

Your name:

## The UK Linguistics Olympiad 2022 - Round 2



### Problem 4. Dinka (25 marks)

Dinka is a Nilotic dialect cluster with about 1.3 million native speakers, mostly ethnic Dinka people in South Sudan. There are several main varieties, but this problem focuses on the Agar dialect.



When linguists first studied the language, they believed that the singular and plural forms of Dinka nouns were completely unpredictable. More recently, however, studying the way that verbs conjugate in Dinka allowed linguists to find patterns in the singular and plural forms of nouns. This has allowed many nouns to be grouped according to declension patterns, although many remain unexplained.

Below are 22 Dinka nouns, in both singular and plural forms, each of which follow a one of the common patterns. The translations have been provided only for interest: they have no bearing on the solution to the problem.

Note: **ṭ**, **ḍ**, **ṇ**, **ɟ** and **ŋ** are consonants; **ɛ** is the vowel in *bed*, and **ɔ** is the vowel in *not*. Dinka has three vowel lengths: **a** short, **aa** medium, and **aaa** long; as well as three tones, **á** high, **à** low, and **â** falling.

Singular	Plural	Translation	Singular	Plural	Translation	Singular	Plural	Translation
láj	làaj	<i>animal</i>	màac	mêɛc	<i>fire</i>	ḍél	ḍèel	<i>path</i>
gâaar	gêɛr	<i>ankle bell</i>	rúp	rwòop	<i>forest</i>	wáal	wál	<i>plant</i>
ɲàaar	ɲóɔr	<i>bean</i>	àdjéel	àdíil	<i>gazelle</i>	ɲêeel	ɲéel	<i>python</i>
dít	djèet	<i>bird</i>	bôook	bóok	<i>hide</i>	dèenɟ	dêenɟ	<i>rain</i>
àɲwòɔɲ	àjóoɲ	<i>blacksmith</i>	ròok	rôok	<i>kidney</i>	àmàaal	àméel	<i>sheep</i>
ḍàaɲ	ḍêeɲ	<i>bow, gun</i>	ɲòɔk	ɲóɔk	<i>louse</i>	àtwòoor	àtúur	<i>slime</i>
gól	gàal	<i>cowdung fire</i>	àgâaaɲ	àgêeɲ	<i>monitor lizard</i>			
twóɔɲ	tónɲ	<i>egg</i>	àgɔ́ɔk	àgóɔk	<i>monkey</i>			

Here are some forms of 4 regular Dinka verbs.

Root	1 <sup>st</sup> person	3 <sup>rd</sup> person	Translation
nòɲ	nàaɲ	nòɔɲ	<i>to have</i>
kùc	kwòoc	kùuc	<i>to not know</i>
màat	màaat	mèeet	<i>to smoke</i>
lòɔk	làaak	lòɔk	<i>to wash</i>

Your name:



## The UK Linguistics Olympiad 2022 - Round 2

4.1) Some singular or plural forms of Dinka nouns are given below. Only two of them follow one of the common patterns demonstrated above. On your answer sheet, mark which two they are.

Singular	Plural	Translation
<b>àdèen</b>		<i>beautiful one</i>
<b>miiit</b>		<i>firefly</i>
<b>wèeet</b>		<i>metal</i>
	<b>tôoŋ</b>	<i>pot</i>
	<b>jàak</b>	<i>evil spirit</i>
	<b>tûuŋ</b>	<i>horn</i>

4.2) Assuming that the following verbs conform to the previous pattern, fill in the correct form on your answer sheet:

Root	1 <sup>st</sup> person	3 <sup>rd</sup> person	Translation
a)	<b>lwòccj</b>	b)	<i>to be different</i>
c)	d)	<b>cèem</b>	<i>to eat</i>
e)	<b>pèεεc</b>	f)	<i>to loot</i>
<b>wic</b>	g)	<b>wiic</b>	<i>to need</i>
h)	i)	<b>bòok</b>	<i>to throw at</i>

4.3) Below are the singular or plural forms of 10 more Dinka nouns. By using the common patterns demonstrated before, predict the missing forms on your answer sheet. If there is more than one possible prediction, give them all.

Singular	Plural	Translation	Singular	Plural	Translation
<b>ràaan</b>	(j)	<i>person</i>	<b>kók</b>	o)	<i>hole in tree</i>
k)	<b>wiil</b>	<i>bristle</i>	p)	<b>léek</b>	<i>pestle</i>
<b>rèεεc</b>	l)	<i>fish</i>	<b>ról</b>	q)	<i>voice</i>
m)	<b>kàal</b>	<i>hole in ground</i>	<b>jiit</b>	r)	<i>well</i>
n)	<b>rím</b>	<i>blood</i>	<b>àŋâaar</b>	s)	<i>buffalo</i>

4.4) Explain your solution.

Your name:



## The UK Linguistics Olympiad 2022 - Round 2

### Solution and marking.

Scoring: (max 85)

4.1: Max 8 - 4 points per correct option. Award 0 points if more than 2 are marked.

4.2: Max 27 – For each answer: 3 points if correct, 1 point with one mistake (length, quality, tone, onset, coda OR extra form)

4.3 Max 50 – For each answer: 5 points if correct, 2 points with one mistake (extra form, missing form, length, quality, tone, etc...)

Q 4.1	àdèen	
	mìit	
	wèet	
	tôoŋ	X
	jàak	
	tûuŋ	X

Cross the correct options (X) and leave the incorrect options blank.

Q 4.2	(a) <b>lòoj</b>	(d) <b>càam</b>	(g) <b>wjèec</b>
	(b) <b>lòooj</b>	(e) <b>pèec</b>	(h) <b>bòk</b>
	(c) <b>càm</b>	(f) <b>pèeec</b>	(i) <b>bwòk</b>
Q 4.3	(j) <b>réen, rón</b>	(n) <b>rjéem</b>	(r) <b>jiiṭ</b>
	(k) <b>wjèeel, wiiil</b>	(o) <b>kwòk</b>	(s) <b>àjéer</b>
	(l) <b>réec</b>	(p) <b>lèeek, lêeek</b>	
	(m) <b>kál, kól</b>	(q) <b>rwòl</b>	

Q 4.4: Max 95 – Broken down as follows:

Noun tone/length patterns: 15

Verb tone/length patterns: 5

Noun vowel patterns: 50

Verb vowel patterns: 25

Your name:



## The UK Linguistics Olympiad 2022 - Round 2

### Commentary

Vowels come in 6 qualities and 3 grades:

Grade 1	i	e	a	ɔ	o	u
Grade 2	i	e	ɛ	ɔ	o	u
Grade 3	jɛ	ɛ	a	a	wɔ	wo

Singular and plural patterns then correspond by changing the final vowel as follows, with subscripts indicating vowel grades:

- $\hat{V}_1 - \hat{V}V_3$
- $\hat{V}V_3 - \hat{V}_1$
- $\hat{V}V_1 - \hat{V}V_2$
- $\hat{V}V_3 - \hat{V}V_2$
- $\hat{V}V_1 - \hat{V}V_2$

In the verbs the pattern is

- Unmarked:  $\hat{V}_1$  or  $\hat{V}V_1$
- 1<sup>st</sup> person:  $\hat{V}V_3$  or  $\hat{V}V_3$
- 3<sup>rd</sup> person:  $\hat{V}V_2$  or  $\hat{V}V_2$

You may notice certain patterns in the grades. Treating grade 1 as the base, the for all vowels except a, grades 1 and 2 are the same, while grade 3 is lowered. For a, grades 1 and 3 are the same, and grade 2 is raised.

NB: many analyses of the patterns are available, such as proposing only two types of change (here Grades 1 to 3 and 3 to 2) with two different underlying vowels that realise as a.

Dinka also features a distinction between “creaky” and “breathy” vowels, but to simplify this problem, it has not been marked.

Source: [Number-- constructions and semantics : case studies from Africa, Amazonia, India and Oceania \[electronic resource\]](#)