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.
Ng King: Langeberg [SII], ḖKhomani [SIIa], N|huki, etc.
Vaal-Orange: ḖUngkue [SIIb], ṢŪ'|e [SIIc], Seroa [SIIId]
Outliers: !Gā!ne [SIIe], ṢXegwi [SIII]

Taa-Lower Nossob

Lower Nossob: Ṣ'Auni [SIV], ṢHaasi [SIVb]
Taa (documented by IP3 of KBA-CRP): Kakia [SV], Ṣu|en [SVI], Lone Tree !Xoon, Ṣamani, 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/aan  gǂuan  !xaan  ꠲”uan  
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. Øqaqe ǂ’’u-e
   child.3(E)  one-3
   one child

b. Øqaqni ǂ‡um
   children.4(U)  two
   two children

c. Øqaqni ǂǁain
   children.4(U)  three
   three children

d. Øqaqni ǂku ǂǁari ǂku
   children.4(U)  REL:4  be.many  REL:4
   many children

(West !Xoon)
2.1.1 Taa

+ quantifiers belong to different parts of speech:
  ‘one’ vs. ‘two’/‘three’ vs. ‘many’

(4) # hàbà-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 *nǂã-
2.1.1 Taa

+ additional constructions for verb-like quantifiers

(5) # hàbà-le  kà  ///áří  (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  ||áří  kùù  (‡Huan of Inalegolo)
   people.4(U)  REL:4  be.many  REL:4
   ... many people

b. Ōoe  kà  ||áří
   meat.3ii(E)  GER  be.much
   ... much meat

c. ǂ hàbà-le  ūù  kà  ||áří
   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) $pári$ $kà$ $ki$ $f’’u$-$i$  
    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) $nì$ $mà$ $n|à$-$àn$ $n|òhyá$, $áán$ $l’’ùi$  
    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. //ha´sa ká ǂ´ŋ ká
   //hasa ka ǂ´Vng ka
   child ?:A be.(al)one ?
   one child (Story F1.18: 10-20 ~ 1999: 24-20; Güldemann 2002: 193)

b. //ha´sa ká s∥aa: ma
   //hasa ka si ∥aa ma
   child ?:A PRED two ?
   two children (Story F1.18: 10-21 ~ 1999: 24-21; Güldemann 2002: 193)

c. //ha´sa 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. //ha´sa 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)
+ linking element also used with other attributive stative predicates
> quantifiers presumably predicates in structure [N kV (si) QUANT (ka)]

(11) kaŋ kú |ɛ ||nhḁsa kḁ́ !ai
   kəŋ ku |ee ||hasa ka lai
   ?: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) ||hḁsa si mè: 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. ǁn te ŋũ-u
     nǁann te ŋ’un u
     hut ?ːE be.(al)one ?
     one house (Bleek A3.30: 491, Güldemann 2002: 190)

b. ǁn ǁnwa tes ǀkam
    nǁann nǂa te si ǀam
    hut ?D ?:E PRED two
    2 houses (Bleek A3.30: 491, Güldemann 2002: 191)

c. ǁn ǁãis !nwona a
    nǁann ǁãin si n!wona a
    hut ?P PRED three ?
    3 houses [? lit.: the huts are three] (Bleek A3.30: 491, Güldemann 2002: 192)

d. tutusi ǁk’ani
    tuu tu si ǁani
    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) ǁkhā e tās
    ǁkhaa 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) ǁχōē he si ǁkar
    ǁxoe he si ǁani
  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      | |’Auni | |Haasi | Proto-Taa-Lower Nossob |
|-----------------|----------|---------------------|-------|-------|------------------------|
| ‘one’           | *’u-     | adjective            | *’un  | *’Vng | *’u-                   |
| ‘two’           | n≠um< *n≠a- | stative verb        | ? n≠a | -     | ? *n≠a-                |
|                 | invariable attribute | ? number suffix | -     | -     |                        |
|                 | < adjective                  |                        |       |       |                        |
| ‘three’         | ||ae, ||ain | invariable attribute | ||ai, ||ain | -     | ? *||ae(n)             |
|                 | invariable attribute | ? number suffix | -     | -     |                        |
| ‘many, much’    | ||ari, ||ali | stative verb        | ||ani | -     | *||ani                 |
|                 | stative verb                  | ? predicate nom.       | -     | -     |                        |

+ only partial reconstructability
> different part-of-speech class in spite of etymological relation
2.2 !Ui

+ all languages extinct except for moribund dialect cluster Nǁng
> limited and partly inconclusive sources, even recent data from remnant Nǁng 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 ǁ’oe siinsinn
   1SG.? (al)one work
   I work alone
b. /aba he ǁ’oe
   child REL (al)one
   orphan [lit. child which is alone] (Sands p.c.)

(18)a. ha e ǁoe nlae
   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 ṢUngkue

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

(19)a. Ṣō’ ’uǧě’
   man one
   ein Mann [one man]

b. /kč’a(-těn) l’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 l’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. \( \text{l} \text{nun-tu} \ a \ \text{loai} \)
   ear-hole 1.REL one
   ein Ohr [one ear]
b. \( \text{l} \text{nun-tu e lú} \)
   REDUP ear-hole 2.REL two
   zwei Ohren [two ears]
c. \( \text{l} \text{nun-tu e lnoña} \)
   REDUP ear-hole 2.REL three
   drei Ohren [three ears]
d. \( \text{l}k\text{xā} \ a \ \text{xhoay-a} \ ... \) (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 ?ena lwaa
cow DEM/REL one
one cow

b. k‘le ?ena c’uu kw’a-ŋ ?e c’uu
people DEM/REL two stick-P DEM/REL two
two people
two sticks

c. k‘le ?ena gwana
people DEM/REL three
three people (Lanham/Hallowes 1956)

(23) ?a?e a-ye-!waa
you 2S-?PRS-(al)one
you are alone (Lanham/Hallowes 1956)
### 2.2.5 !Ui comparison

| Meaning   | Nǁng | ǂUngkue | Xam | ||Xegwi | Proto-!Ui | Proto-Taa-Lower Nossob |
|-----------|------|---------|-----|--------|-----------|------------------------|
| ‘one’     | ǁ’oe | ‘oe     | !wai | !waa   | ? *!w- or *ǁ’oe | *ǂ’u-                 |
| ‘two’     | !’uu  | !’uu    | !’uu | k’uu, c’uu | *!’uu   | ? *nǂa-                |
| ‘three’   | n!ona | n!ona   | n!wana | gswana | ? *n!ona or Khoekhoe loan | *ǁae(n)                |
| ‘many, much’ | n!ae(n) | n!aeN | kx’wai | ? | - | *ǁani               |

+ 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”?
References


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