Towards reconstructing the nominal system of Taa

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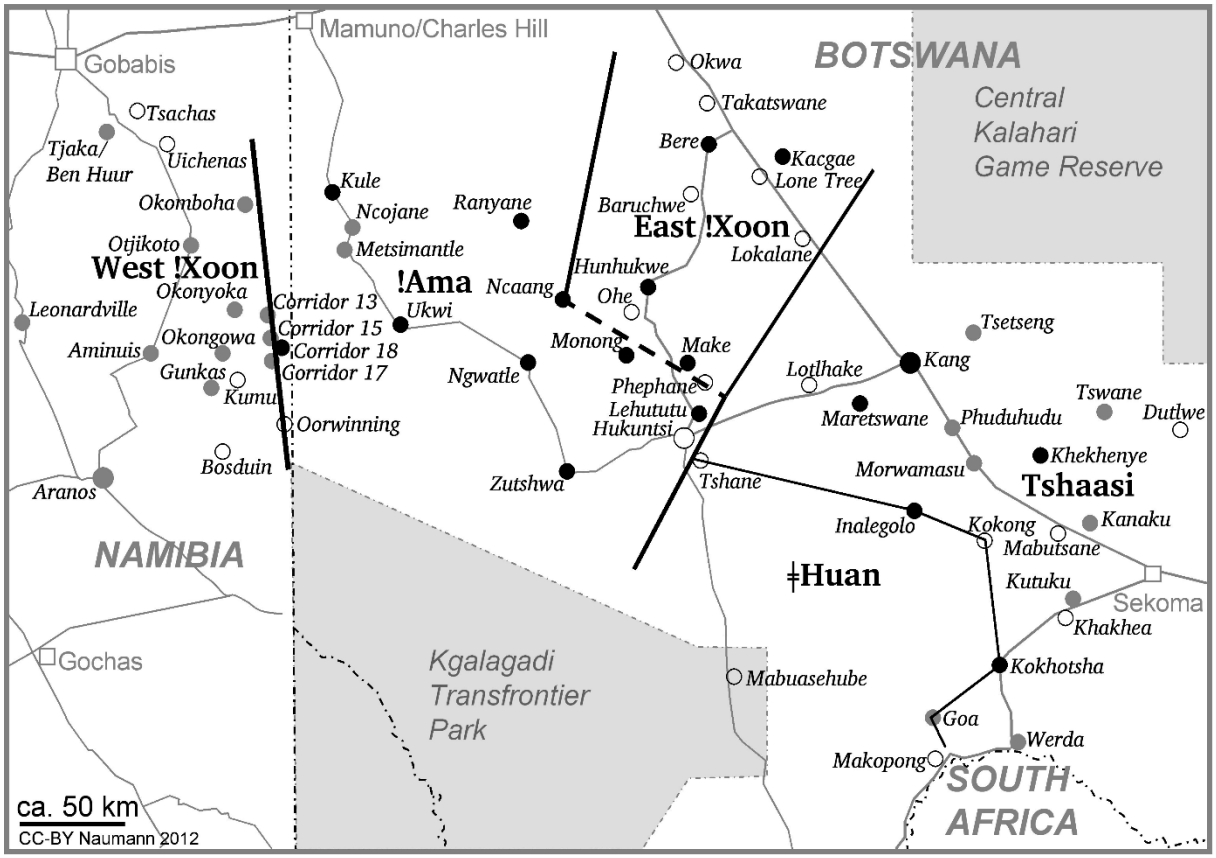
1 Introduction

+ the Taa language complex as the last viable language of the Tuu family



Map 1: Taa localities and dialect groups (Naumann 2014: 289)

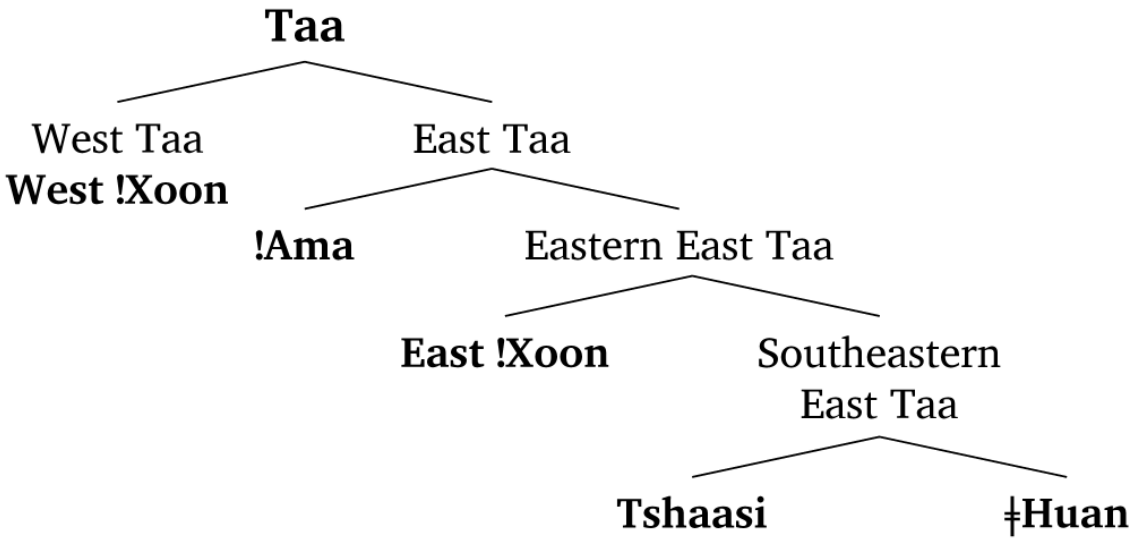


Figure 1: Genealogical classification of Taa dialects (Naumann 2014: 288)

Khakhea prod. ka-stem-ba
eg (ka)-koloi-ba
bu ruko-ba
ma-ruko-le O'ani

!Xoo	Khakhea OKhoa	Aminuis	Hukuntsi	Gloss
|ahi 1	|gahi	!nue 3		aardwolf
|haba-te 4	|gahba-te	!num 2		
|uh'u 3	(s)i-|ho'u 3	si-|o(')u 3	|uh'u 3	bird
|uh'ã-te 2	ki-|hoã-ni 2	si-|o-re 2	|uh'ã-te 2	
!gue	!gue	!gue 3		vulture
!gue-ba	!gum-sã	!gum 2		
!gu-ũ-ni	ka-!guu-ba			
!gu n O'ani	ka-!guũ-ni			
buru 2	li-khua 3	buru 2	bolu 2	Afrikaner
buru-te 2	ma-khua-le 2	buru-te 2	bolu-te 2	
	|huũ			
	ka-|hũ-ni			
!goa	ka |ohba	g!hoã	gohba	early p.m.
!naã 3		||haã 2	!naã 2	coeval
!naã-~~te~~		||hã-re	!naã-te	
koo ka'aã	koo ka'aa	guu ka	koo ka'aa	all
qhaũ ku	qhau ku		qhanu ku	nearly
2 ⊙aje ⊙aa	!'oba 2	||goo ⊙'ani	!'uu ⊙aa 2	animal
2 ⊙'aje ⊙'ani	!'olo ⊙'oni 2	||goba	!'uu-te ⊙'ani 2	
	!'om-ka-le		⊙aje ⊙'ani (dim)	
dim pl →	!'olo ⊙'oõ			
gulu 2	guru	!goru 2	gulu 2	ankle
gun-te 2	guru-te	!gun-te 2		
gulu-te				
dzohã 2	i-tshoã 2	si-dzu'ni 2	dzohã 2	ant sp.
dzohã-te 2	i-tshoã-ni 2	–	-te 2	
	i-dzoh'ã			

+ paper manuscript by Traill (n.d.) with an extensive list of Taa nouns as the starting point
- largely typed but also handwritten additions > **see sample page**
- no other information or (electronic) version of this research in his legacy data
> list is the probable result of his early survey work in the 1970s (cf. Traill 1974a)
- ca. 270 comparative series of nominal lexemes and a number of additional doublets steered to the geographical and cultural KBA environment
- comparative series established according to meaning > can involve more than one etymon
- contains singular and, if relevant, plural forms as well as occasional diminutives, often (but not consistently) supplemented later by handwritten information on agreement classes (cf. Traill 1974b; see 2.2 below)
- represents data of four Taa varieties in the page order from left to right > **Table 1**

No.	Traill's label	Variety	Location
1	!Xoo	East !Xoon	Lone Tree (Botswana)
2	Khakhea~⊙Khoa	ǂHuan	Khakhea (Botswana)
3	Aminuis	West !Xoon	Aminuis (Namibia)
4	Hukuntsi	!Ama	Hukuntsi (Botswana)

Table 1: Data origin in Traill's noun list

+ goal of a comprehensive corpus of Taa nouns from a representative array of dialects that allows the comparison and reconstruction of nominal morphology and the system of gender-number marking > necessary expansion of still limited cross-Taa research (Traill 1975, Naumann 2014)
- accomplished digitization and partial reordering of paper version of Traill list
- ongoing process of supplementing and data-checking by means of published and unpublished sources > **work-in-progress report!!!**
> reveals occasional data inconsistencies between list and most recent available sources, most often regarding agreement information
> list of varieties currently included in geographical order from west to east > **Table 2**

No.	Variety	Location	Sources used so far
1	West !Xoon	Aminuis (Namibia)	Traill list, DOBES project
2	!Ama ~ ’N|oha	Corridor 18 (Namibia)	DOBES project - **most restricted data!!!**
3	!Ama	Hukuntsi (Botswana)	Traill list
4	East !Xoon	Lone Tree (Botswana)	Traill list; Traill (1994, 2018)
5	ǂHuan	Inalegolo (Botswana)	DOBES project, Auer (2021)
6	ǂHuan	Khakhea (Botswana)	Traill list

Table 2: Current data in comparative Taa noun list

2 Morphosyntactic aspects of nouns in Taa

2.1 Phonology, stem structure, and morphology

+ Taa exemplary for typical phontactics in the KBA (cf. Traill 1985, Naumann 2017):

C	**V**	**C**	**V**
Unconstrained	Contrast reduction	Highly constrained	
	[±round]	[b, d, r, l,	[±high, ±low]
	[guttural]	m, n, ɲ]	[±back]
			[±nasal]
C	**V**	**Ø**	**V**
C	**V**	**Ø**	**M**

Figure 2: Skewed phonotactics in the Kalahari Basin (after Beach 1938, Traill 1985)

+ necessary analysis of segments and identification as part of the stem or as affixes

- rule of thumb: stem with two morae and one initial strong consonant

> (re)transcription of nouns according to a unitary convention:

[Prefix$_n$] — [1st stem mora] • [2nd stem mora] — [Suffix$_n$]

> considerable dialectal differences in segment alignment > cf. loan words > **Table 3**

Leseme	Number	Aminuis West !Xoon	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ⊙Khoa
bottle	SG	bùh kù.ǹn	*buutule* bu.u-tu-le		bú-tú.lù	*butulu* bu-tu.lu
	PL	bùh kù.ǹn-kê/te	*bootole-te* bo.o-to-le-te		bú-tú.lù-tè	*butulu-te* bu-tu.lu-te
paper	SG	pà.m̀ pí.rí	*pam piri* pa.m pi.ri	*pam piri* pa.m pi.ri		*pam piri* pa.m pi.ri
	PL	pà.m̀ pí.rí-tê	*pam piri-te* pa.m pi.ri-te		pà.m pí.rí-tè	*pam piri-te* pa.m pi.ri-te
chair	SG	s?-tú.ńn/ si-tu.n	*stytule* s?-ty-tu.le	*situlo* si-tu.lo		*sityilo* si-tyi.lo
	PL	s?-tú.ńn-kê/ si-tu.n-te	*stytule-te* s?-ty-tu.le-te	*situlo-te* si-tu.lo-te		*sityilo-te* si-tyi.lo-te
sugar	TN	sú-kú.rì	*suukuli* suu ku.li	*suukuli* suu ku.li		*suukuli* suu ku.li
sweets	SG	lé-k(é).r(ì)	*lee kɛrɛ* lee kɛ.rɛ	*nee kere* nee ke.re		*lekere* le-ke.re
	PL	lé-k?rì-kê/ lé-kèr?-kê	*lee kɛrɛ-te* lee kɛ.rɛ-te	*nee kere-te* nee ke.re-te		*lekere-te* le-ke.re-te
trousers	SG	*buruko* bú.rú khò.(è)	*burokho* bu.ro kho	*ruuko* ruu-ko	bòhù phè	*buruko* bu.ru-ko
	PL	*buruko-te* bú.rú khù.è-síkê	*burukhu-te* bu.ru khu-te	*ruuko-te* ruu-ko-te	bòhù phè-lè/tè	*maruko-le* ma.ru-ko-le

Note: italic = original Traill transcription

Table 3: Phonotactics and Afrikaans (via Tswana) loan words

2.2 The complex agreement system and gender across Taa

+ complex cross-reference system for person, gender, and number by means of a set of 11 thematic segments, which are vocalic and nasal
- 4 forms for speech-act participants ~ SAP (1SG, 2SG, 1PL, 2PL) vs. 7 forms for 3rd persons
> 3rd-person forms establish so-called "agreement classes (= AGR)", which convey the gender and number of noun lexemes/referents > **Table 4**

Cross-reference class including person		**Agreement suffix on adjective** ('$Noun_X$ be ADJ-X')	**Anaphoric pronoun object suffix on verb** ('[$Noun_X$] VERB-IT_X')	**Agreement object suffix on verb** ('VERB-X $Noun_X$')
Tone class i	AGR 2i	*-́àn [-́ã̀]*	*-án*	*-àn*
	AGR 3i	*-́è*	*-é*	*-è*
	1PL	*-́ì*	*-í*	n/a
	2PL	*-́ù*	*-ú*	n/a
	1SG	*-́ǹg [-́ŋ̀]*	*-ńg*	n/a
	2SG	*-́à*	*-á*	n/a
Tone class ii	AGR 2ii	*-̀àn [-̀ã̀]*	*-àn*	*-án*
	AGR 3ii	*-̀è*	*-è*	*-í*
	AGR 1(ii)	*-̀ì*	*-ì*	*-í*
	AGR 4(ii)	*-̀ù*	*-ù*	*-í*
	AGR 5(ii)	*-̀ǹg [-̀ŋ̀]*	*-ǹg*	n/a

Table 4: Cross-reference forms and tone classes in Taa exemplified for West !Xoon

+ 10 of 11 forms partake in a binary tonal distinction labelled by Traill i vs. ii:
- 3 segmental forms contrast between SAP (1PL/2PL/1SG) and 3rd-person AGR (1ii/4ii/5ii)
- 2 segmental forms contrast within 3rd-person AGR: 2i/3i vs. 2ii/3ii > **Table 5**

Segment	**Tone class i**		**Tone class ii**	
a	2SG		-	
i	1PL		3SG/TN	~AGR1ii
u	2PL		3PL	~AGR4ii
n	1SG		3SG/TN	~AGR5ii
ã	3SG/TN/PL	~AGR2i	3SG/TN/PL	~AGR2ii
e	3SG/TN	~AGR3i	3SG/TN	~AGR3ii

Table 5: Cross-reference forms across person and number in Taa

+ concrete word forms of a nominal lexeme are tied to a specific AGR, which encodes lexicalized gender and, if not transnumeral, two number values (SG, PL)

+ thematic AGR segments very often constitute the sonoric part:
a) of monomoraic grammatical elements > agreement~crossreference
or of the second mora of:
b) bimoraic transitive verb and adjective stems > agreement~crossreference
c) bimoraic noun stems (not consistently) > AGR-alliteration
> yields recurrently to Bantu-type alliterative concord - cf. (1)/(2) of West !Xoon

(1) *ú* *qá.r**ú*** *k-**ù*** *!xa.b`-**ù***
2PL parents.PL4 COP-<4 big.PL-<4
Your parents are big/old. (TWb110927-0106.008)

(2) *ń* *sí* *n|à.-**í*** *ǂhà.**ì*** *ǂ"ù.-**ì***
1SG IPFV see-1> dog.SG1 one-<1
I see one dog. (TWb090405-0101.001)

+ the gender of a noun lexeme is instantiated by:
a) a single AGR for transnumeral nouns, which are insensitive to number, or
b) an AGR pair for number-sensitive count nouns
> cf. (3) with the noun *márí* 'goat' of gender 2i/2i, which itself alternates for number

(3)a. *ń* *sí* *n|à.-**àn*** *má.rí* *ǂ"ù.-**ì***
1SG IPFV see-2i> goat.2i one-<1
I see one goat. (TWb090405-0101.005)
b. *ń* *sí* *n|à.-**àn*** *má.rí-kê* *nǂúm̀*
1SG IPFV see-2i> goat.2i-PL two
I see two goats.

+ cross-Taa gender comparison by means of the dialect-specific behavior of cognate nouns
- Traill's noun list together with our more recent DOBES data attest for shared features as well as considerable changes in the gender system across dialects
> findings further support Naumann's (2014) genealogical Taa classification
- comparative series often have dialectal gaps or lack AGR-information, so that a good amount of data are compatible with but not conclusive evidence for any observed pattern

+ three genders shared across Taa:
- 2ii/(2ii) with 57 compatible series > **Table 6**
- 3i/(2i) with 39 compatible series > **Table 7**
- 2i/(2i) with 12 compatible series > **Table 8**

Aminuis West !Xoon	Corridor 18 ’N|oha	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ⊙Khoa
4-42	bone				
ǂá.àn	ǂà.àn	ǂa.ã	ǂa.ã	ǂà.àn	ǂa.ã
sí-ǂá.m̀-tê/ ǂá.àn-síkê		ǂa.m-te	ǂa.m-te	ǂà.m̀-tè	ǂa.m-te
10-115-2	gemsbok	[suppletive plural]			
’n!a̱h.ã	'n!àqh.àn	’n!a̱h.ã	’n!a̱h.ã	'n!àqh.à	**’n!a̱h.ã 4**
11-131-1	hedgehog	[star form]			
‖õ.r̃ã			‖o.na		‖oᵃ.na
‖õ.r̃ã-ce			‖o.na-te		‖o.an-te
15-185	name	[= tail]			
|àh.ǹg-(sé)	|à.ùn	|a.o	|a.ũ	|à.ù(n)/ |á.ù	|a.ũ
|àh.àn/ |a.ŋ-te		|a.ã	|a.ã		|a.ã
17-202	pot				
’nǂàq.nà	'nǂàq.nà	’nǂa̱.na	’nǂa̱.na	'nǂàq.nà	’nǂa̱.na
’nǂàqnà-síkê		’nǂa̱.na-te	’nǂa̱.na-te	'nǂàq.nà/là-tè/ 'nǂàq.ǹn-tè	’nǂa̱.na-te
18-217	spoon				
(‖òh.àn)		gǂah.m	gǂah.m	tí-gǂàh.m̀	i-ǂah.m
(‖òh.àn-síkê)		gǂah.ma-te	gǂah.ma-te		i-ǂah.ma-ni
20-249	tooth				
‖hà.àn	‖hà.àn	‖qha.ã	‖qha.ã	‖hàà	‖qha.ã
‖hà.ǹn-tê	‖hà.ǹn-tê	‖qha.ã-te	‖qha̱ã-te	‖hàà-nì	‖qha.ã-ni

Table 6: Shared gender 2ii/(2ii) aross Taa

Aminuis West !Xoon	Corridor 18 ’N|oha	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ⊙Khoa
1-2a	bird [generic]				
si-|o(’).u		(g)|uh’.u	(g)|uh’.u	tí-g|ùh.ù	(s)i-|ho’.u
si-|o.re		(g)|uh’.ã-te	(g)|uh’.ã-te	tí-g|òh.à-lè/ tí-g|òh.à-nì	ki-|ho.ã-ni
6-64	camelthorn tree				
‖á.á	‖á.á 3i	‖a.a	‖á.a	‖á.á	‖a.a
‖á.ḿ	‖á.ḿ 2i	‖a.m	‖á.m	‖á.ḿ	‖a.m
7-85	country				
n!ó.ré		n!u.le	n!u.le	**n!ú.ú**	n!u.u
n!u.n-sa.ri-te		n!u.m-sã	n!u.n-sa	**n!ú.ú-lè**	ka-n!u.u-ma
8-94	duiker				
⊙hhúún/ ⊙han		⊙han	⊙han	⊙hhú.ún	⊙hun/ ⊙han
⊙hhú.ní		⊙ha.na	⊙ha.na	⊙hhó.ná/ ⊙hhú.ḿ	⊙ho.na/ ⊙ha.na
18-225	stone				
	n|úlè 3i	*n|u.le*	*n|u.le*	n|ò.lè	*n|u.le*
	n|úǹn 2i	*n|u.n*	*n|u.n*	n|ù.ǹg	*n|u.n*
19-237	sun, day				
‖"á.ǹg		‖’a.n	‖’a.n	‖"àǹg/ ‖"àǹn	‖’a.n
‖"á.nà-kê		‖’a.na-te	‖’a.na-te		*ka*-‖’a.na-te
20-244	thorn				
‖qáq.bá		‖qa̱.ba	‖qa̱.ba	‖qàq.bá	‖qa̱.ba
‖qáq.má-kê		‖qa̱.m-ka-te	‖qa̱.m-ka-te	‖qàq.ḿ-ká-lè	‖qa̱.m-ka-le

Table 7: Shared gender 3i/(2i) aross Taa

Aminuis West !Xoon	Corridor 18 ’N|oha	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ⊙Khoa
1-4-1	Afrikaner				
bu.ru		bo.lu	bu.ru		**li-khu.a 3**
bu.ru-te		bo.lu-te	bu.ru-te		**ma-khu.a-le 2**
2-22	arrow				
ǂqha.ã			ǂqha.ã	ǂhhà.àn	ǂqha.ã
ǂqhã-site			ǂqha.m-te	(kà)-ǂhhààn-(lè)	ǂqha.m-te
8-97-1	egg				
gǂó.án	gǂó.án		gǂu.ã	gǂó.á	gǂu.ũ
gǂó.án-sítê	gǂó.án-sítê				gǂu.ã-ni
10-122	grass				
g‖qx'á.àn	‖qx'á.àn	‖kx’a.ã	‖kx’a.ã	‖qx'á.à	‖kx’a.ã
12-148-1	knife				
nǂò(h).rà 1	!ò.ó	!o.o	!o.o	!ò.ò	!o.o
nǂù(h).nn 2ii	!ò.ó-tê	!o.o-te	**nǂu.n 2ii**	kà-!ò.ò-lè	!o.o-le
21-263	wildcat				
⊙qú.ú	⊙qú.ú	⊙qo.u	⊙qo.u/ ⊙qu.u	⊙qú.ú	⊙qo.ũ
⊙qó.ré	⊙qú.ú-tê	⊙qo.u-te	⊙qo.u/ ⊙qu.u-te	⊙qú.ú-nì	⊙qo.ã-ni/ ⊙qo-le

Table 8: Shared gender 2i/(2i) aross Taa

+ alternation between 1ii/(2ii) in West Taa (=West !Xoon) + !Ama and 3ii/(3ii) in Eastern East Taa: 24 compatible series > **Table 9**

West Taa	**!Ama**		**Eastern East Taa**		
Aminuis West !Xoon	Corridor 18 ’N|oha	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ⊙Khoa
14-171	meat				
⊙á.ì	⊙à.yè	⊙a.je	⊙a.je	⊙ú.è	⊙o.e
⊙á.ì-sítê					⊙o.e-le
16-191	orange	< Afrikaans			
làmúńn		namuni	namunu	nàmùní/ làmùní	namuni
lèmúǹn-kê				nàmùní-tè	namuni-te
16-195	paper	< Afrikaans			
pà.m̀ pí.rí	pà.m̀ pí.rí	pa.m pi.ri	pa.m pi.ri		pa.m pi.ri
pà.m̀ pí.rí-tê	pà.m̀ pí.rí-tê	pa.m pi.ri-te	-	pà.m pí.rí-tè	pa.m pi.ri-te
20-253	tree~wood				
'n⊙á.ì		’n⊙a.je	’n⊙a.je	'n⊙ù.è	’n⊙o.e
'n⊙á.àn		’n⊙a.ã	**’n⊙a.ã 2ii**	**'n⊙ò.à 2ii**	**’n⊙o.ã 2ii**
21-258	water				
!qhà.à	!qhà.à	!qha.a	!qha.a	!qhà.à	!qha.a

Table 9: Gender shift of Eastern East Taa 3ii/(3ii) vs. West Taa + !Ama 1ii/(2ii)

+ alternation between 3i/4ii in West Taa (=West !Xoon) + ’N|oha and 3ii/4ii in Eastern East Taa: 11 compatible series > **Table 10**

- no information yet on Hukuntsi !Ama > could replicate above split or be a separate one

Aminuis West !Xoon	Corridor 18 ’N|oha	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ⊙Khoa
5-61	person				
tá.à	tá.à	ta.a	**ta.a 3i**	tà.à	ta.a
tú.ù	tù.ù	tu.u	tu.u	tú.ù	tu.u
9-105	father				
àq.à	àq.à	**ki-nạ.a-ki**	*ạ.a*	àq.à	*ạ.a*
áq.rù		**ki-nạ.a-tu**	*ạ.a-tu*	àq.à-lù	*ạ.a-lu*
10-114	kin term				
ǂhà.ìn	ǂhà.ìn	ǂqhe.ẽ	ǂqhe.ẽ	ǂhè.è	ǂqhe.ẽ
ǂhà.nù		ǂqhe.ẽ-tu	ǂqhe.ẽ-tu		ǂqhe.ẽ-nu
12-140a	spouse				
’n|á.ǹg	'n|à.ǹn	’n|a.n	’n|a.n	'n|á.ǹg	’n|a.n
’n|á.nú		’n|a.n-tu	’n|a.n-tu		(si)-’n|a.n-tu
15-179	mother				
qá.é	qá.é	qa.e	qa.e	qá.é	qa.e
qá.rú		qa.e-tu	qa.e-tu	qá.é-lù	qa.e-lu

Table 10: Gender shift between West !Xoon aka West Taa 3i/4ii and East Taa 3ii/4ii

+ alternation between 1ii/2ii in West Taa (=West !Xoon) and 1ii/4ii in East Taa (= rest of the language complex): 62 compatible series > **Table 11**

West Taa	**East Taa**				
Aminuis West !Xoon	Corridor 18 ’N|oha	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ⊙Khoa
2-15	woman's fr. apron				
g!ú.ú		g!u.u	g!u.u	g!ú.ú	g!u.u
g!ó.ré		g!u.u-te	g!u.u-te	kà-g!ú.ú-tè	ka-g!u.u-le
5-62	butterfly				
dhà.bì-dhà.bì		dtha.bi	dtha.bi	tí-/kí-dhá.bí	si-ka-dtha.bi
dhà.bì-dhà.bì-kê		dtha.bi-te	dtha.bu-te	tí-/kí-dhà.bú-lè	
7-78	clothing				
!xá.í	!xá.í	!xa.i	!xa.i	**(tí)-cá'.á-(là)-cà 2ii**	**i-sa’.ã-na-sa 2**
!xá.ré		!xa.ba-te	!xa.ba-te	**cá'.á-cà-lè 2ii**	**i-sa’.ã-na-ja 2**
8-93	dog				
ǂhà.ì	ǂhà.ì	ǂqhə.i	ǂqhi.i	ǂhà.ì	ǂqha.i
ǂhà.rè	ǂhàbà-tê	ǂqha.ba-te	ǂqha.ba-te	ǂhà.bà-lè	ǂqha.ba-le
12-142-1	brown hyena				
’n|ú(h).ùn	'n|úùn	’n|u.ũ	’n|u.ũ		
’n|ú.nì	'n|únì	’n|u.ã-te	’n|u.ã-te		
19-231	rope	[bowstring hemp]			
|xà.ì	|xà.í		|xa.i	|xà.ì	|xa.i
|xà.rè	|xàbà-te		|xa.ba-te	|xà.bà-lè	|xa.ba-te

Table 11: Gender shift between East Taa 1ii/4ii and West !Xoon aka West Taa 1ii/2ii

+ gender shifts result in considerably different overall systems between dialects
> detailed data on West !Xoon of West Taa and East !Xoon of East Taa as an exemplification (cf. already Kießling 2008) > **Figure 3 vs. 4**

- agreement forms are possessor pronouns
- lines represent genders of count nouns changing agreement class across number
- circles represent genders of count nouns with a single agreement class across number or of transnumeral nouns

> gender complexification from west to east: 3+4 in West !Xoon vs. 5/6+5 in East !Xoon (cf. Pratchett (2017, 2021) on a similar finding in the Ju language complex of Kx'a)

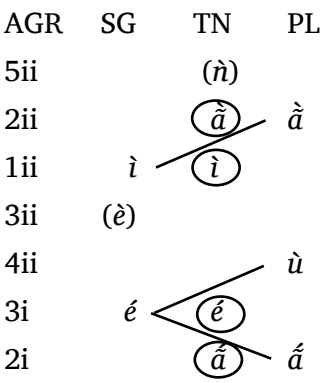


Figure 3: Agreement classes and genders in West !Xoon

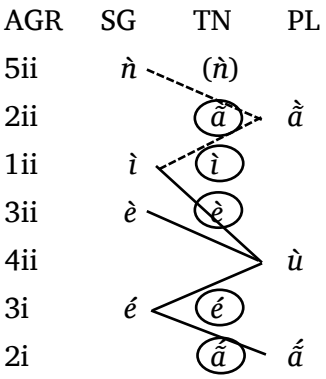


Figure 4: Agreement classes and genders in East !Xoon

2.3 Complex noun morphology - the example of suffixes in *sV*

+ complex nominal morphology in Taa, which is unprecedented for a Kalahari Basin Area language > cf. **Tables 6-11** above

- encodes derivation (notably diminutive), gender, and number
- involves affixation and stem change with historical cline from former to latter > **Table 12**

a)	CV-prefix	> voiced stem onset	cf. 'bird'
b)	plural suffix *-te*	> 2nd mora *.re*	cf. 'lower arm'
c) *tuu* 'people' >	associative plural (suffix) *-tu*	> 2nd mora *.ru/nu*	cf. 'child'
d) *⊙a.a* 'child' >	diminutive suffix *-ba*	> 2nd mora *.ba/ma*	cf. 'wildebeest'

Aminuis West !Xoon	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ⊙Khoa
1-2a	bird (generic)			
si-|o(').u	**(g)**|uh'.u	**(g)**|uh'.u	**tí-g**|ùh.ù	**(s)i**-|ho'.u
si-|o.re	**(g)**|uh'.ã-te	**(g)**|uh'.ã-te	**tí-g**|òh.à-lè/ tí-g|òh.à-nì	**ki**-|ho.ã-ni
2-19	lower arm			
n‖a.o	n‖ah.o	n‖ah.o	n‖àh.ù	n‖ah.o
n‖a.**re**	n‖ah.o-**te**	n‖ah.o-**te**	n‖àh.ù-**lè**	n‖ah.o-**le**
7-75	child			
⊙á.à	⊙a.a	⊙a.a	⊙ò.à	⊙o.a
⊙ú.**rù**	⊙a.a-**tu**	⊙a.a-**tu**		⊙a.a-**lu**
21-265	blue wildebeest DIM			
	|a̱.ri **⊙a.a**	ka-|a.li-**ba**		ka-|a̱.lu-**be**
		ka-|a̱.lu-te ⊙'a.ni		ka-|a̱.lu-te ⊙'u.ni

Table 12: Patterns of morphology turning into stem segments in Taa

+ noun suffixes with a voiceless alveolar fricative recur but are overall rare and erratic
> goal to analyze the different *s*-suffixes more comprehensively in terms of form, function, distribution across the lexicon, and, if possible, origin
- Common Taa [s] changes regularly to Inalegolo ǂHuan [ʃ] (represented here as *c*]

2.3.1 Singular suffix *-si*

- occurs in 8 (of 270+) series (cf. *-sí* "noun suffix" in Traill 1994: 185) > **Table 13**

Corpus-No.	Lexeme	SG	PL	A	C	H	L	I	K
21-257	truck	-si (< KK -s)	-si-te			1			
3-29	honey badger	-si	-sa-ma-ka-te	1					
12-144	black-backed jackal	-si	.ma-te			1			
17-200-1	polecat	-si	-sam-te/-si-te	1		1			
20-250	serrated tortoise	-si/ci	.m-sa-re/?/.m-san	1	1	1	1	3i	3
8-95	ear	-si	-te/.nya-te		2ii	1			
13-156	leaf	-si	-ku-te/-si-te/-si-le	2ii		?			2
20-242	bag tassle	-si	-si-te/-si-te			1	2ii		

Table 13: Exhaustive list of attestations of the plural suffix *-si* with AGR information

+ bias to AGR1 > correlates with thematic vowel *i* > see 2.3.3 below on *-se*

+ both areal and genealogical parallel nominal suffixes beyond Taa
- partial similarity to Khoekhoe feminine singular suffix *-s* > indeed one case of loan interference: Hukuntsi !Ama *kuni-si* 'truck' from Khoekhoe *kuni-s* > see **Table 15** below
- *-si* also attested in languages of the !Ui branch of Tuu, with a bias toward loans but not restricted to them

+ all but the series for 'black-backed jackal' involve another *s*-suffix somewhere in the comparative series (mostly in the plural) > see 2.3.2-4 below

2.3.2 Plural suffix *-si-te/ke*

+ recurrent in West !Xoon (34) but rare elsewhere (5 of 270+ series) > **Table 14**

Corpus-No.	Lexeme	A	C	H	L	I	K
21-257	**truck**			X			
17-200-1	polecat			X			
13-156	leaf			X			X
20-242	bag tassle			X	X		
8-97-1	egg	X	X				
4-43-1	**book**	X -(si)te					
14-164a	**truck, car**	X -(si)te					
15-188	**needle**	X -(si)te					
16-197-1	path	X -(si)te					
20-246	**year**	X -(si)te					
13-161	liver	X -(site)					
2-22	arrow	X					
3-32	bag	X					
3-33	hook(thorn)	X					
3-36	bead	X					
4-37	**bed**	X					
4-42	bone	X					
4-45	plant	X					
5-57	bubble	X					
6-66	**canvas sail**	X					
7-84	copper	X					
9-103	fat	X					
9-104	**field, garden**	X					
9-108	flint lighter	X					
11-136	hole	X					
14-171	meat	X					
15-176	morama	X					
16-191	**orange**	X					
17-202	pot	X					
17-209	shade	X					
18-217	spoon	X					
18-220	ground squirrel	X					
19-231	rope	X					
19-232	quill	X					
19-233	quiver + Acacia sp.	X					
19-239-2	tatoo	X					
20-252	helicopter toy	X					
20-254	**trousers**	X					

Table 14: Exhaustive list of attestations of the plural suffix *-si-te/ke*

+ no AGR-bias > e.g. **Table 15** - related to following gender-neutral plural suffix

+ occurs overproportionally in loan words: 9 of 38 tokens (bolded in Table 14)

- source languages: Khoekhoe, Afrikaans

- loan words aside, recurrent with concepts that are not typically countable

+ presumably productive pluralization in West !Xoon (?and ’N|oha) > **Table 15**
- optional on certain nouns (also including *-te/ke*) - all tokens in Table 15 (in frame)
> distributional profile makes *-si* in *-site/ke* look like a singulative allowing the pluralization

Corpus-No.	Gloss		Aminuis West !Xoon	A	Corridor 18 ’N|oha	C	Hukuntsi !Ama	H
8-97-1	egg	SG	g‡ó.án	2i	g‡ó.án	2i		
		PL	g‡ó.án-sítê	2i	g‡ó.án-sítê	2i		
4-43-1	book	SG	ǂxán(y)á	2i	ǂxá.nyá	2	ǂxa.ɲa	2
	< Khoekhoe	PL	ǂxán(y)á-(si)kê	2i			ǂxa.ɲa-te	2
14-164a	truck	SG	àútò	2ii			au too	2
20-164b	< Afrikaans	PL	àútò-(sí)kê/te	2ii			au tuu-te	2
15-188	needle	SG	ná.ǹn	2ii			na.n	2
	?< Afrikaans	PL	ná.ǹn-(sí)kê	2ii			na.n-te	2
16-197-1	path	SG	ǂá.ró	2i			ǂo.lo	1
		PL	ǂá.ró-(si)kê	2i				
20-246	year	SG	kú.rí	1			ku.li	1
	< Khoekhoe	PL	kú.rí-(sí)kê	2ii			ku.lu-te	4
13-161	liver	SG	n‖á.m̀	2ii			n‖a.m	2
		PL	n‖á.àn-(sítê)/ n‖á.ní	2ii			n‖a.a	2
3-33	hook(thorn)	SG	g‖xa.ŋ	2			g‖xa.ũ	1
		PL	g‖xa.na-site					
9-103	fat	TN	sàq.àn	2ii			*sa̱.ã*	2
		PL	sàq.àn-sítê	2ii				
9-104	field, garden	SG	tú.ín	1			(‖ha.la)	1
	< Khoekhoe	PL	tú.ín-síkê	2ii			(‖ha.la-te)	
16-191	orange	TN	làmúńn/ namune	1			namuni	
	< Afrikaans	PL	lèmúǹn-kê/ namune-site	2ii				
17-209	shade	SG	só.m̀	2ii			su.m tsho.e	
		PL	só.m̀-síkê	2ii			su.ma-te	4

Table 15: Sample of the plural suffix *-si-te/ke* in West !Xoon and ’N|oha

+ *-site* elsewhere in Taa arises from default plural *-te* on singular *-si* > **Table 16**
- attestations do not have parallel occurrence in West !Xoon - cf. West !Xoon plurals for polecat *|ha.ru-**sa.m-te*** and leaf *g‡qà.bú-**kú-kê/te***
> apparently historically separate from *-site/ke* in West !Xoon (?+ ’N|oha)

Corpus-No.	Gloss		Aminuis West !Xoon	A	Hukuntsi !Ama	H	Lone Tree East !Xoon	L	Khakhea ⊙Khoa	K
21-257	truck	SG			ku.ni-si	1	ku.ni	2	(koloi)	3
	< Khoekhoe	PL			**ku.ni-si-te**	1	ku.ni-te		(koloi-te)	3
17-200-1	polecat	SG	|ha.ri-si	1	|ah.li-si	1				
		PL	*/ha.ru-sa.m-te*	2	**|ah.li-si-te**	4				
13-156	leaf	SG	g‡qà.bí-sì	2ii	ǂɢa.bi-si				ka-ǂɢa.bi-si	2
		PL	*g‡qà.bú-kú-kê/te*	2ii	**ǂɢa.bi-si-te**				**ka-ǂɢa.bi-si-le**	2
20-242	bag tassle	SG			|ɢu̱.a-si	1	|ɢu̱h.bi-si	2ii	|ɢu̱h.ã	2
		PL			**|ɢu̱.u-si-te**	2	**|ɢu̱h.bi-si-te**	2ii	|ɢũ̱h.m-sa	

Table 16: Exhaustive list of attestations of the plural suffix *-si-te* outside West !Xoon

2.3.3 Singular suffix *-se*

- occurs in 7 (of 270+) series (cf. *-sè* "noun suffix" in Traill 1994: 185) > **Table 17**

Corpus-No.	Lexeme	SG	PL	A	C	H	L	I	K
3-29	honey badger	-se	.n-ka-te				3ii		
12-144	black-backed jackal	-se/cè	.m-ka-te				3ii	3ii	
12-142-2	brown hyena	-se/cè	-cè-tè					3ii	3
6-65-2	camelthorn seed pod	-cè	-cè-lè					3ii	
10-124	habit	-se	?			3			
15-185	name	-sé	-te	(2ii)					
15-181	mouth	-se/cè	-sa/ca	(2ii)		2		2ii	

Table 17: Exhaustive list of attestations of the singular suffix *-se*

+ bias to AGR3 presumably motivated by thematic vowel *e*, AGR2ii probably related to semantics of gender 2ii/2ii, which is biased to inalienable nouns relevant for 'name'/'mouth'
- one case of shift to *-si* and AGR1 with 'black-backed jackal' > **Table 18**

Hukuntsi !Ama	AGR	Lone Tree East !Xoon	AGR	Inalegolo ǂHuan	AGR
!a.o-**si**	**1**	!a.o-**se**	**3ii**	!à.ò-**cè**	**3ii**
!a.ma-te	2	!a.m-ka-te	2ii	!à.m̀-kà-lè	2ii

Table 18: Alternation of *-se* with AGR3ii vs. *-si* with AGR1 with 'black-backed jackal'

+ *-se* on 'mouth' related to nominal compounds with *tshóè/tshóã̀ 'hole, inside' > **Table 19**

Corpus-No.	Aminuis West !Xoon	Corridor 18 ’N|oha	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ʘKhoa
15-181	mouth					
SG	**ǂó.è-(sê)**		**ǂu.e-se**	ǂu.e	**ǂó.è/ǂó.ò-cè**	ǂu.e
PL	**ǂó.mà-sâ**		**ǂu.m-sã**	**ǂu.m-sa**	**ǂò.m̀-cà**	**ǂu.m-sã**
12-143	hole, inside					
	só.è	tshó.è			tsho.e	tchú.è
	só.àn-(kê)	tshó.àn-tê			tsho.ã-te	tchú.à
2-21	armpit					
	n‖u̱.mi tsho.ã		’n‖u̱.bi tsho.e	’n‖u̱.bi tsho.e	'n‖úq.bí tchù-è	ka-’n‖u̱.bi tsho.e
	’n‖u̱.ma-te tsho.ã			’n‖u̱.bi tsho.ã-te	'n‖úq.bí tchù.nì	ka-’n‖u̱.bi tshu.ni

Table 19: Complete series with interrelation between *-sa/sã* and previous *s*-suffixes

- plausible semantic relation and likely formal grammaticalization cline: tshóè > sóè > -sè
- possible explanation for plural suffix alternation towards *-sa/sã*: tshóã̀ > sóã̀ > -sã̀ > -sà
- relevant for other nouns?!, but not in general - cf. semantically different animal terms
> similar to Khoekhoe and ?Naro derivational suffix *-se-* > question of some borrowings?!

2.3.4 Suffix complex *-sa/sã* with variable number value

+ occurs in 42+4 (of 270+) comparative series > **Table 20**

- restricted to AGR2ii and AGR2i both correlating with the thematic vowel *a*
- diverse in form (tone, nasal gesture on and before suffix) and function (cf., e.g., number)

Corpus-No.	Lexeme	SG/TN	PL	A	C	H	L	I	K
8-95	ear	N-sa	-ke	2ii					
16-190	nose	N-sa	N-nya-te	2ii	2ii	2			
15-181	mouth	-se/cè	.m-sa/cà	2ii		2	2ii	2ii	2
20-242	bag tassle		.m-sa						?
17-200-1	polecat	-si	-sa.m-te	2					
20-250	serrated tortoise	-sí/ci	.m-sá(N)-(ré)	2ii		1	2ii	2i	2
1-3	vulture		.m-ca/saN					2i	?
2-17a	place		.n-sa			1	2ii		2
3-29	honey badger		.m-sa			2			
3-30	bag		-m.sa				2i		
4-40	body		.n-sa			?			
4-47	bow		.m-sa-(re)	(2ii)					2
4-49	tin trunk		.m-sa			2			
5-52-2/53	breast/udder		.n-sa/-sa			2	2ii	2ii	2
6-67	caterpillar		.m-sa-re	2					
6-69	chameleon		.m-sa						2
6-72-1	cheetah		.m-sa-(re)	2i		2			
7-79	cloud (house-COMP)		.n-sa			2	3		
7-85	country		.m/n-sa-(re)/(ri-te)	2i		2	2i		
9-100	elephant		.m-sa-re	2i					
10-116	plant sp.		.m-sa			?			
10-118-2	genet		.n-sa/cá				2i	2i	2
10-123	guinea fowl		.n-sa/cá			2	2i	2i	2
10-124	habit		.n-sa				2ii		
11-133	hill		.m-sá-ré	2ii					
11-137	horn		.n/m-sá/cá			2	2ii/3	2i/3i	2
12-139-1	horse		.m-sa-re	2i					
12-149a	Kgalagadi person		.m-sá-ré	2i					
13-150	knobkerrie		.m-sa(N)			2	2i		2
13-153	kori bustard		.m-cá					2i	
13-155-1	language		.n-sa(N)				2ii		2
14-170	sleeping mat		.m-sa/.m-sa-te	2		?	2ii		2
16-189	night		.m-sa			2			
16-192	ostrich		.m-cá					2i	
16-194	pangolin		.m-sa-na-te/.m-saN	2i			2i		
18-214	soap		.m-(sá-ré)	(2i)					
18-224	springhare hunting stick		.m-sa-(re)	2		2			
18-226	stone		.m-sa						2
19-230	root		.m-sa-re/-cá-lè	2				2i	
19-232	quill		.n-sa(N)			2	3		
19-235	reed [grass sp.]		.n-saN			2			
21-266	winter		.m-sa						2

Table 20: Exhaustive list of attestations of the suffix *-sa/sã*

+ suffix *-sà/cà separate from other *sa/sã*-suffixes
- on singular, transnumeral, and plural nouns as opposed to other exclusively plural *-sa/sã*
- consistently non-nasal and no necessary preceding 2nd mora of noun with nasal gesture
- consistently AGR2ii rather than also 2i
- mostly lexical counterpart as verb!!!
> *-sà/cà as nominalization suffix (cf. Traill 1994: 184) > **Table 21**
- unclear why lexically so specific
- Kießling (2008: 234, 235, 239) proposes as etymological source *sà'ã̀ 'face'

Corpus-No.	Aminuis West !Xoon	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ⊙Khoa
4-37	bed	< to lie			
SG				túù-cà	
PL				túù-cà-tè	
7-78	clothing	< to dress?			
SG				cá'.á-cà/ tí-cá'.á-**là**-cà	i-sa'.ã-**na**-sa
PL				cá'.á-cà-lè	i-sa'.ã-**na**-ja
9-111	food	< to eat			
SG	á.àn-sà	a.ã-sa	á.ã̀-sà	á.à-cà	a.ã-sa
PL		a.ã-ɲa			a.ã-ɲa
11-128-2	hat	< ?			
SG				‖áh.à-cà	
PL				‖áh.à-cà-lè	

Table 21: List of attestations of the nominalization suffix *-sà

+ plural *sa*-suffix with 'mouth' related to 'hole'-semantics, interesting to observe the presence of *-sa/sã* with two other nouns for facial body parts involving holes > **Table 22**

Corpus-No.	Aminuis West !Xoon	Corridor 18 'N|oha	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ⊙Khoa
15-181	mouth					
SG	ǂó.è-(sê)		ǂu.e-se	ǂu.e	ǂó.è/ǂó.ò-cè	ǂu.e
PL	ǂó.mà-**sâ**		ǂu.m-**sã**	ǂu.m-**sa**	ǂò.m̀-**cà**	ǂu.m-**sã**
16-190	nose					
SG	n|ùh.ùn-**sâ**	n|ùh.ùn-**sâ**	n|uh-**sã**	n|uh.**ɲa**	n|ùh.nn **tchú.à**	n|uh.**ɲa**
PL	n|ùh.ní-**sâ**	n|òh.**nyà**-tê	n|uh.**ɲa**-te	n|uh.**ɲa**-te		n|uh.ã-ni
8-95	ear					
SG	nǂùh.ùn-**sâ**	nǂùh.ì-sí	nǂuh.i-si	nǂuh.a	nǂòh.à	nǂuh.a
PL	nǂùh.ín-kê	nǂùh.ì-tê	nǂuh.**ɲa**-te	nǂuh.ã-te	nǂòh.à-nì	nǂuh.ã-le

Table 22: Series with *-sa/sã* involving semantics of 'hole, inside'

+ various remarkable observations in Table 22

a) *-sa/sã* with 'nose' not in plural but singular form, but semantically compatible with involving two rather than one nostril > confirmed by:

- renewed single compound form *n|ùh.ǹn* ***tchú.à*** ['nose' 'hole'] in Inalegolo
- cognate 'nose'-forms in !Ui regularly expanded by *-tu (cf. Taa tshóM 'hole')

b) suffix *-sa/sã* on *n|ũ̀hũ̀ 'nose' with nasalization alternates with *.ɲa* as second mora of the stem across different Taa dialects

> hypothesis: *n|ũ̀h.ũ̀ tshóã̀ > *n|ũ̀h.ũ̀ sóã̀ > *n|ũ̀h.ũ̀-sã̀* > *n|ũ̀h.ɲà*

!!! possible origin of *.ɲà* in N/Ṽ-*sa/sã* provides new perspective on historical Taa morphology and noun forms, as *.ɲà* is a frequent second mora in nouns

c) base form *n|ũ̀h.ũ̀-sã̀/sà* recurrently pluralized secondarily by default suffix *-te*

> non-final position of *-sã̀/sà* possibly enhances its change to *.ɲà*

d) comparative series for *n‡ùh.V 'ear' has affinities with *n|ũ̀h.ũ̀ 'nose' on various planes

> 'hole'-compounds and likely historical interaction between 'nose' and 'ears' goes back to Proto-Tuu (cf. Güldemann 2008: 18, 24-5)

+ further instances of *-sa/sã* universally plural (cf. "plural suffix" in Traill 1994: 184)

- recurs with animal terms: 14 of 42 comparative series
- additional pluralization in West !Xoon by means of *-te/ke* yielding *-sa-re* (13 of 42 series), not in other dialects: 'serrated tortoise', 'bow', cheetah', 'country', 'springhare hunting stick'
- in some cases interaction with other *s*-suffixes (cf. frame in Table 20), but specific for both lexemes and varieties rather than according to any regular patterns > **Table 23**

Corpus-No.	Aminuis West !Xoon	Corridor 18 ʼN|oha	Hukuntsi !Ama	Lone Tree East !Xoon	Inalegolo ǂHuan	Khakhea ⊙Khoa
20-242	bag tassle					
SG			|ɢu̯.a-si	|ɢu̯h.bi-si		|ɢu̯h.ã
PL			|ɢu̯.u-si-te	|ɢu̯h.bi-si-te		|ɢũ̯h.m-sa
17-200-1	polecat					
SG	|ha.ri-si		|ah.li-si			
PL	|ha.ru-sa.m-te		|ah.li-si-te			
20-250	serrated tortoise					
SG	sí-n‖àh.ì-sí	n‖àh.ì-sí	n‖ah.i-si	n‖ah.i-si	tí-n‖àh.ǹn-cí	n‖ah.n-si
PL	sí-n‖àh.m̀-sá-ré		n‖ah.m-sã	n‖ah.m-sã	tí/kí-n‖àh.m̀-cá	n‖ah.m-sã
SG DIM				n‖ah.i-si ⊙aa		ka-n‖ah.n-si-ba
PL DIM						ka-n‖ah.n-sa ⊙ʼu.ni

Table 23: Remaining series with interrelation between *-sa/sã* and previous *s*-suffixes

+ *sa/sã*-suffix complex comprises at least three different elements:

a) lexicalized nominalization (?as grammaticalization of *sà'ã̀ 'face')

b) lexicalized grammaticalization of *tshóã̀ 'holes'

c) "plural" > requires further research in particular!!

3 Conclusions

Taa morphology is not only complex but also historically layered and idiosyncratic across different dialects and lexical items.

Grammaticalization and phonetic incorporation of elements disguise a considerable amount of shared patterns.

Investigation of dialectal diversity is imperative for a proper understanding of Taa.

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