jað-e**	medicine
mandas	**mandas-a**	**mandas-i**	**mandas-e**	baked break
makas	**makas-a**	**makas-i**	**makas-e**	a pair of scissors
ɲimbitʃ	**ɲimbij-a**	**ɲimbij-i**	**ɲimbij-e**	intestine
rétʃ	**réj-a**	**réj-i**	**réj-e**	fish

As stated earlier, noun roots ending in obstruents have the final obstruent sounds become hardened when suffixed with the plural morpheme. The genitive singular suffix similarly triggers the morphophonological alternation of the noun root final segment. Table 12 summarises the behaviour of 1st, 2nd and 3rd person genitive plural suffixes **[-wa, -u, -gi]** with Dholuo noun roots ending in obstruents.

Table 12: Obstruent Final Noun Roots with Plural Genitive Suffixes

Noun Root	1Gen Pl (Our)	2Gen Pl (Your)	3Gen Pl (Their)	Root Gloss
lep	**leb-wa**	**lew-u**	**leb-gi**	tongue
alap	**alab-wa**	**alaw-u**	**alab-gi**	field
otit	**otid-wa**	**otid-u**	**otid-gi**	firefly
okot	**okod-wa**	**okod-u**	**okod-gi**	bell
dek	**deg-wa**	**deg-u**	**deg-gi**	vegetable
buk	**bug-wa**	**bug-u**	**bug-gi**	book

aʧuθ	aʧuð-wa	aʧuð-u	aʧuð-gi	vulture
jaθ	jað-wa	jað-u	jað-gi	medicine
mandas	mandas-wa	mandas-u	mandas-gi	baked break
makas	makas-wa	makas-u	makas-gi	a pair of scissors
ɲimbiʧ	ɲimbidʒ-wa	ɲimbi-u	ɲimbidʒ-gi	intestine
réʧ	rédʒ-wa	réw-u	rédʒ-gi	fish

Nasal final noun roots also inflect with genitive suffixes in a similar way as obstruent final noun roots. The suffixes **[-a, -i, -e]** are attached to the noun root to show possession in the singular, while the suffixes **[-wa, -u, -gi]** are attached to the noun roots to show possession in the plural. However, the behaviour of the final segment of the noun root differs from the patterns discussed above. It should further be noted that the voiceless bilabial stop **[p]** lenites to the voiced bilabial stop **[b]** before consonants and to the voiceless labial approximant **[w]** before vowels. In the same way, the voiceless palatal fricative **[ʧ]** lenites to the voiced palatal fricative **[dʒ]** before consonants and to the voiceless labial approximant **[w]** before vowels.

Table 13 summarises the structure of nasal final noun roots as they inflect with the singular genitive suffixes **[-a, -i, -e]**.

Table 13: Nasal Final Noun Roots with Singular Genitive Suffixes

Noun Root	1Gen Sg (My)	2Gen Sg (Your)	3Gen Sg (His/Her/Its)	Root Gloss
kɔm	kɔmb-a	kɔmb-i	kɔmb-e	chair
arum	arumb-a	arumb-i	arumb-e	an owl
miliɲ	miliɲdʒ-a	miliɲdʒ-i	miliɲdʒ-e	round worm
ajaɲ	ajaɲdʒ-a	ajaɲdʒ-i	ajaɲdʒ-e	verbal assault
kuon	kuond-a	kuond-i	kuond-e	ugali
rabuon	rabuond-a	rabuond-i	rabuond-e	potato
ɲaŋ	ɲaŋg-a	ɲaŋg-i	ɲaŋg-e	crocodile
ɲatieŋ	ɲatieŋg-a	ɲatieŋg-i	ɲatieŋg-e	boulder

The nasal sound in the noun roots ending in nasals become hardened to prenasal consonants when the noun root admit the singular genitive suffix. No other morphological alteration occurs in the noun roots. The nasal final noun roots also take plural genitive suffixes **[-wa, -u, -gi]** to express possession in the plural. Table 14 summarizes the structure of nasal final noun roots as they inflect with the plural genitive suffixes **[-wa, -u, -gi]**.

Table 14: Nasal Final Noun Roots with Plural Genitive Suffixes

Noun Root	1Gen Pl (Our)	2Gen Pl (Your)	3Gen Pl (Their)	Root Gloss
kɔm	kɔmb-wa	kɔmb-u	kɔmb-gi	chair
arum	arumb-wa	arumb-u	arumb-gi	an owl
miliɲ	miliɲdʒ-wa	miliɲdʒ-u	miliɲdʒ-gi	Round worm
ajaɲ	ajaɲdʒ-wa	ajaɲdʒ-u	ajaɲdʒ-gi	verbal assault
kuon	kuond-wa	kuond-u	kuond-gi	ugali
rabuon	rabuond-wa	rabuond-u	rabuond-gi	potato
ɲaŋ	ɲaŋg-wa	ɲaŋg-u	ɲaŋg-gi	crocodile
ɲatieŋ	ɲatieŋg-wa	ɲatieŋg-u	ɲatieŋg-gi	boulder

The case of noun roots ending in approximants follows a similar pattern. Table 15 below summarises the morphophonological behaviour of Dholuo noun roots as they inflect with the singular genitive suffix **[-a]** "my" which is identical to the behaviour with the other two singular genitive suffixes **[-i]**"your" and **[-e]** "his/her/its".

Table 15: Noun Roots Ending in Approximants with Singular Genitive Suffixes.

Noun Root	1.Gen Sg (My)	2. Gen Sg (Your)	3. Gen Sg (His/Her/Its)	Root Gloss
ɵuol	ɵuond-a	ɵuond-i	ɵuond-e	Snake
ragwɛl	ragwɛnd-a	ragwɛnd-i	ragwɛnd-e	bow-legged
laktar	laktatʃ-a	laktatʃ-i	laktatʃ-e	doctor
bɔr	bɔtʃ-a	bɔtʃ-i	bɔtʃ-e	animal fat
tʃiew	tʃiep-a	tʃiep-i	tʃiep-e	porcupine

Table 16 summarizes the behaviour of Dholuo noun roots as they inflect with the plural genitive suffix **[-wa]** "our" which is identical to the behaviour with the other two plural genitive suffixes**[-u]** "your" and **[-gi]** "their".

Table 16: Noun Roots Ending in Approximants with Plural Genitive Suffixes.

Noun Root	1.Gen Pl. (My)	2.Gen Pl. (Your)	3.Gen Pl. (Their)	Root Gloss
ɵuol	ɵuond-wa	ɵuond-u	ɵuond-gi	snake
ragwɛl	ragwɛnd-wa	ragwɛnd-u	ragwɛnd-gi	bow-legged
laktar	laktatʃ-wa	laktatʃ-u	laktatʃ-gi	doctor
bɔr	bɔtʃ-wa	bɔtʃ-u	bɔtʃ-gi	animal fat
law	law-wa	law-u	law-gi	cloth
tʃiew	tʃiep-wa	tʃiep-u	tʃiep-gi	porcupine

In Dholuo inflectional morphology, vowels appear to be invisible when they occur in the final position of noun roots. Consequently, the behaviour of V-final noun roots in suffixation of both the plural and genitive suffixes is dictated by the prevocalic consonant. Therefore, the morphophonology of obstruents, nasals and approximants that come before the final vowel in vowel final noun roots follow the patterns described in the preceding discussion. Table 17 summarizes the behaviour of vowel final noun roots when they inflect with singular genitive suffixes **[-a, -i, -e]**.

Table 17: Vowel Final Noun Roots with Singular Genitive Suffixes

Noun Root	1Gen Sg (My)	2Gen Sg (Your)	3Gen Sg (His/Her/Its)	Root Gloss
ratʃu:ŋgi	ratʃu:ŋg-a	ratʃu:ŋg-i	ratʃu:ŋg-e	sieve
olele	olend-a	olend-i	olend-e	lizard
ndege	ndek-a	ndek-i	ndek-e	aircraft
lowo	lop-a	lop-i	lop-e	land
polo	pond-a	pond-i	pond-e	heaven/sky
aluru	alutʃ-a	alutʃ-i	alutʃ-e	quail
buŋgu	buŋg-a	buŋg-i	buŋg-e	forest
punda	pund-a	pund-i	pund-e	donkey

There is no morphophonological alteration of the final consonant in the words **ratʃu:ŋgi**, **buŋgu** and **punda** in Table 17 above and Table 18 below because of the constraints governing the occurrence of nasals in noun root final segment in Dholuo nominals. The prenasalised consonants **[mb, nd, ɲdʒ, ŋg, nd]** occur only in the inflected and derived forms in Dholuo; they do not occur in the root final position of bare noun roots as do nasals.

Table 18 summarises the behaviour of vowel final noun roots when they inflect with plural Genitive suffixes **[-wa, -u, -gi]**.

Table 18: Vowel Final Noun Roots with Plural Genitive Suffixes

Noun Root	1gen Pl (Our)	2gen Pl (Your)	3gen Pl (Their)	Root Gloss
ratʃu:ŋgi	ratʃu:ŋg-wa	ratʃu:ŋg-u	ratʃu:ŋg-gi	sieve
olele	olend-wa	olend-u	olend-gi	lizard
ndege	ndek-wa	ndek-u	ndek-gi	aircraft

lowo	lop-wa	lop-u	lop-gi	land
polo	pond-wa	pond-u	pond-gi	heaven/sky
aluru	aluʧ-wa	aluʧ-u	aluʧ-gi	quail
buŋgu	buŋg-wa	buŋg-u	buŋg-gi	forest
punda	pund-wa	pund-u	pund-gi	donkey

In admitting the genitive suffixes, the final vowel in this category displayed in Tables (17-18) gets deleted. Nonetheless, the prevocalic consonants follow the pattern described earlier with regard to the morphophonological behavior of the obstruents, nasals and approximants occurring root finally. This demonstrates that noun roots in Dholuo are underlyingly consonant final.

However, it should be noted that the structures demonstrated by the data presented in Tables 17-18 only show the case of singular nouns. The morphophonology of the noun root will be different when the singular or plural genitive suffixes are attached to the plural forms of the nouns. In this case, the noun root will have to undergo the regular plural formation process before it admits the genitive suffix. For example the noun root **[okot]** "bell", will change into the plural form **[okod-e]** admitting the plural suffix **[-e]** before it admits any of the singular or plural genitive suffixes to form, for instance, **[okod-e-wa]** "our bells" or **[okod-e-gi]** "their bells"

4.1.2.3   Noun Roots with the Demonstrative Suffix.
Demonstratives can also be suffixed to noun roots to form a single noun word. The suffix marking the demonstrative is a bound morpheme which is attached post nominally to the noun root. This suffix is marked for number and proximity to the referent so that we have singular demonstrative **[-ni, -ʧa** and **-no]**; plural demonstrative **[-gi,-go** and **-ka]**; and which can be categorized further as: near referent **[-ni** and **-gi]**, far referent **[-no** and **-go]** and remote referent**[-ʧa,** and **-ka]** as discussed below.

Table 19 illustrates the structure of obstruent final noun roots with the demonstrative suffixes**[-ni, -ʧa** and **-no]** which describe singular near referent, singular remote referent and singular far referent respectively.

Table 19: Obstruent Final Noun Roots with Singular Demonstrative Suffixes

Noun	NounR + [-ni] (This)	NounR + [-no] (That)	NounR + [-ʧa] (That)	Root Gloss
lep	leb-ni	leb-no	leb-ʧa	tongue
alap	alab-ni	alab-no	alab-ʧa	field
otit	otid-ni	otid-no	otid-ʧa	firefly
okot	okod-ni	okod-no	okod-ʧa	bell
dek	deg-ni	deg-no	deg-ʧa	vegetable
buk	bug-ni	bug-no	bug-ʧa	book
aʧuθ	aʧuð-ni	aʧuð-no	aʧuð-ʧa	vulture
jaθ	jað-ni	jað-no	jað-ʧa	medicine
mandas	mandas-ni	mandas-no	mandas-ʧa	baked break
makas	makas-ni	makas-no	makas-ʧa	scissors
ɲimbiʧ	ɲimbidʒ-ni	ɲimbidʒ-no	ɲimbidʒ-ʧa	intestine
réʧ	rédʒ-ni	rédʒ-no	rédʒ-ʧa	fish

Obstruent final noun roots behave in an identical way with the three singular demonstrative Suffixes **[-ni]**, **[-ʧa]** and **[-no]**. The noun root final obstruent, save for the voiceless alveolar fricative **[s]**, weakens as they acquire the demonstrative suffixes **[-ni]**, **[-ʧa]** and **[-no]**. However, the proximity to the referent does not influence any morphological change in the noun root. Nonetheless, the behaviour is different when they admit the three plural demonstrative Suffixes **[-gi]**, **[-go]** and **[-ka]** as shown in Table (20) in which there are observable morphological alternations. Plural demonstrative suffixes motivate a morphological change in the noun roots so as to enforce coherence between them in terms of number. This trend is replicated in all the noun roots with plural demonstrative suffixes as discussed below.

Table 20 below illustrates the structure of obstruent final noun roots with the demonstrative suffixes **[-gi]**, **[-go]** and **[-ka]** which describe plural near referent, plural remote referent and plural far referent respectively. The noun root first takes the plural suffix **[-e]** then the demonstrative suffix.

Table 20: Obstruent Final Noun Roots with Plural Demonstrative Suffixes

NounR	NounR + **[-gi]** (These)	NounR + **[-go]** (Those)	NounR + **[-ka]** (Those)	Root Gloss
lep	**leb-e-gi**	**leb-e-go**	**leb-e-ka**	tongue
alap	**alab-e-gi**	**alab-e-go**	**alab-e-ka**	field
otit	**otid-e-gi**	**otid-e-go**	**otid-e-ka**	firefly
okot	**okod-e-gi**	**okod-e-go**	**okod-e-ka**	bell
dek	**deg-e-gi**	**deg-e-go**	**deg-e-ka**	vegetable
buk	**bug-e-gi**	**bug-e-go**	**bug-e-ka**	book
atʃuθ	**atʃuð-e-gi**	**atʃuð-e-go**	**atʃuð-e-ka**	vulture
jaθ	**jeð-e-gi**	**jeð-e-go**	**jeð-e-ka**	medicine
mandas	**mandes-e-gi**	**mandes-e-go**	**mandes-e-ka**	baked break
makas	**makes-e-gi**	**makes-e-go**	**makes-e-ka**	scissors
ɲimbitʃ	**ɲimbij-e-gi**	**ɲimbij-e-go**	**ɲimbij-e-ka**	intestine
rétʃ	**réj-e-gi**	**réj-e-go**	**réj-e-ka**	fish

Table 21 illustrates the structure of nasal final noun roots with the demonstrative suffixes **[-ni, -tʃa** and **-no]** which describe singular near referent, singular remote referent and singular far referent respectively.

Table 21: Nasal Final Noun Roots with Singular Demonstrative Suffixes

NounR	NounR + [-ni] (This)	NounR + [-tʃa] (That)	NounR + [-no] (That)	Root Gloss
kɔm	**kɔmb-ni**	**kɔmb-tʃa**	**kɔmb-no**	chair
arum	**arumb-ni**	**arumb-tʃa**	**arumb-no**	an owl
miliɲ	**miliɲdʒ-ni**	**miliɲdʒ-tʃa**	**miliɲdʒ-no**	Round worm
ajaɲ	**ajaɲdʒ-ni**	**ajaɲdʒ-tʃa**	**ajaɲdʒ-no**	verbal assault
kuon	**kuond-ni**	**kuond-tʃa**	**kuond-no**	ugali
rabuon	**rabuond-ni**	**rabuond-tʃa**	**rabuond-no**	potato
ɲaŋ	**ɲaŋg-ni**	**ɲaŋg-tʃa**	**ɲaŋg-no**	crocodile
ɲatieŋ	**ɲatieŋg-ni**	**ɲatieŋg-tʃa**	**ɲatieŋg-no**	boulder

Table 21 illustrates the structure of nasal final noun roots with the demonstrative suffixes**[-gi], [-go]** and **[-ka]** which describe plural near referent, plural remote referent and plural far referent respectively. The noun root first takes the plural morpheme **[-e]** then the demonstrative suffix as was the case with obstruent final roots illustrated in Table 22 in obstruent final noun roots.

Table 22: Nasal Final Noun Roots with Plural Demonstrative Suffixes

NounR	NounR + [-gi] (These)	NounR + [-go] (Those)	NounR + [-ka] (Those)	Root Gloss
kɔm	**kɔmb-e-gi**	**kɔmb-e-go**	**kɔmb-e-ka**	chair
arum	**arumb-e-gi**	**arumb-e-go**	**arumb-e-ka**	an owl
tʃuɲ	**tʃuɲdʒ-e-gi**	**tʃuɲdʒ-e-go**	**tʃuɲdʒ-e-ka**	liver
ajaɲ	**ajeɲdʒ-e-gi**	**ajeɲdʒ-e-go**	**ajeɲdʒ-e-ka**	verbal assault
kuon	**kuond-e-gi**	**kuond-e-go**	**kuond-e-ka**	ugali
rabuon	**rabuond-e-gi**	**rabuond-e-go**	**rabuond-e-ka**	potato
ɲaŋ	**ɲeŋg-e-gi**	**ɲeŋg-e-go**	**ɲeŋg-e-ka**	crocodile
ɲatieŋ	**ɲitieŋg-e-gi**	**ɲitieŋg-e-go**	**ɲitieŋg-e-ka**	boulder

Table 23 illustrates the structure of approximant final noun roots with the demonstrative suffixes **[-ni, -tʃa** and **-no]** which describe singular near referent, singular remote referent and singular far referent respectively.

Table 23: Noun Roots Ending in Approximants with Singular Demonstrative Suffixes

NounR	NounR + [-ni] (This)	NounR + [-tʃa] (That)	NounR + [-no] (That)	Root Gloss
ɵuol	ɵuond-ni	ɵuond-tʃa	ɵuond-no	Snake
ragwɛl	ragwɛnd-ni	ragwɛnd-tʃa	ragwɛnd-no	bow-legged
laktar	laktatʃ-ni	laktatʃa-tʃa	laktatʃ-no	Doctor
bɔr	bɔnd-ni	bɔnd-tʃa	bɔnd-no	animal fat
ŋgaw	ŋgab-ni	ŋgab-tʃa	ŋgab-no	antelope
tʃiew	tʃieb-ni	tʃieb-tʃa	tʃieb-no	porcupine

Table 24 below illustrates the structure of approximant final noun roots with the demonstrative suffixes **[-gi], [-go]** and **[-ka]** which describe plural near referent, plural remote referent and plural far referent respectively. The noun root first takes the plural morpheme **[-e]** then the demonstrative suffix as was the case with obstruent final roots illustrated in Table 23 and nasal final roots in Table 24.

Table 24: Noun Roots Ending in Approximants with Plural Demonstrative Suffixes

NounR	NounR + [-gi] (these)	NounR + [-go] (those)	NounR + [-ka] (those)	Root Gloss
ɵuol	ɵuond-e-gi	ɵuond-e-go	ɵuond-e-ka	snake
ragwɛl	rogwɛnd-e-gi	rogwɛnd-e-go	rogwɛnd-e-ka	bow-legged
laktar	laktetʃ-e-gi	laktetʃ-e-go	laktetʃ-e-ka	doctor
bɔr	bɔtʃ-e-gi	bɔtʃ-e-go	bɔtʃ-e-ka	animal fat
ŋgaw	ŋgep-e-gi	ŋgep-e-go	ŋgep-e-ka	cloth
tʃiew	tʃiep-e-gi	tʃiep-e-go	tʃiep-e-ka	porcupine

V-final noun roots also admit demonstrative suffixes. However, as previously explained, vowels are invisible in surface realizations when they occur in root final position in Dholuo nominals. As such, the behavior of the vowel in V-final noun roots is dictated by the prevocalic consonants. The prevocalic consonants follow the pattern described earlier with regard to the morphophonological behavior of the obstruents, nasals and approximants occurring root finally. Table 25 illustrates the structure of the V-final noun roots with the demonstrative suffixes **[-ni, -tʃa** and **-no]** which describe singular near referent, singular remote referent and singular far referent respectively. It should also be noted that **[w]** becomes **[p]** before vowels and **[b]** before consonants, for instance **tʃieb-no** "that porcupine" and **tʃiep-e-ka** "those porcupines"

Table 25: Vowel Final Roots with Singular Demonstrative Suffixes

Noun Root	NounR + [-ni] (this)	NounR + [-tʃa] (that)	NounR + [-no] (that)	Root Gloss
ratʃu:ŋgi	ratʃu:ŋg-ni	ratʃu:ŋg-tʃa	ratʃu:ŋg-no	sieve
osiki	osig-ni	osig-tʃa	osig-no	stump
olele	olend-ni	olend-tʃa	olend-no	lizard
lowo	lob-ni	lob-tʃa	lob-no	land
polo	pond-ni	pond-tʃa	pond-no	heaven/sky
aluru	alund-ni	alund-tʃa	alund-no	quail
buŋgu	buŋg-ni	buŋg-tʃa	buŋg-no	forest
paka	pag-ni	pag-tʃa	pag-no	cat

Constraints governing articulatory harmony in Dholuo nominals demand that the vowel in the V-final noun roots gets deleted in admitting a suffix. In addition, prenasalised consonants do not undergo alteration in the inflectional process because they do not naturally occur in final positions in noun roots as seen in **[ratʃu:ŋgi]**, **[punda]** and **[buŋgu]** in both Table 25 and 26.

Table 26 below illustrates the structure of V-final noun roots with the demonstrative suffixes**[-gi], [-go]** and **[-ka]** which describe plural near referent, plural remote referent and plural far referent respectively. The noun root first takes the plural morpheme **[-e]** then the demonstrative suffix as was the case with obstruent final roots illustrated in Table 20; nasal final roots in Table 21 & 22 and with approximant final in Table 23.

Table 26: Vowel Final Roots with Plural Demonstrative Suffixes

Noun Root	NounR + [-gi] (these)	NounR + [-go] (those)	NounR + [-ka] (those)	Root Gloss
ratʃuːŋgi	**ratʃuːŋg-e-gi**	**ratʃuːŋg-e-go**	**ratʃuːŋg-e-ka**	sieve
osiki	**osik-e-gi**	**osik-e-go**	**osik-e-ka**	stump
olele	**olend-e-gi**	**olend-e-go**	**olend-e-ka**	lizard
ndege	**ndek-e-gi**	**ndek-e-go**	**ndek-e-ka**	aircraft
lowo	**lop-e-gi**	**lop-e-go**	**lop-e-ka**	land
polo	**pond-e-gi**	**pond-e-go**	**pond-e-ka**	heaven/sky
aluru	**alutʃ-e-gi**	**alutʃ-e-go**	**alutʃ-e-ka**	quail
buŋgu	**buŋg-e-gi**	**buŋg-e-go**	**buŋg-e-ka**	forest
paka	**pek-e-gi**	**pek-e-go**	**pek-e-ka**	cat
punda	**pund-e-gi**	**pund-e-go**	**pund-e-ka**	donkey

4.1.2.4 Noun Roots with Interrogative Suffixes

In addition to demonstrative suffixes, noun roots can take interrogative suffixes **[-ŋa, -aŋɔ, manɛ** and **magɛ]**. The interrogative suffixes **[-ŋa** and **-aŋɔ]** are bound morphemes and together with the noun root they form a single noun word, for example **guog-ŋa** "whose dog," **guog-aŋɔ** "what dog". On the other hand, the interrogative suffixes **[manɛ** and **magɛ]** are free morphemes which together with the noun roots form a two-word NP, for example, **guokmanɛ** "which dog" **guogi magɛ** "which dogs". The interrogative suffixes **[manɛ** and **magɛ]** do not have effect on the morphophonology of the noun roots and are therefore not discussed further in this paper.

Table 27 and 28 illustrate the structure of obstruent final singular nouns and plural nouns respectively with the interrogative suffixes **[-ŋa]** "whose" and **[-aŋɔ]** "what".

Table 27: Obstruent Final Singular Nouns with the Interrogative Suffixes

NounR	NounR + [-na] "Whose"	NounR + [-na] "What"	Root Gloss
sup	**sub-ŋa**	**sub-aŋɔ**	tongue
alap	**alab-ŋa**	**alab-aŋɔ**	field
otit	**otid-ŋa**	**otid-aŋɔ**	firefly
okot	**okod-ŋa**	**okod-aŋɔ**	bell
dek	**deg-ŋa**	**deg-aŋɔ**	vegetable
buk	**bug-ŋa**	**bug-aŋɔ**	book
atʃuɵ	**atʃuð-ŋa**	**atʃuð-aŋɔ**	vulture
jaɵ	**jað-ŋa**	**jað-aŋɔ**	medicine
mandas	**mandas-ŋa**	**mandas-aŋɔ**	baked break
makas	**makas-ŋa**	**makas-aŋɔ**	pair of scissors
ɲimbitʃ	**ɲimbidʒ-ŋa**	**ɲimbidʒ-aŋɔ**	intestine
rétʃ	**rédʒ-ŋa**	**rédʒ-aŋɔ**	fish

When interrogative suffixes occur with plural nouns, the noun root first acquire the plural suffix **[-e]** before admitting the interrogative suffix as illustrated in Table 28 below.

Table 28: Obstruent Final Plural Nouns with the Interrogative Suffixes

NounR	NounR + Pl + [-na] "Whose"	NounR + Pl + [-na] "What"	Root Gloss
sup	**sub-e-ŋa**	**sub-e-aŋɔ**	soup
alap	**alab-e-ŋa**	**alab-e-aŋɔ**	field
otit	**otid-e-ŋa**	**otid-e-aŋɔ**	firefly
okot	**okod-e-ŋa**	**okod-e-aŋɔ**	bell
dek	**deg-e-ŋa**	**deg-e-aŋɔ**	vegetable
buk	**bug-e-ŋa**	**bug-e-aŋɔ**	book
atʃuɵ	**atʃuð-e-ŋa**	**atʃuð-e-aŋɔ**	vulture
jaɵ	**jeð-e-ŋa**	**jað-e-aŋɔ**	medicine
mandas	**mandes-e-ŋa**	**mandes-e-aŋɔ**	baked break
makas	**makes-e-ŋa**	**makes-e-aŋɔ**	pair of scissors
ɲimbitʃ	**ɲimbij-e-ŋa**	**ɲimbij-e-aŋɔ**	intestine
rétʃ	**réj-e-ŋa**	**réj-e-aŋɔ**	fish

Table 29 and 30 below illustrates the structure of nasal final noun roots when they occur with the interrogative suffixes **[-ŋa]** "whose" and **[-aŋɔ]** "what".

Table 29: Nasal Final Singular Nouns with the Interrogative Suffixes

NounR	NounR + [-ŋa] "Whose"	NounR + [-aŋɔ] "What"	Root Gloss
kɔm	**kɔmb-ŋa**	**kɔmb-aŋɔ**	chair
arum	**arumb-ŋa**	**arumb-aŋɔ**	an owl
tʃuɲ	**tʃuɲdʒ-ŋa**	**tʃuɲdʒ-aŋɔ**	liver
ajaɲ	**ajaɲdʒ-ŋa**	**ajaɲdʒ-aŋɔ**	verbal assault
kuon	**kuond-ŋa**	**kuond-aŋɔ**	ugali
rabuon	**rabuond-ŋa**	**rabuond-aŋɔ**	potato
ɲaŋ	**ɲaŋg-ŋa**	**ɲaŋg-aŋɔ**	crocodile
ɲatieŋ	**ɲatieŋg-ŋa**	**ɲatieŋg-aŋɔ**	boulder

Table 30: Nasal Final Plural Nouns with the Interrogative Suffixes

NounR	NounR + [-ŋa] "Whose"	NounR + [-aŋɔ] "What"	Root Gloss
kɔm	**kɔmb-e-ŋa**	**kɔmb-e-aŋɔ**	chair
arum	**arumb-e-ŋa**	**arumb-e-aŋɔ**	an owl
tʃuɲ	**tʃuɲdʒ-e-ŋa**	**tʃuɲdʒ-e-aŋɔ**	liver
ajaɲ	**ajaɲdʒ-e-ŋa**	**ajaɲdʒ-e-aŋɔ**	verbal assault
kuon	**kuond-e-ŋa**	**kuond-e-aŋɔ**	ugali
rabuon	**rabuond-e-ŋa**	**rabuond-e-aŋɔ**	potato
ɲaŋ	**ɲaŋg-e-ŋa**	**ɲaŋg-e-aŋɔ**	crocodile
ɲatieŋ	**ɲitieŋg-e-ŋa**	**ɲitieŋg-e-aŋɔ**	boulder

Nasal final noun roots behave in identical way when they occur with the plural suffixes, genitive suffixes, demonstrative Suffixes and interrogative suffixes. The noun root final nasal hardens to prenasalised consonants as they acquire the suffixes but remain soft word finally. Table 30 and 31 below illustrates the structure of approximant final noun roots when they occur with the interrogative suffixes **[-ŋa]** "whose" and **[-aŋɔ]** "what".

Table 31: Singular Nouns Ending in Approximants with the Interrogative Suffixes

NounR	NounR + [-ŋa] "What"	NounR + [-aŋɔ] "What"	Root Gloss
ɵuol	**ɵuond-ŋa**	**ɵuond-aŋɔ**	snake
ogwal	**ogwand-ŋa**	**ogwand-aŋɔ**	frog
laktar	**laktand-ŋa**	**laktatʃ-aŋɔ**	doctor
bɔr	**bɔnd-ŋa**	**bɔtʃ-aŋɔ**	animal fat
ŋgaw	**ŋgab-ŋa**	**ŋgap-aŋɔ**	antelope
tʃiew	**tʃieb-ŋa**	**tʃiep-aŋɔ**	porcupine

Table 32: Plural Nouns Ending in approximants with the Interrogative Suffixes

NounR	NounR + [-ŋa] "What"	NounR + [-aŋɔ] "What"	Root Gloss
ɵuol	**ɵuond-e-ŋa**	**ɵuond-e-aŋɔ**	snake
ogwal	**ogwend-e-ŋa**	**ogwend-e-aŋɔ**	frog
laktar	**laktetʃ-e-ŋa**	**laktatʃ-e-aŋɔ**	doctor
bɔr	**bɔtʃ-e-ŋa**	**bɔtʃ-e-aŋɔ**	animal fat
ŋgaw	**ŋgep-e-ŋa**	**ŋgep-e-aŋɔ**	antelope
tʃiew	**tʃiep-e-ŋa**	**tʃiep-e-aŋɔ**	porcupine

Approximant final noun roots behave in identical way when they occur with the plural suffixes, genitive suffixes, demonstrative Suffixes and interrogative suffixes. The approximant at the noun root final position

hardens as they acquire suffixes but remains soft word finally as demonstrated in Table 32. However, it should be further noted that **[r]** fortifies to **[ʧ]** before vowels and **[nd]** before consonants. Similarly, **[w]** hardens to **[p]** before vowels and **[b]** before consonants.

V-final noun roots also admit interrogative suffixes. However, as previously explained vowels are opaque in surface realizations when they occur in root final position in Dholuo nominals. In that regard, the behavior of the vowel in V-final noun roots is dictated by the prevocalic consonants which follow the pattern described earlier with regard to the morphophonological behavior of the obstruents, nasals and approximants occurring root finally. Table 33 illustrates the structure of V-final noun roots when they occur with the interrogative suffixes **[-ŋa]** "whose" and **[-aŋɔ]** "what".

Table 33: Vowel Final Singular Nouns with the Interrogative Suffixes

Root	NounR + [-ŋa] "What"	NounR + [-aŋɔ] "What"	Root Gloss
raʧu:ŋgi	raʧu:ŋg-ŋa	raʧu:ŋg-aŋɔ	sieve
osiki	osig-ŋa	osig-aŋɔ	stump
olele	olend-ŋa	olend-aŋɔ	lizard
ndege	ndek-ŋa	ndek-aŋɔ	aircraft
lowo	lob-ŋa	lop-aŋɔ	land
polo	pond-ŋa	pond-aŋɔ	heaven/sky
aluru	alund-ŋa	aluʧ-aŋɔ	quail
buŋgu	buŋg-ŋa	buŋg-aŋɔ	forest
paka	pag-ŋa	pag-aŋɔ	cat
punda	pund-ŋa	pund-aŋɔ	donkey

When the V-final roots displayed in the above Table 33 admit the interrogative suffixes, the final vowel gets deleted. The same is seen when the interrogative suffixes occur with plural nouns but the noun first acquires the plural morpheme before admitting the interrogative suffix as illustrated in Table 34.

Table 34: Vowel Final Plural Nouns with the Interrogative Suffixes

Root	NounR +Pl + [-ŋa] "What"	NounR + Pl + [-aŋɔ] "What"	Gloss
raʧu:ŋgi	raʧu:ŋg-e-ŋa	raʧu:ŋg-e-aŋɔ	sieve
osiki	osig-e-ŋa	osig-e-aŋɔ	stump
olele	olend-e-ŋa	olend-e-aŋɔ	lizard
ndege	ndek-e-ŋa	ndek-e-aŋɔ	aircraft
lowo	lop-e-ŋa	lop-e-aŋɔ	land
polo	pond-e-ŋa	pond-e-aŋɔ	heaven/sky
aluru	aluʧ-e-ŋa	aluʧ-e-aŋɔ	quail
buŋgu	buŋg-e-ŋa	buŋg-e-aŋɔ	forest
paka	pek-ni-ŋa	pek-ni-aŋɔ	cat
punda	pund-ni-ŋa	pund-ni-aŋɔ	donkey

In summary, nouns in Dholuo exist both as bare forms as well as inflected forms with suffixes. These suffixes are mostly bound with the noun root from which they derive their grammatical function. Noun roots in Dholuo can be affixed with plural suffixes, genitive suffixes, demonstrative suffixes, interrogative suffixes. The suffix and the noun root together form one noun word in Dholuo nominals. The morphophonological behaviour of the noun roots when they occur with the suffixes (plural, genitive, demonstrative, and interrogative) is identical in all instances.

4.2 The Structure of Adjectives in Dholuo

The noun root and its adjectival modifier in Dholuo together form a two-word NP. For example, **[guok ma-duoŋ]** "a big dog" is comprised of the noun root **[guok]** and the adjective stem **[ma-duoŋ]**. The adjective takes the attributive prefix ma- which semantically refers to 'that is'. In Dholuo, the attributive prefix ma- isolates and uniquely qualifies words used with an adjectival sense as is exemplified in (6) and (7) below. It is, therefore, used contextually and not in isolation.

[6] **gɔt   ma-bor**
hill   ATTR-tall-3Sg
 (a tall hill)

[7] **gɔd-e   ma-boʧ-o**
hill-3Pl   ATTR-tall-Pl
  (tall hills)

Consequently, the word [**bor**] "tall" cannot be used in isolation without the attributive prefix **ma-** in an NP. If it has to, then the noun has to acquire a determiner as below (8-9).

[8] **gɔd-no   bor**
hill-DEM.that   tall-3Sg
(that tall hill

[9] **gɔd-e-go   boʧ-o**
hill-3Pl   ATTR-tall-Pl
those tall hills)

As demonstrated in (6-9) above, Adjectives in Dholuo may exist as bare roots as well as with suffixes. Adjectives in Dholuo, like nouns, end in obstruents, nasals, approximants and vowels. The phonemes [**p, t, k, ɵ, and s**] can occupy the final position in bare adjective roots. Like it is with noun roots, voiced obstruents [**b, g, ð, ʤ**] do not occur in the adjective root final position. Similarly, the voiceless alveolar fricative [**s**], the voiceless labio-dental fricative [**f**] and the voiceless glottal fricative [**h**] do not occur naturally in the final position of Dholuo adjective roots. However, unlike nouns they do not display such morphophonological alternations when admitting suffixes and are therefore not discussed further in this paper. Nonetheless, it should be noted that when the adjective acquires the plural suffix, the noun in that syntactic construction also has to cohere in terms of number by acquiring a plural suffix. However, when the noun changes its gender the second attributive prefix also changes as exemplified in (10-11). The adjective also acquires a vowel which gets deleted in the plural form.

[10]**ɲuɔk ma-di-buoro**
goat-3Sg   ATTR-ATTR-brown-3Sg
(a brown goat)

[11]**ɲuɔg-i ma-di-buoʧ-e**
goat-3Sg   ATTR-ATTR-brown-3Sg
(brown goats)

The attributive prefix [**di-**] is used specifically with colour adjectives. Furthermore, the structural position of the adjective in an AdjP follows a similar pattern seen in the other nominal constituents. The adjective comes after the noun stem which it modifies. However, when demonstratives are admitted in the NP construction consisting of a noun stem and an adjective, the demonstrative is attached to the adjective and not to the noun. In this sense, the adjective admits the attributive prefix **ma-** before it and other modifiers after it. Despite this, syntactic variations yield a number of semantic possibilities, some of which are as a result of emphasis by the speaker. There can be instances where the speaker would want to draw attention to the noun stem, as shown in (12), as well as other instances where the attention is focused on the adjective (13).

[12]**law-ni   kwar**
dress-DEM.this   red

(this dress is red)

[13] **law   ma-kwar-ni**
dress   ATTR-red-DEM.this
(this red dress)

[14] **law   ma-kwar**
dress   ATTR-red (a red dress)

In the constructions (12-14) above, the demonstrative **[ni]** 'this' is shifted to the noun stem to lay emphasis on the noun (12) and to the adjective to lay emphasis to the redness of the dress (13). The attributive prefix **(ma-)** is therefore present in (13) and (14) but lacking in (12). This therefore, posits that demonstratives can be attached to both the noun root and adjective stem.

4.3   The Structure of Personal Pronouns in Dholuo

The grammatical properties associated with the pronoun as a lexical category vary from one language to the other. As a result, it has been problematic for linguists to settle on a unifying definition of pronouns. Traditionally, pronouns have been defined to be the nominal category that "stand for nouns" [5,8,13]. However, most linguists find this definition to be unsatisfactory mainly because personal pronouns do not "stand for" any nouns as such, whereas demonstrative or interrogative pronouns can "stand for" adjectives, adverbs, or even verbs. Nonetheless, attempts to find alternative definitions have not been satisfactory either forcing linguists to retain the traditional definition as the only workable one[5]. For that reason, this study adopts the understanding of pronouns as the nominal forms that basically replace nouns and NPs in a syntactic construction. This study looks at Dholuo personal pronouns as a distinctive nominal category but with a continuum of semantic references to other forms of pronouns which, for purposes of distinction, will be referred to as proforms.

The data in Table 35 below demonstrate case marking in Dholuo personal pronouns.

Table 35: Case Marking in Dholuo Personal Pronouns

Person	Number	Case		
		Nominative	Accusative	Genitive
1	Sg.	an-	-a	-a
	Pl	wan-	-wa	-wa
2	Sg	in-	-i	-i
	Pl	un-	-u	-u
3	Sg	en-	-e	-e
	Pl	gin-	-gi	-gi

It should be noted that the accusative and the genitive forms in Dholuo personal pronouns are morphologically identical semantically incongruent. This study has established that genitive suffixes in Dholuo function as bound morphemes. However, personal pronouns in the nominative and accusative case function as clitics and for that reason they do not trigger morphophonological alterations of final segments of any nominal category as do other suffixes in Dholuo. Genitive suffixes are therefore discussed as independent nominal category from personal pronouns based on this contrasting syntactic function.

In Dholuo, all personal pronouns are monosyllabic. Even though these pronouns can begin with either a consonant or a vowel, they strictly display a closed syllabic system of VC or CVC tier. Since personal pronouns in Dholuo function as independent syntactic atoms and not as morphemes when added to other nominal categories, they do not trigger morphophonological alternations exhibited when other morphemes are attached to these nominals confirming the fact that they function as clitics in nominal phrases and as words elsewhere in syntactic constructions. However, they must be attached to a nominal category from where they derive their semantic reference. That notwithstanding, the structural occurrence of personal is unique in each nominal

category. Personal pronouns in the nominative case are attached before a verb in a syntactic construction as demonstrated in (15-16) below.

[15] **a-somo**
    I   1Sg.NOM.read
(I am reading)

[16] **wa-somo**
We   1Pl.NOM.read
 (We are reading)

The scenario above will be different when pronouns in the accusative case are affixed to verbs. In example (17-18) the pronouns are suffixed after the verb in a syntactic construction.

[17] **i-som-e**
you   2Sg.NOM.read-Dem.it
(You are reading it)

[18] **i-somo-gi**
you   2Sg.NOM.read-Dem.them
(You are reading them)

The verb root final vowel is deleted in (18) when admitting the pronoun [-e] to satisfy constraints in Dholuo nominals which enforce articulatory harmony with regards to vowel place. Dholuo personal pronouns just like proforms in other languages are dissociated and distinct from their referents[5]. They, therefore, admit neither articles nor other modifiers. In exhibiting number and gender concord, reference is made to number or gender of the personal pronoun rather than of the referent.

[19] **ɔ-mij-a   buk**
      3Sg.Nom-give-1Sg.Acc   book-Sg
      (He/she gave me a book)

[20] **ɔ-mij-a   bug-e**
      3Sg.Nom-give-1Sg.Acc   book-Pl
      (He/she gave me books)

In the examples above, the personal pronoun in the nominative and accusative case   is morphologically identical in each of the utterances. However, the referent **'buk'** (a book) is in the singular form in (19) and plural form in (20). Despite this, the personal pronoun remains unchanged in number agreement marker even with the change of referent from singular form **'buk'** to the plural form **'bug-e'**. This is also true even when the personal pronoun in the accusative case in the same NP is in plural, just like the plural referent **'buge'** (21).

[21] **ɔ-mij-o-wa   bug-e**
      3Sg.Nom-give-1Pl.Acc   book-Pl
      (He/she gave us books)

Similarly, the 3rd person nominative form **(gi-)** and accusative form **(wa-)** in example (22) below exhibit agreement number marker for the personal pronoun but not for the referent which in this case is in the singular form.

[22] **gi-mij-o-wa   buk**
      3Pl.Nom-give-1Pl.Acc   book-Sg

(They gave us a/the book)

4.3 The Structure of Numerals in Dholuo

Numerals are divided into two major groups- cardinal and ordinal displayed below in Table (36).

Table 36: Ordinal and Cardinal Numerals in Dholuo

Figures	Cardinals	Series	Ordinals
1	**ətʃɪel**	first	**mɔkwɔŋgo**
2	**ərijɔ**	Second	**mər ərijɔ**
3	**ədek**	Third	**mər ədek**
4	**əŋwen**	Fourth	**mər əŋwen**
5	**əbitʃ**	Fifth	**mər əbitʃ**
6	**əutʃɪɛl**	Sixth	**mər əutʃɪɛl**
7	**əbɪrɪjɔ**	Seventh	**mər əbɪrɪjɔ**
8	**əborɔ**	Eighth	**mər əborɔ**
9	**ɔtʃikɔ**	Ninth	**mər ɔtʃikɔ**
10	**əpar**	Tenth	**mər əpar**
11	**əpar gatʃɪel**	Eleventh	**mər əpar gatʃɪel**
50	**piɛr əbitʃ**	Fiftieth	**mər piɛr əbitʃ**
100	**miə ətʃɪel**	hundredth	**mər miə ətʃɪel**

The lower-valued ordinals (1, 2, 3, and 4) in most languages tend to be formed suppletively, without any obvious morphological connection to the corresponding cardinal numeral[4,16]. Thus in English 'first' is not formed from 'one', whereas 'fourth' is formed by suffixing **-th** to 'four'. Similarly, in Dholuo, **mɔkwɔŋgo** (first) is not formed from the cardinal **ətʃɪel** (one) nor is it mono-morphemic like the rest of the ordinals formed by a combination of the corresponding cardinal numeral preceded by the ordinal identifier morpheme **mər-**.

This study noted that fractions have no native words. In this case, all words describing fractions are borrowed from either Kiswahili or English as demonstrated in Table 37 below.

Table 37: Fractions in Dholuo Numerals

Figures	Fraction	Gloss
½	**nus**	Half (Kiswahili '**nusu**')
1/8	**robo**	An eighth (Kiswahili "**robo**"
¼	**kwɔta**	Quarter (English 'quarter')
¾	**ədek gi robɔ**	Three quarter (Dholuo and Kiswahili)

Fractions are freely (and interchangeably) expressed with words from either of the languages aforementioned. For example, the numeral for 'quarter' can be **robɔ** (borrowed from Kiswahili '**robo**') or **kwɔta** (from English 'quarter'). There are also instances where a mixture of native numeral word and a borrowed one is used to express a fraction. A good example is the fraction **ədek** gi **robɔ**, three-quarter (¾). This is a conglomeration of the native cardinal **ədek** (three) and the Kiswahili numeral **robɔ** (quarter) joined by the conjunction gi (and/with) which literally translates to 'three and quarter'. However, as the fractions diminish in value, they are easily expressed by simply describing the numeral on top and the one below (i.e., the numerator and denominator). For example, ⅕ (one fifth) is **ətʃɪel ewi əbitʃ** (literally, 'one on top of five').

Nonetheless, percentages have native expressions in Dholuo as displayed below in Table (38).

Table 38 Percentages in Dholuo Numerals

Figures	Percentage	Gloss
10%	**atamalo əpar**	'percent ten' (ten percent)
50%	**atamalo piɛr əbitʃ**	'percent fifty' (fifty percent)
100%	**atamalo miə ətʃiel**	'percent hundred' (hundred percent)

Numerals display freedom of co-occurrence in Dholuo. The example in (23) below gives Dholuo illustrations, in which ordinal and cardinal numerals co-occur in the same NP.

[23] **ɲiθindo   ərijɔ   mɔ-kwɔŋgo**
child-Pl   two   first
        (the first two children)

In the construction in (23) above, both the cardinal and ordinal numerals occur post-nominally. In addition, the cardinal **ərijɔ** (two) stays closer to the noun than the ordinal **mɔ-kwɔŋgo** (first). In this sense, the cardinal **ərijɔ** performs the general quantifier function giving the noun **ɲiθindo** (children) number value, while the ordinal **mɔ-kwɔŋgo** performs the modifier function restricting the category of the referent (i.e., the first).

In Dholuo, there has to be a clear morphological plural marker suffixed to the noun to agree with the numeral and number of the noun referent as demonstrated in (24) below. Absence of this number agreement marker will yield ungrammatical construction. As a result, in some other languages (Dholuo typologically fitting in this category) singular object nouns denote only singular countable entities[4].

[24] **opuk   ətʃiel**
        3Sg.Nom.tortoise   one
        (one/a tortoise)

[25] **opug-e   ədek**
3.Nom.tortoise-Pl   three
        (three tortoises)

The association of personal pronouns with numerals is rather different from the association of proforms or nouns with them. In the former case, numerals function as appositive phrases that do not directly modify the pronouns. They provide additional information regarding the identity (in terms of number) of their referents, but since personal pronouns are not directly concerned with the identity of their referents, their association with numerals can only be indirect[5]. Here, reference is made to number or gender of the personal pronoun rather than of the referent.

[26] **ɔ-mij-a   luθ   ətʃiel**
        3Sg.Nom-give-1Sg.Acc   stick-Sg   one
        (He/she gave me one stick)

[27] **ɔ-mij-a   luð-e   ədek**
        3Sg.Nom-give-1Sg.Acc   stick-Pl   three
        (He/she gave me three sticks)

In the examples (26-27) above, the personal pronoun **[ɔ-]** which is in the nominative case and the personal pronoun **[–a]** in accusative case remains morphologically unchanged in each of the utterances. However, the referent **'luθ'** (a/the stick) is in the singular form in (26) and plural form **luð-e** in (27) altering its morphology by adding the plural suffix **[–e]** and also changing the voice feature of the final phoneme.

The scenario above is also replicated even when the personal pronoun in the accusative case in the same NP is in plural, just like the plural referent 'luð-e' in example (28) below.

[28] **ɔ-mijo-wa   luð-e   ədek**
3Sg.Nom-give-1Pl.Acc   stick-Pl   three
(He/she gave us three sticks)

The noun referent in Dholuo NP has to agree in number with the numeral modifier by exhibiting a morphological agreement marker. However, the personal pronoun which co-occurs with the numeral does not show such morphological alteration or agreement marker. Therefore, numeral in a Dholuo NP modifies the noun referent in terms of quantity and therefore has to agree with its grammatical number but not with its appositive personal pronoun, even if the latter is in plural.

[29] **gi-mijo-wa   luθ**
    3Pl.Nom-give-1Pl.Acc   stick-Sg
    (They gave us a/the stick)

In addition to the morphological description of numerals above, Dholuo numeral words do also take other suffixes such as plural suffixes and genitive suffixes. Table 38 below provides data covering the initial ten cardinals and how they occur with the plural suffixes in Dholuo.

Table 38: Numerals with Plural Suffixes

Cardinals	Gloss	Cardinal + Pl. suffix	Gloss
ətʃiel	one	**ətʃiend-e**	ones
ərijɔ	two	**əritʃ-e**	twos
ədek	three	**ədeg-e**	threes
əŋwen	four	**əŋwend-e**	fours
əbitʃ	five	**əbidʒ-e**	fives
əutʃiɛl	six	**əutʃiɛnd-e**	sixes
əbɪrɪjɔ	seven	**əbɪtʃ-e**	sevens
əborɔ	eight	**əbotʃ-e**	eights
ɔtʃikɔ	nine	**ɔtʃig-e**	nines
əpar	ten	**əpatʃ-e**	tens

It is worth noting that only the plural allomorph **[-e]** is admitted by the cardinal numerals in Dholuo. Table 39 provides data exemplifying occurrence of numerals with genitive suffixes in Dholuo nominals.

Table 39: Numerals with Singular Genitive Suffixes

Gloss	Cardinals	1Gen Sg (my)	2Gen Sg (your)	3Gen Sg (his/her/its)
one	**ətʃiel**	**ətʃiend-a**	**ətʃiend-i**	**ətʃiend-e**
two	**ərijɔ**	**əritʃ-a**	**əritʃ-i**	**əritʃ-e**
three	**ədek**	**ədeg-a**	**ədeg-i**	**ədeg-e**
four	**əŋwen**	**əŋwend-a**	**əŋwend-i**	**əŋwend-e**
five	**əbitʃ**	**əbidʒ-a**	**əbidʒ-i**	**əbidʒ-e**
six	**əutʃiɛl**	**əutʃiɛnd-a**	**əutʃiɛnd-i**	**əutʃiɛnd-e**
seven	**əbɪrɪjɔ**	**əbɪtʃ-a**	**əbɪtʃ-i**	**əbɪtʃ-e**
eight	**əborɔ**	**əbotʃ-a**	**əbotʃ-i**	**əbotʃ-e**
nine	**ɔtʃikɔ**	**ɔtʃig-a**	**ɔtʃig-i**	**ɔtʃig-e**
ten	**əpar**	**əpatʃ-a**	**əpatʃ-i**	**əpatʃ-e**

Table 40 below provides data exemplifying occurrence of numerals with plural genitive suffixes in Dholuo nominals.

Table 40: Numerals with Plural Genitive Suffixes

Gloss	Cardinals	1Gen Pl (our)	2Gen Pl (your)	3Gen Pl (their)
one	ətʃiel	ətʃiend-wa	ətʃiend-u	ətʃiend-gi
two	ərijɔ	əritʃ-wa	əritʃ-u	əritʃ-gi
three	ədek	ədeg-wa	ədeg-u	ədeg-gi
four	əŋwen	əŋwend-wa	əŋwend-u	əŋwend-gi
five	əbitʃ	əbidʒ-wa	əbidʒ-u	əbidʒ-gi
six	əutʃiɛl	əutʃiɛnd-wa	əutʃiɛnd-u	əutʃiɛnd-gi
seven	əbirijɔ	əbitʃ-wa	əbitʃ-u	əbitʃ-gi
eight	əborɔ	əbotʃ-wa	əbotʃ-u	əbotʃ-gi
nine	ɔtʃikɔ	ɔtʃig-wa	ɔtʃig-u	ɔtʃig-gi
ten	əpar	əpatʃ-wa	əpatʃ-u	əpatʃ-gi

When numerals acquire a suffix, the final segment of the numeral alters its morphology. The alteration is dependent on whether the numeral ends in obstruent, nasal, approximant or vowel. In that case, the behaviour of numeral final sound is identical to the behaviour of all nominal root final sounds in Dholuo when they acquire a suffix.

4.4   The Structure of Demonstratives in Dholuo

In Dholuo, an NP consisting of the demonstrative and the noun stem is a poly-morphemic single noun word. It consists of the noun root and the suffix marking the demonstrative. This suffix is marked for number and proximity to the referent so that we have:

i)   The singular demonstratives **[-ni, -no** and **-tʃa]**, equivalent to the English 'this', 'that' and 'that'.
ii)   Plural determiners **[-gi, -go** and **-ka]**, equivalent to the English 'these', 'those' and 'those'.
iii)   Near referent **[-ni** and **-gi]**, equivalent to the English 'this' and 'these'
iv)   Far referent **[-no** and **-go]**, equivalent to the English 'that' and 'those'.
v)   Very far (remote) referent **[-tʃa** and **-ka]**, equivalent to the English 'that' and 'those'.

The noun root changes depending on the final sound segment as is with the rest of Dholuo nominal morphology. Table (41) shows a few noun roots and how they inflect with Dholuo demonstratives.

Table 41: Nominal Inflections with Dholuo Determiners

	Singular			Plural			
Noun Root	Near (this)	Far (that)	Remote (that)	Near (these)	Far (those)	Remote (those)	Gloss
opuk	**opug-ni**	**opug-no**	**opug-tʃa**	**opuge-gi**	**opuge-go**	**opuge-ka**	tortoise
rétʃ	**redʒ-ni**	**redʒ-no**	**redʒ-tʃa**	**redʒ-e-gi**	**redʒ-e-go**	**redʒ-e-ka**	fish
bim	**bimb-ni**	**bimb-no**	**bimb-tʃa**	**bimb-e-gi**	**bimb-e-go**	**bimb-e-ka**	gorilla
bul	**bund-ni**	**bund-no**	**bund-tʃa**	**bund-e-gi**	**bund-e-go**	**bund-e-ka**	hole

4.5   The Structure of Interrogatives in Dholuo

The choice of the interrogatives is dependent on gender and number so that there are animate and inanimate, human and non-human, singular and plural distinctions. The interrogatives **-ŋa** and **-aŋɔ** which are singular in referent are the only ones that influence the change in the morpho-phonology of the noun root they refer to. The morphophonological alterations replicate what is seen in the other nominal structures. The interrogative **-ŋa** can only be used with human gender referent while **-aŋɔ** for non-human referents. The interrogatives **manɛ** and **magɛ** do not have effect on the morpho-phonology of the stem word because they function as separate words

and have not been therefore discussed in detail in this paper. The two can be used for both animate/inanimate as well as human/non-human referents. The interrogative **manɛ** (which/what) is used with singular referents only, while **magɛ** (which/what) is used for plural referent. Table (42) below summarizes the forms and functions of Dholuo interrogatives in context.

Table 42: Gender and Number in Dholuo Interrogatives

Interrogative	Gender				Number	
	Animate	Inanimate	Human	Non-human	Singular	Plural/Mass
-ŋa	+	-	+	-	+	-
-aŋɔ	-	+	-	+	+	-
manɛ	+	+	+	+	+	-
magɛ	+	+	+	+	-	+

4.6 The Structure of Possessive Pronouns in Dholuo

Possession in Dholuo nominals is both overtly and covertly marked. The overt nominal possession marking in Dholuo is the most productive. Like the rest of Dholuo nominals, possession is expressed by an inflectional suffix. Noun roots inflect by suffixation to show possession, person and number simultaneously. Possession is expressed in two ways: (i) using genitive clitic-like suffixes, and (ii) 'of' possessive constructions. Apart from the suffixation of the morpheme that marks possession, the final phoneme of the noun root changes in various ways reminiscent with other nominal particles.

The nouns that show possession using the genitive clitic-like suffixes are structurally poly-morphemic and behave in a similar, but not entirely identical, fashion to the case in plurals, in which final phonemes in noun roots change in a number of ways. This is exemplified below with the nominative word **okot** "bell" in the data in Table 43.

Table 43: Possession in Nominative Noun Root in Dholuo

Genitive (Sg)		Genitive (Pl)	
okod-a	my bell	**okod-e-na**	my bells
okod-wa	our bell	**okod-e-wa**	our bells
okod-i	your (sg) bell	**okod-e-ni**	your (sg) bells
okod-u	your (pl) bell	**okod-e-u**	your (pl) bells
okod-e	his/her/its bell	**okod-e-ne**	his/her/its bells
okod-gi	their bell	**okod-e-gi**	their bell

Dholuo genitive pronouns hardly stand in isolation (as free morphemes). In almost all instances, the noun attaches to the possessive pronoun suffix which is simultaneously marked for person, number and case. Table (44) summarizes the possessive pronouns that can be attached to nouns:

Table 44: Dholuo Genitive Pronouns

Glossary (English Equivalent)	Person	Number	
		Sg	Pl
my/our	1	**-a** **-na**	**-wa**
your	2	**-i** **-ni**	**-u**
his/her/its their	3	**-e** **-ni**	**-gi**

Generally, the final phoneme of the noun root dictates the various alterations that the noun undergoes. In addition, the syntactic position of the genitive suffix is crucial in arriving at a well-formed NP showing

possession. All suffixes in the genitive form are aligned to the rightmost side of the noun. Despite this, semantic implications should be considered as any variations which are inconsiderate to this might yield a number of semantic possibilities seen below in Table (45).

Table 45: Semantic Implications in Dholuo Genitive Suffixes

dek	Vegetable
deg-e	Vegatables
deg-a	my vegetable
deg-e-wa	our vegatables
deg-wa	our vegetable
deg-e-gi	these vegatables
deg-gi	their vegatable

The arrangement of which noun root comes first or last in 'of' possessive constructions has influence on semantic implication of the resultant NP, in other words which noun stem possesses the other. Consider the following constructions in examples (30-31) involving the noun roots [**alap**] 'field' and **[dek]** 'vegetable'. The former occurs in the genitive form in (30) and as a bare noun root form in (31). Conversely, the latter occurs in the genitive form in (30) and bare noun root form in (31). This has a huge influence in the different semantic implications in the two constructions.

[30]**alab dek**
field.GEN vegetable
a vegetable field/ a field of vegetables

[31]**deg alap**
vegetable.GEN field
a field vegetable / a vegetable that grows in the field

V.   Conclusion

In summary, nominals in Dholuo constitute: nouns, adjectives, numerals, personal pronouns, genitives, demonstratives, interrogatives and the composite. Nominal categories such as nouns, adjectives and numerals may exist as bare forms of mono-morphemic single words. They can also occur with suffixes as single words or as NPs made up of two separate words. The other nominal categories (personal pronouns, demonstratives, interrogatives and possessives) occur as bound morphemes which only derive their semantic implications from a context. When nominal constituents admit suffixes, the final segment of the host constituent displays morphophonological alternations which are identical in almost all the classes of sounds, i.e., obstruents, nasals, approximants and vowels. The root final consonants surface as weakened or hardened segments in inflectional processes. In other words, if the root final consonant is weak it hardens word internally but remains weak word finally or when the root final sound is hard, it weakens word internally but remains hard word finally.

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