

# Structural and semantic aspects of Tuu “numerals”

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# 1 Introduction

- + Tuu (formerly 'Southern Khoisan') one of the lesser known language families on the globe
- > most languages already extinct without adequate description
- > introduced as a genealogically defined group by Bleek (1927), then 'Southern Bushman', with an internal reference classification: SI-VI
- > almost unanimously accepted as a family; but difficult internal genealogical classification

# 1 Introduction

!Ui

|Xam [SI]: Strandberg, Katkop, Achterveld, etc.

N||ng: Langeberg [SII], †Khomani [SIIa], N|huki, etc.

Vaal-Orange: †Ungkue [SIIb], ||Û||'e [SIIc], Seroa [SIId]

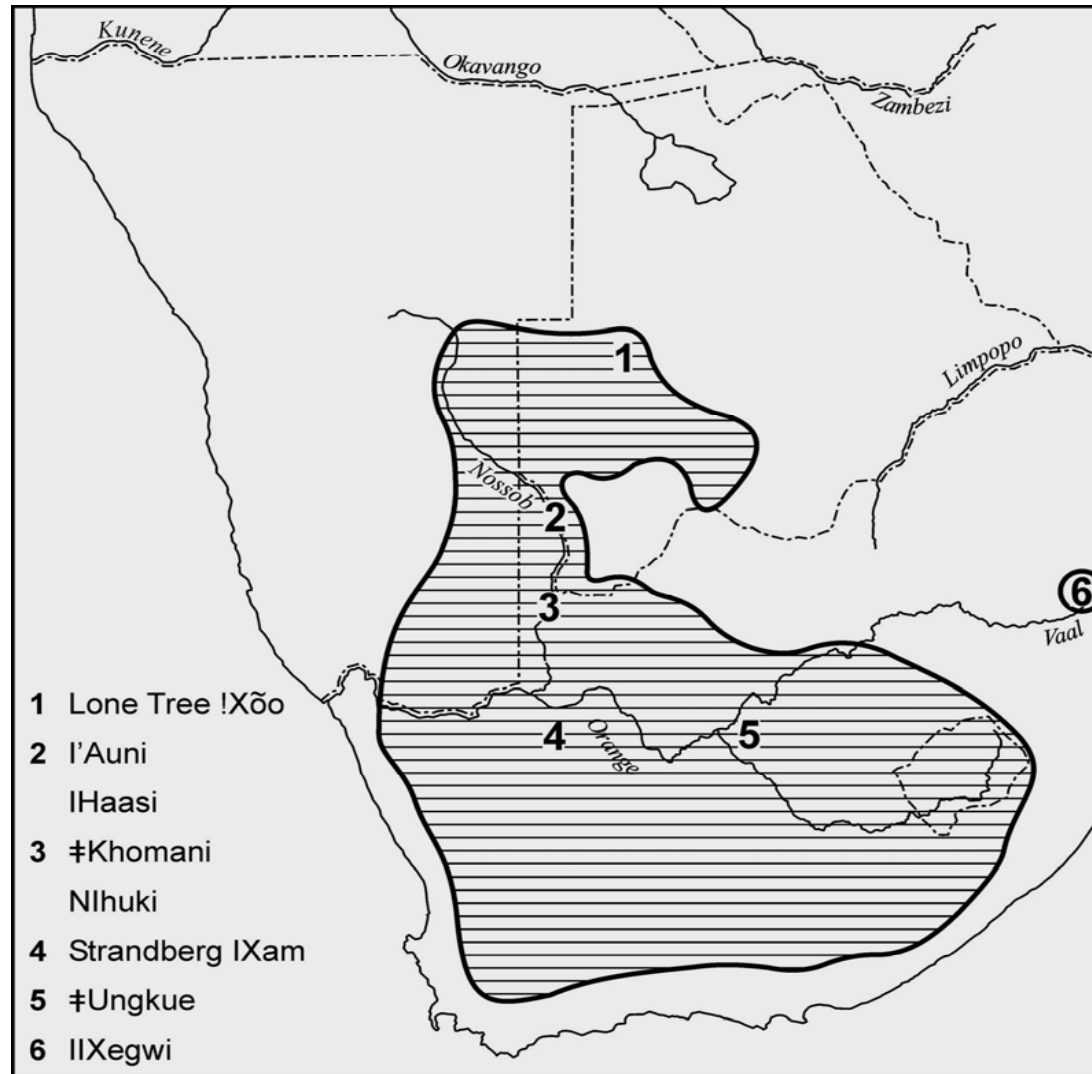
Outliers: !Gã!ne [SIIe], ||Xegwi [SIII]

Taa-Lower Nossob

Lower Nossob: |'Auni [SIV], |Haasi [SIVb]

Taa (documented by IP3 of KBA-CRP): Kakia [SV], N|u||en [SVI], Lone Tree !Xoon, N|amani, etc.

**Figure 1: Preliminary classification of Tuu (after Güldemann 2005)**



**Map 1: Historically attested distribution of Tuu (Güldemann 2005)**

## 2 Quantifiers in Tuu

+ like other forager languages of the Kalahari Basin, very small sets of quantifiers - predominantly the following:

(1) Cardinal	Non-cardinal
a. 'one'	'alone'
b. 'two'	?
c. 'three'	'more than a couple, some, few'
d. -	'many, much, big'

+ higher numeral concepts transparently derived or borrowed

# 2.1 Taa-Lower Nossob

## 2.1.1 Taa

- + many grams and all transitive verbs obligatorily cross-reference/index a nominal with respect to person, gender, and number
- + possible "alliteration" in case of appropriate nominal ending and more than one clitic host

(2) *n/aaan*     *g#uan*     *!xaan*     *#"uan*                    (West !Xoon)  
see:2ii>    egg.2ii    big:<2ii    one:<2ii  
... see one big egg

- + seven agreement classes distinguished:
  - segmentally by thematic vowel or nasal: 1 *i*, 2 *an*, 3 *e*, 4 *u*, 5 *n*
  - suprasegmentally by tonal differentiation in class 2 and 3: 2i vs. 2ii, 3i vs. 3ii

## 2.1.1 Taa

+ quantifier expressions diverse across the paradigm and partly structurally complex

- (3)a. *θqaqe*      *ʃ''u-e*                                      (West !Xoon)  
 child.3(E)    one-3  
 one child
- b. *θqaqni*          *nʃum*  
 children.4(U)    two  
 two children
- c. *θqaqni*          *g//ain*  
 children.4(U)    three  
 three children
- d. *θqaqni*          *ku*      *//ari*          *ku*  
 children.4(U)    REL:4    be.many      REL:4  
 many children

## 2.1.1 Taa

+ quantifiers belong to different parts of speech:

‘one’ vs. ‘two’/‘three’ vs. ‘many’

(4) *ʃhàbà-tê*     *!xa-ù*     (East !Xoon of Bere)

dog.P4(U)-P    big/many-4

... many dogs (Bonitz 2012: 55)

‘one’/‘big~many’ [N            <QUANT]            Adjective with agreement    (3)a./ (4)

‘two’/‘three’     [N            QUANT]            Invariable modifier            (3)b./c.

‘much~many’     [N <REL    QUANT <REL]    Stative as relative predicate (3)d.

+ quantifiers can change part-of-speech class:

modern forms of ‘two’ < adjective \*nʃã-



## 2.1.1 Taa

+ additional constructions for verb-like quantifiers

(5) *ʃhàbà-le*      *kà*      *||árí*      (Tshaasi of Kanaku)  
dog.P4(U)-P      GER      be.many  
... many dogs (Bonitz 2012: 69)

(6) */hoye*      *té*      *||álí*      (East !Xoon of Bere)  
honey.3ii(E)      REL:3ii      be.much  
... much honey

## 2.1.1 Taa

+ constructional variation encountered in one and the same dialect

(7)a. *túù*            *kú*            *//árí*            *kùù*            (‡Huan of Inalegolo)

people.4(U) REL:4 be.many REL:4

... many people

b. *Ɔoe*            *kà*            *//árí*

meat.3ii(E) GER be.much

... much meat

c. *‡hàbà-le*      *ùù*            *kà*            *//árí*

dog.P4(U)-P PRO4 GER be.many

... many dogs (Bonitz 2012: 72)

## 2.1.1 Taa

+ non-predicative quantifiers as predicates by means of copulative *kM*

- (8) *pári kà ki ɕ''u-i* (Tshaasi of Kanaku)  
goat.S1(I) GER COP:1 one-1  
... one goat [lit.: goat being one] (Bonitz 2012: 69)

+ non-attributive expression of predicative qualities in elicitation - possible with quantifier?

- (9) *ní mà n/à-àn n/òhyá, áán /''ùì* (Ncaang)  
1S IPFV see-2i nose.S2i(I) 2i be.small  
I see her small nose. [lit.: I see her nose; it is small] (Bonitz 2012: 46)

## 2.1.1 Taa

### Noun-like

(I) [N <QUANT.ADJ] (3)a./(4)

(II) [N QUANT] (3)b./c.

### Verb-like

(III)/(III)' [N (<PRO) <REL QUANT.V <REL] (3)d./(7)a.

(IV)/(IV)' [N (<PRO) <REL QUANT.V] (6)

(V)/(V)' [N (<PRO) GER QUANT.V] (5), (7)b./c.

### Noun-like into predicative

(I+V) [N GER COP> QUANT(.ADJ)] (8)

### Non-attributive predicative

(VI)?? [N] [(<PRO) QUANT.PREDICATE] (9)

**Figure 2: Overview over diverse quantifier constructions in Taa**

- + extinct Lower Nossob languages, |'Auni and |Haasi; poorly and deficiently attested
- > available data overall difficult to interpret - only tentative analysis
  
- + quantifier constructions complex and variable
- > similar to each other, but also partly similar to Taa:
  - display variable linking elements between noun and postposed quantifier
  - quantified noun does not change its form in different number categories
  - all quantifiers but 'one' constructed with an element  $s(i)$
- > part-of-speech assignment: 'one' vs. 'two'/'three'/'many'

## 2.1.2 |Haasi

+ complex and variable quantifier expressions

(10)a. //hāsa ká ɸ̄̄ŋ ká

//hasa ka ɸ̄̄Vng ka

child ? :A be.(al)one ?

one child (Story F1.18: 10-20 ~ 1999: 24-20; Güldemann 2002: 193)

b. //hāsa ká s//a: ma

//hasa ka si //aa ma

child ? :A PRED two ?

two children (Story F1.18: 10-21 ~ 1999: 24-21; Güldemann 2002: 193)

c. //hāsa kís //ua: ká

//hasa ki si //uaa ka

child ? :I PRED three ?

three children (Story F1.18: 10-22 ~ 1999: 24-22; Güldemann 2002: 194)

d. //hāsa kís !o:o: ká

//hasa ki si !oo-oo ka

child ? :I PRED many ?

many children (Story F1.18: 20 ~ 1999: 31, Güldemann 2002: 194)

## 2.1.2 |Haasi

+ linking element also used with other attributive stative predicates  
> quantifiers presumably predicates in structure [N *kV* (*si*) QUANT (*ka*)]

- (11) *kaŋ kú |ε ||nhāsa ká\_!ai*  
*kang ku |ee ||hasa ka !ai*  
?:1S TAM2 get child ?:A be.beautiful  
I have a beautiful child (Story F1.18: 14-154 ~1999: 27-149)

+ *si* with ‘two’/‘three’/‘many’ presumably related to predicative copula

- (12) *||hāsa si ̄mε: si*  
*||hasa si meesi* [from Afrikaans *meisie* ‘girl’]  
child COP girl  
The child is a girl (... is a baby) (Story F1.18: 11-36 ~ 1999: 24-36)

## 2.1.3 |'Auni

+ complex and variable quantifier expressions

(13)a. *//n te ɸũ-u*

*n//ann te ɸ'un u*

hut ? :E be.(al)one ?

one house (Bleek A3.30: 491, Güldemann 2002: 190)

b. *//n //nwa tes |kam*

*n//ann nɸa te si |am*

hut ?D ? :E PRED two

2 houses (Bleek A3.30: 491, Güldemann 2002: 191)

c. *//n //ãis !nwɔna a*

*n//ann //ain si n!wona a*

hut ?P PRED three ?

3 houses [? lit.: the huts are three] (Bleek A3.30: 491, Güldemann 2002: 192)

d. *tutusi //k'ani*

*tuu tu si //ani*

people ? :U PRED many

many people (many men) (Bleek A3.30: 533, Güldemann 2002: 189)



## 2.1.3 |'Auni

+ two numerals borrowed from Khoekhoe: *!am* 'two', *n!ona* 'three'

+ quantifiers presumably predicates in a construction [N *tV* (*si*) QUANT]

+ *si* with 'two'/'three'/'many' probably related to existential predicator

(14) *||khā e tās*

*||khaa e ta si*

water E NEG EXIST.PRED

here is no water [lit.: water it is not here] (Bleek A3.5: 343)

+ non-attributive uses of quantifiers

(15) *||χóë he si ||kar<sup>n</sup>r<sup>n</sup>i*

*||xoe he si ||ani*

tsama E PRED much

here is much tsama, tsama [it] is plentiful. (Bleek A3.5: 343)

## 2.1.4 Taa-Lower Nossob comparison

Meaning	Taa	l'Auni	l'Haasi	Proto-Taa-Lower Nossob
'one'	ɸ''u- adjective	ɸ'un stative verb	ɸ'Vng stative verb	*ɸ''u-
'two'	nɸum < *nɸã- invariable attribute < adjective	? nɸa ? number suffix	-	? *nɸa-
'three'	//ae, g//ain invariable attribute	//ai, //ain ? number suffix	-	? *//ae(n)
'many, much'	//ari, //ali stative verb	//ani ? predicate nom.	-	*//ani

+ only partial reconstructability

> different part-of-speech class in spite of etymological relation

## 2.2 !Ui

- + all languages extinct except for moribund dialect cluster N||ng
- > limited and partly inconclusive sources, even recent data from remnant N||ng speakers
  
- + quantifier constructions complex and variable:
  - mostly display linking elements with relative function
  - quantified noun need not change its form in different number categories
  - variable constructions within a language

## 2.2.1 N||ng

+ attributive quantifiers constructed like other clause-like relative modifiers

(16)a. *'n!aen he //oe*  
adult REL.S one  
one adult

b. *'n!aen he !'uu-a*  
adult REL.S two-?STAT  
two adults

c. *'n!aen ni n!ona*  
adult REL.P three  
three adults

d. *na †'ain †'ain-ki ni kebe-ke*  
1SG.? think think-NOM REL.P many-P  
I have many thoughts

## 2.2.1 N||ng

+ quantifiers have other semantic interpretations

(17)a. *na //’oe siinsinn*

1SG.? (al)one work

I work alone

b. */aba he //’oe*

child REL (al)one

orphan [lit. child which is alone] (Sands p.c.)

(18)a. *ha e //’oe n!ae*

3S be pan large

it is a large pan

b. *ng xa n/aa qoe e n!aen*

1S PST see ostrich ?REL many

I saw many ostriches (Bleek 1956: 472, 477)

## 2.2.2 †Ungkue

+ attributive numerals as linkless modifiers, nouns need not be pluralized

(19)a. †ō' 'uě'

man one

ein Mann [one man]

b. /kχ'a(-těn) !'ū

place-P two

zwei Plätze [two places] (Meinhof 1928/9)

+ nominalized numerals [NUM-s-ti] as heads of genitive constructions

(20) *haija !hun'a |a-kn-s !'u-s-ti*

3S:? beat woman-P-GEN two-?GEN-NOM

er hat uns zwei Frauen geschlagen [he has beaten (?us) two women]

(Meinhof 1928/9)

## 2.2.3 |Xam

+ attributive quantifiers constructed like other clause-like relative modifiers

(21)a. *!nun-tu a !oai*  
ear-hole 1.REL one  
ein Ohr [one ear]

b. *!nu !nun-tu e !ū*  
REDUP ear-hole 2.REL two  
zwei Ohren [two ears]

c. *!nu !nun-tu e !noǰa*  
REDUP ear-hole 2.REL three  
drei Ohren [three ears]

d. *//kχã e /χhoay-a ...* (also translated as 'abundant' - Bleek 1956)  
lion 2.REL many-?STAT  
viele Löwen [many lions] ... (Müller 1888)

## 2.2.4 ||Xegwi

+ attributive quantifiers constructed like other clause-like relative modifiers

(22)a. *!kxwa* *ʔena* *!waa*  
cow DEM/REL one  
one cow

b. *kl'e* *ʔena* *c'uu* *kw'a-ŋ* *ʔe* *c'uu*  
people DEM/REL two stick-P DEM/REL two  
two people two sticks

c. *kl'e* *ʔena* *gwana*  
people DEM/REL three  
three people (Lanham/Hallowes 1956)

(23) *ʔaʔe* *a-ye-!waa*  
you 2S-?PRS-(al)one  
you are alone (Lanham/Hallowes 1956)



## 2.2.5 !Ui comparison

Meaning	N  ng	ǀUngkue	Xam	Xegwi	Proto-!Ui	Proto-Taa-Lower Nossob
'one'	'oe	'oe	!wai	!waa	? *!wa- or *  'oe	*ǀ''u-
'two'	!'uu	!'uu	!'uu	k'uu, c'uu	*!'uu	? *nǀa-
'three'	n!ona	n!ona	n!wana	gwana	? *n!ona or Khoekhoe loan	? *  ae(n)
'many, much'	n!ae(n) kebeke	n!aeN	kx'wai	?	-	*  ani

+ relatively high lexical diversity within the close-knit !Ui branch

+ no apparent etymological relation to any Proto-Taa-Lower Nossob form

# 3 Tuu quantifiers: a summary

# 3.1 Structural diversity of quantifiers

+ diverse parts-of-speech status and morphosyntactic behavior:

a) (in)variable attributive modifier Adjective

b) ? or genitive head (rather than invariable modifier) ? Noun

c) stative predicate in attributive, relative-like clause Verb

d) predicativized item in attributive, relative-like clause < a)/b)

e) nominalized genitive head < a)/c)

> typologically unusual importance of inherently or  
constructionally predicative quantifiers

# 3.1 Structural diversity of quantifiers

- + variation according to all possible dimensions:
  - between elements within language-specific set
  - the same semantic type across languages, even if etymologically related
  - one individual element in terms of constructional use
  - one individual element over time

## 3.2. Recurrent lexical innovation

- + borrowing of numeral 'three' from prestigious Khoekhoe
- + recruitment of lexemes from other semantic sources (? from unusual part-of-speech classes):
  - 'large, big'/?'be.abundant' > 'much, many'
  - ?'be alone' > 'one'

# Conclusions

**The Tuu family displays an overall considerable structural and etymological variation of quantifier lexemes within a very restricted set of elements.**

**Linguistic change does not give evidence for a tendency to develop a homogeneous para-digmatic set but, if anything, the opposite.**

# Resulting questions

**Do/did quantifiers in Tuu form a morphosyntactic paradigm?**

**Do/did quantifiers in Tuu form a coherent semantic set defined, e.g., by “cardinality”?**

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