

I. The Tshila Community

The Tshila [tsʰilà] community is a small group of around 300 individuals, of which around 250 live in the village of Kaudwane, Botswana, and around 50 live around Gope, Botswana. The community traditionally hunted and gathered on a tract of land in the Kalahari stretching northwards from Kaudwane, including around settlements such as Gope [χɔpɛ]. The community was entirely resettled into Kaudwane in the 1990s, where the vast majority of Tshila people currently reside. Some families later returned to the area around Gope and reside there today. Some individuals and families have moved to larger cities such as Gaborone, which is a four hour journey by car from Kaudwane.

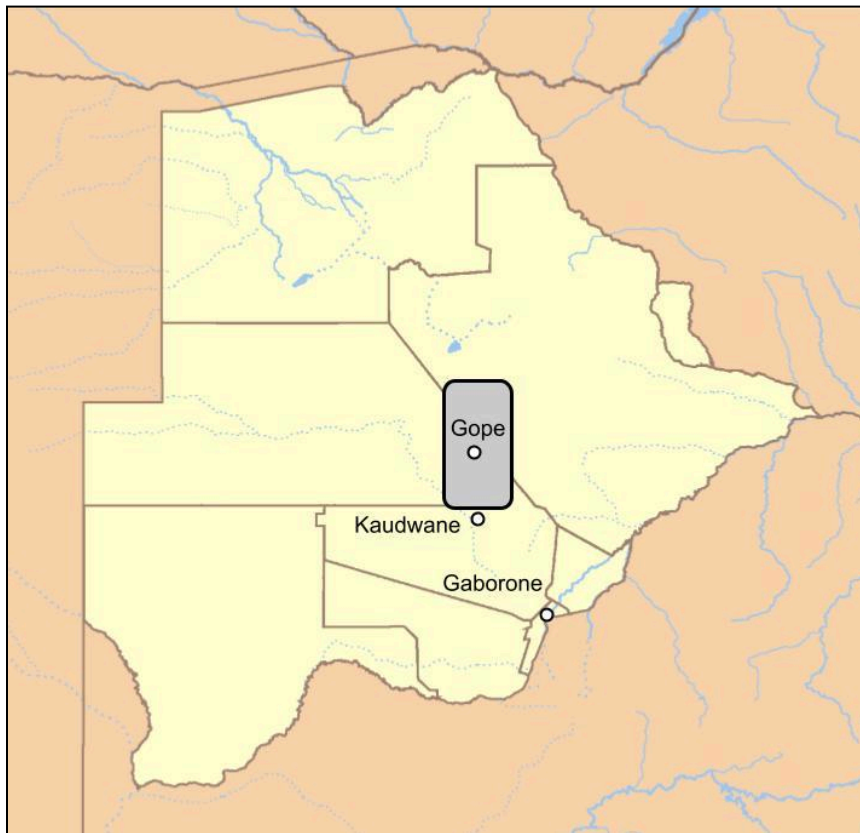


Figure 1: Traditional range of Tshila people, according to elders in Kaudwane, alongside settlements with known Tshila speakers today.

Adapted from Sadalmelik 2007.

Kaudwane is a village of around 600 inhabitants, of which around 250 are Tshila speakers generally settled on one side of the village, and around 250 are Glana speakers (and their descendents) generally on the other side. There are a handful Glui and Shua speakers found in the village today. There were ʰoan (Kx'a) speakers found by Collins in Kaudwane in 1996,

but we did not find any there most recently. Many, if not most, Tshila individuals are proficient in Sekgalagadi or Setswana to some degree, even elders. A number of Setswana speakers live in Kaudwane, having come from elsewhere in the country to work jobs in education, government, and medicine. A few adult Tshila people in the village speak English, typically learned through work in the tourism industry centered in the Central Kalahari Game Reserve and the Khutse Game Reserve, both found at the edges of the village. Schooling is a recent phenomenon (i.e. since the 1990s), and takes place entirely in Setswana, with English learned as a foreign language. Thus, children are fluent in Setswana and also have some proficiency in English by the age of 10. Tshila elders are non-literate, and no standardized orthography currently exists for the language.

The community under discussion uses the endonym “Tshila” as the name for themselves as a group, and as the name for their language. In the broader national context in Botswana, they are often called by the term Basarwa, a term which includes both them and many other groups; their language is sometimes called Sesarwa, a broad term which encompasses the Tshila language alongside most Khoe, Kx’a, and Tuu languages. The Tshila variety is demonstrably distinct from other Khoe languages nearby such as Glana, Glui, Kua, Cua, and Tsoa, but all of these languages are closely related.

II. Tshila within Khoe

The first Khoe language known to Europeans was Khoekhoe (Leibnitz 1717), which was believed to be a (local) isolate comprising a few dialects in southern Africa for a substantial period of time (Bleek 1862:3; Meinhof et al. 1909:v¹). However, subsequent work on Kalahari Khoe omitted Tshila (Passarge 1907; Westphal 1956:165; Maingard 1961; Köhler 1962).

The first mention of the Tshila language seems to have been in the work of Anthony Traill, describing it as a Central Khoisan language in close geographical proximity to Glui and in contact with #Hoan (Traill 1973:25-27). Traill does not directly cite Tshila data, and makes no comment about the genealogical relationship between Tshila and Glui other than that they are both Khoe languages. Tshila was again briefly mentioned as a dialect ‘Tsila’ grouped with Glana, Glui, #Heba, Dom, Tsere, Glolo, and Glulu (Vossen 1984:21). However, underdocumentation left it out of most subsequent work as well (Köhler 1981:467; Vossen 1998:96; Vossen 2013:10-11; Güldemann & Elderkin 2010:16), and when Tshila was mentioned, it was placed with Glana and Glui in a distant branch from Kua and Cua (McGregor 2018:44, largely citing Güldemann 2014:27). Family-internal reclassifications have been expected for Khoe-Kwadi as documentation continues (Güldemann 2014:27).

Tshila is a Khoe language and is clearly related closely to Glana as they are, to a large extent, mutually intelligible in Kaudwane. Younger generations of Tshila speakers exhibit a vocabulary that is sometimes more closely aligned with Glana and Kua than with their own elders, demonstrating a clear case of recent convergence. Prior work convincingly rules out a

¹ “. . . daß sie keine verwandten Sprachen zu haben schien.” Meinhof 1909:v.

close relationship between Tshila and Naro, but does not explore the relationship between Tshila and other Khoe branches (Nakagawa 2011). Crucially, Nakagawa's analysis is bounded by two constraints: the work only employs a lexical word list comparison, thus lacking comparative grammatical analysis, and is limited to a binary categorization choice between Naro and Glana without considering relationships with other Khoe languages like Cua. More recent work which includes Tshila does not specify genealogical relationships within Khoe (Nakagawa et al. 2023).

The central claim of this paper is that Tshila is more closely related to Cua (Tshwa) than to Glana, as evidenced by comparison of grammatical morphemes. Phonological differences in tone and palatalization between Cua and Tshila are accounted for as recent Tshwa innovations.

III. Glana/Kua vs. Tshila vs. Cua

i. Pronouns

In this section, we compare the pronominal systems of Tshila, Cua and Kua, and argue that the pronominal system of Tshila is much closer to Cua than Kua.

Pronouns in Kalahari Khoe are defined by person, number and gender features. The person features are first, second and third. In the first-person plural, there is a distinction between inclusive and exclusive. The number features are singular, dual, and plural. The gender features are masculine, feminine and neutral. The form of the pronoun also varies according to whether it is the subject, object, possessor or subjunctive subject.

In the table below, we list all the subject pronouns for Tshila, Cua and Kua.

Table 1: Comparison of Subject Pronoun Paradigms

(Ts = Tshila, C = Cua, K = Kua)				
		MASC	FEM	Neutral
1SG	(Ts)	kíé	kíé	N/A
1SG	(C)	cíé	cíé	N/A
1SG	(K)	cé	cé	N/A
1DU	INCL (Ts)	átsàbè	ásàbè	ákhàbè
1DU	INCL (C)	àtsábé	àsábé	àkhábé
1DU	INCL (K)	átsèbè	ásèbè	ákhèbè

1DU	EXCL (Ts)	ítsàbè	ísàbè	íkhàbè
1DU	EXCL (C)	ítsábé	ísábé	íkhábé
1DU	EXCL (K)	ítsèbè	ísèbè	íkhèbè
1PL	INCL (Ts)	álàè	ádzè	átàè
1PL	INCL (C)	àlláé	àǵíé	àtáé
1PL	INCL (K)	álè	àsè	átè
1PL	EXCL (Ts)	ílàè	ídzè	ítàè
1PL	EXCL (C)	íláé	íǵíé	ítáé
1PL	EXCL (K)	ílè	ísè	ítè
2SG	(Ts)	tsáé	sáé	N/A
2SG	(C)	tsáé	sáé	N/A
2SG	(K)	tsée	sée	N/A
2DU	(Ts)	ítsòè	ísòè	íkhòè
2DU	(C)	ítsóé	ísóé	íkhóé
2DU	(K)	ítsò	ísò	íkhò
2PL	(Ts)	ílòè	ídzòè	ítòè
2PL	(C)	ílóé	ídzóé	ítóé

2PL (K)	ílò	ídzò	ícò
3SG (Ts)	èbè	èsè	è
3SG (C)	èbè	èsè	è
3SG (K)	àbè	àsè	è
3DU (Ts)	ètsèrè	èsèrè	èkhòrè
3DU (C)	ètsèrè	èsèrè	èkhòrè
3DU (K)	àtsèrè	àsèrè	àkhòrè
3PL (Ts)	èlòè	èdzè	èdè
3PL (C)	èlòè	èdzè	èrè
3PL (K)	àlòè	àdzè	àrè

For each language, there are 30 subject pronouns. Putting aside the issue of tone (which we will return to below), between Tshila and Cua, there are 26 exact matches. The only mismatches are in the first singular, the first inclusive feminine plural, the first exclusive feminine plural, and third person neutral plural. On the other hand, between Tshila and Kua, there are no exact matches at all. Every single subject pronoun differs between Tshila and Kua. Similar comparisons hold for the other pronoun series (bare/possessor, object, subjunctive).

There are some systematic differences that are worth commenting on. All third person pronouns in Kua begin with the pronominal base a-. But in Tshila and Cua, all third person pronouns begin with the pronominal base e-. In the second person dual and plural series, all pronouns in Tshila and Cua end with -oe. But in the same series, all pronouns in Kua end in -o.

Given the geography of the languages, these changes suggest the following historical relationships:

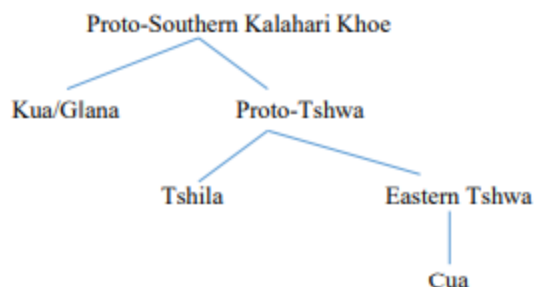


Figure 2: A sketch of the genealogical relationships between Kua/Glana, Tshila, and Cua.

When Proto-Tshwa branched off from Kua/Glana, there were a number of systematic changes to the pronoun paradigm (e.g., changing the third person pronoun base from a- to e-). Those changes were retained in all the descendants of proto-Tshwa, including Tshila and Cua.

Curiously, the tonal contours of the subject pronoun series show a different pattern. In some cases, for a given pronoun, all three languages have the same tonal contour. For example, in all three languages all third person pronouns are low tone. But where there is a difference between the languages, it is almost always the case that Tshila patterns like Kua. For example, in the first dual inclusive masculine, Tshila has the tonal contour HLL (*átsàbè*) just like Kua (*átsèbè*). Cua (*àtsábé*) on the other hand has the contour LHH. The only exception to this generalization is second singular, where Tshila patterns like Cua tonally.

In general (outside of the pronoun system), the tonal system of Tshila is much more similar to the tonal system of Kua. Cua has innovated a system of tonal depression (see Mathes 2015) that Tshila and Glana/Kua do not have. Although the tonal contours of the Cua pronominal system do not involve tonal depression, what seems clear is that the entire tonal system of Cua (pronouns and tonal depression) underwent massive changes after it branched off from Tshila.

ii. Questions

In this section, we will consider the forms of question words in Tshila, Cua and Kua, and show that question words in Tshila are much closer to Cua than Kua.

The chart below gives the set of question words for Tshila, Cua and Kua. We leave out ‘why’ because it is a complex expression in all three languages. Also, ‘how many’ and ‘how much’ question phrases remain to be explored.

Table 2: Comparison of Question Phrases

Tshila	Cua	Kua/Glana
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extra vowel *-á* in the word for ‘who’. Furthermore, except for the yes-no question particle, none of the question words for Tshila are identical to those of Kua.

There are many systematic differences worth commenting on. In Kua the word for ‘which’ is *mǎǎ*, a word that appears in five out of the seven question phrases. But the word *mǎǎ* does not appear anywhere on the Tshila or Cua list.

One issue that needs to be explored further is that the Cua speakers often use the Glana/Kua word as well. This fact raises many questions, such as whether all speakers use Glana/Kua forms, or just a subset of speakers. One possibility is that both sets of question forms were inherited from Proto-Tshwa. But we think it is more likely that the use of Glana/Kua question phrases is due to influence from Glana speakers, who live in close proximity to the Tshila in Kaudwane.

iii. Lexical Comparison

A closer classification of Tshila with Cua than with Kua/Glana would not be immediately obvious from surface-lexical comparison. A comparison of 281 lexical items across Kua/Glana (Collins 2023a), Tshila (Batchelder-Schwab & Collins 2023), and Cua (Collins 2023b) reveals a preliminary asymmetry between Tshila matches with Kua/Glana. Exact matches are counted when tone, meaning, and segmental phonemes are identical between languages. Close matches are counted when any mismatch in tone, segment, or meaning occurs, but the majority of phonemes are still identical. Non-cognates are counted when the majority of phonemes do not match.

Initial counts show 160 exact matches between Tshila and Kua/Glana, while only 119 exact matches between Tshila and Cua, with 34 non-cognates in all cases. However, many close matches between Cua and Tshila arise systematically from two predictable sources of tone mismatch: tone depression and a reanalyzed LM tone in Tshwa.

a. Tone depression

Consonantal effects on tone are robustly attested in Southern Africa, namely the predictable effect of voiced obstruents which lower following tones, called tone depressors (Kingston 2011; Bradshaw 1999). Tshwa-cluster Khoe languages are attested to have initial tone depression on HL and HM tones following a class of slack-voiced consonants (Mathes 2015). Tone depression is absent across many branches of Khoe including Tshila, and is not posited to have existed in reconstructions of Proto-Khoe (Elderkin 2016:121; Michaud & Sands 2020). Tone depression is widely-attested across Niger-Congo (Bradshaw 1999 for Suma/Gbe; Lotven & Berkson 2019 for Gengbe), and especially so in Bantu (Kutch Lojenga 1998 for Yaka; Cassimjee & Kisseberth 1992 for Mijikenda; Wright & Schryok 1993, Traill 1990, Rycroft 1980:17 for Siswati; Downing 2009 for isiXhosa; House & Fairbanks 1953 for TjiKalanga; Lee 2009 for Xitsonga; Rycroft 1983 for isiNdebele; Volk 2007:20 for Giryama; Cibelli 2012 for

Chichewa; Downing & Gick 2005 for Nambya; among many others). This has led to the theory that tone depression in Tshwa languages is a consequence of contact with geographically-proximate Bantu languages like TjiKalanga (Mathes & Chebanne 2018:13; Chebanne 2014).

Tone depression in Cua (Collins 2023a) matches descriptions of tone depression in Tsua (Mathes 2015:26), where a class of voiced and aspirated consonants predictably produce allophones of two lexical tones, summarized in the tables below. In Table 3, depressor consonants predictably affect underlyingly /HM/ tones into [LHM] contours in Cua. In Table 4, depressor consonants predictably change underlyingly /HL/ tones into [LHL] contours in Cua.

Table 3: HM lexical items with Cua tone depressors, with cognates from Tshila and Kua/Glana

#	English	Tshila	Cua	Kua/Glana
1	pluck	thódō	thörō	chúrō
2	sweep	gún	gǔn	–
3	dig	tsháō	tshǎō	tsháō
4	plow	lháā	lhǎā	lháā
5	whisk	dódō	dörō	júrō
6	stab	kháē	khǎē	kháē
7	lick	dínī	dǐnī	jínī
8	wash	húū	hǔū	–
9	sip	gló ^s m̃	glǒ ^s m̃	glóā ^s m̃
10	make one's bed	khódā	khörā	hóā
11	house	ḡúū	jǔū	ḡúū
12	chin	gánī	gǎnī	gánī
13	worm	lgái	lgǎi	glǎ ^s i
14	hand	tsháū	tshǎū	tshíū
15	tree bark	gúdē	jǔrē	gúdē

Table 4: HL lexical items with Cua tone depressors, with cognates from Tshila and Kua/Glana

#	English	Tshila	Cua	Kua/Glana
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1	throw	gám	gǎm	gám
2	crawl	khán	khǎn	khán
3	person	khúè	khǒè	khúè
4	cow	gúbè	ǰúbè	gúbè
5	eland	dúù	dǔù	ǰúù
6	tick	gǣdè	gǣrè	gǣrè
7	cheek	glái	glǎi	glái

These mismatches between Cua and Tshila are accounted for by a unified, predictable tone depression rule which states that a class of tone depressor consonants are identified by a phonological feature [+slack], and insert a low tone before high tones which are not followed by high tones (as proposed by Mathes 2015:156, reproduced below).

1. Tsua/Cua tonal depression rule with the [+slack] feature

$$\emptyset \rightarrow L / [-\text{sonorant}, +\text{slack}] _ H [-H] \#$$

The wording of this phonological rule specifically targets /HM/ and /HL/ contours as sites for the tone depressor consonants to transform them into [LHM] and [LHL] respectively.

b. The MH tone in Tshwa

Another source of predictable divergence in tone is between Tshila /LM/ and Cua /MH/ (a correspondence noted in Mathes 2015:175). We posit that the surface differences in acoustics between languages might not be a consequence of phonological reanalysis. The problem is presented in Table 5, where the Tshwa subgroup (Cua/Tsua) are marked with a different tone than the other Khoe languages here.

Table 5: /MH/ in Tshwa corresponds to /LM/ in Tshila and Kua/Glana.

#	English	Tshila	Kua/Glana	Glui ²	Cua	Tsua
1	stand up	tǎ ^s ñ	tǎñ	cèñ	tǎ ^s ñ	tǎñ
2	bow	tǐē	cǐē	cǐē	tēé	tēé

² Nakagawa, Hiroshi. In draft. Glui Dictionary. We use !'h for delayed aspiration where Nakagawa uses !h.

3	love	g lām	g lām	g lām	g lām	g lām
4	dodge	!hàā	!hàē	!hàē	!hāé	—
5	shoe	ŋ lābō	ŋ lābō	ŋ lābō	lābó	lābó
6	ostrich	g lārō	g lārō	g lārō	g lāró	g lāró

This tone class was labeled MH in Tsua explicitly by acoustic comparison with Kua LM cognates, alongside lack of breathy voice associated both with Tsua LH/LL melodies and with Glui realizations of LM (Mathes 2015:90, citing Nakagawa 2006:97). Collins subsequently adopted the Tshwa MH analysis when documenting Cua (Collins 2023a).

However, an MH analysis does not align with a complicated benefactive allomorphy system first described for Glui (Nakagawa 2006:67) that is sensitive to mid-tones in the second lexical mora. When the benefactive suffix /-mǎǎ/ or perfective suffix /-hǎǎ/ is attached to a CVCV verb, an intervening juncture morpheme takes the form /-ná-/ to combine the suffixes with the verb root, uniquely when the root ends in a mid-tone vowel with qualities /a o e/. The /-na-/ allomorph of the juncture morpheme occurs only in this circumstance, and does not appear if the second mora carries a high or low tone.

Table 6: Verbs which take the allomorph /-na-/ of the juncture (JCT) morpheme in various Khoe languages.

Glui (Nakagawa 2006:73)

To visit	jírā	to visit for	jírā-ná-mǎǎ
To rub	kʰōbē	to rub for	kʰōbē-ná-mǎǎ
To pick up	dzèrō	to pick up for	dzèrō-ná-mǎǎ

Tshila

To cut	kàdē	To cut for	kàdē-nā-mǎǎ
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Kua (Collins & Chebanne 2022:35)

To open	χórē	To open+JCT	χórē-nā
To fetch	qòbē	To fetch+JCT	qòbē-nā
To pray	ʔχárō	To pray+JCT	ʔχárō-nā
To pick up	dzèrō	To pick up+JCT	dzèrō-nā

Cua (Collins 2023c:30)

Pray	ʔχárō	Pray+JCT	ʔχárō-nā
Cut	kàrē	Cut+JCT	kàrē-nā
Pluck	thörō	Pluck+JCT	thörō-nā

Although this still leaves a gap for the paradigm in Tsua, the related Tshwa language Cua demonstrates identical behavior in the juncture morpheme: the /-na-/ allomorph that is specifically sensitive to final M tones appears on lexical items with a rising tone, ostensibly the Tshwa MH class. This suggests that despite acoustic differences in realization of this lexical tone, the underlying Tshwa phonology still treats this rising tone as ending in a mid M tone. For the purposes of labeling phonological tone classes, the solution is to utilize the LM notation proposed for this tone class by Nakagawa 2006 while acknowledging differences in acoustic realization between individual Khoe languages.

c. Tone-adjusted lexical comparison

We propose two tone-adjustments for lexical data from the Tshwa cluster (Cua/Tsua): a predictable depressor rule (Mathes 2015:156), and a reanalysis of the MH tone in Tshwa. Once these two predictable correspondences are accounted for, the lexical comparison results for 281 Tshila cognates with Kua and Cua even out, as shown in Table 1 below. Tshila data becomes more clearly related to Cua when only counting the verbal subset of cognate data (Table 2).

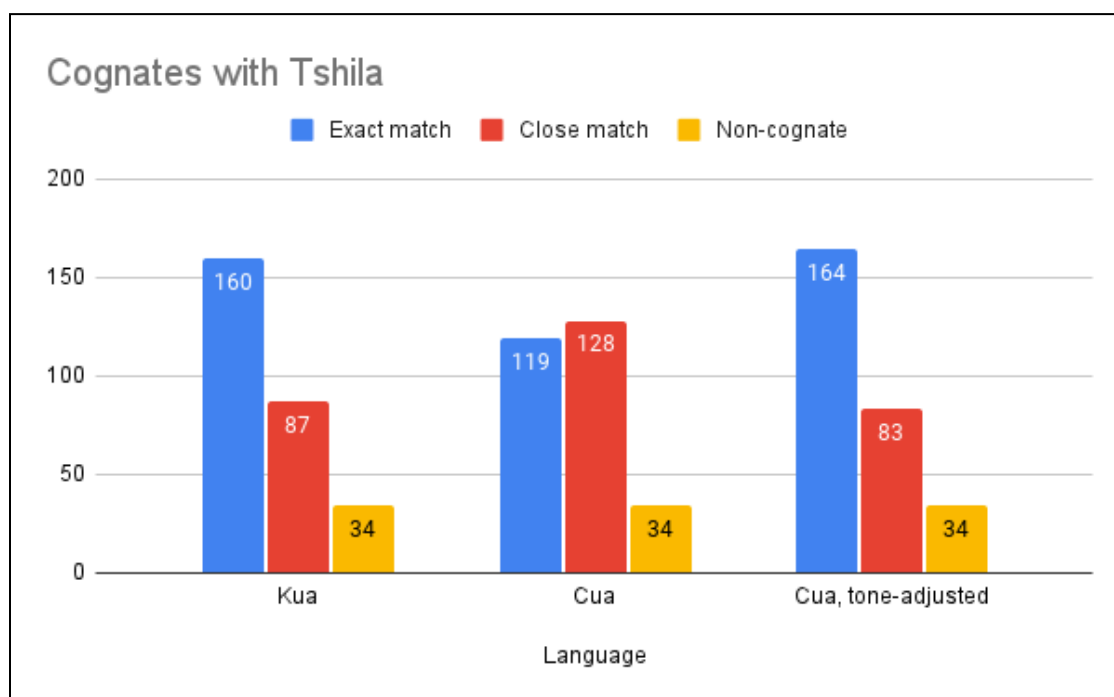


Table 1: 281 Tshila words compared with their counterparts in Kua and Cua (Collins 2023b,a), as well as the recalculated Cua totals following adjustment for tone depression and the reanalyzed LM toneme. Exact matches are identical in tone, segments, and meaning; close matches differ in at least one aspect.

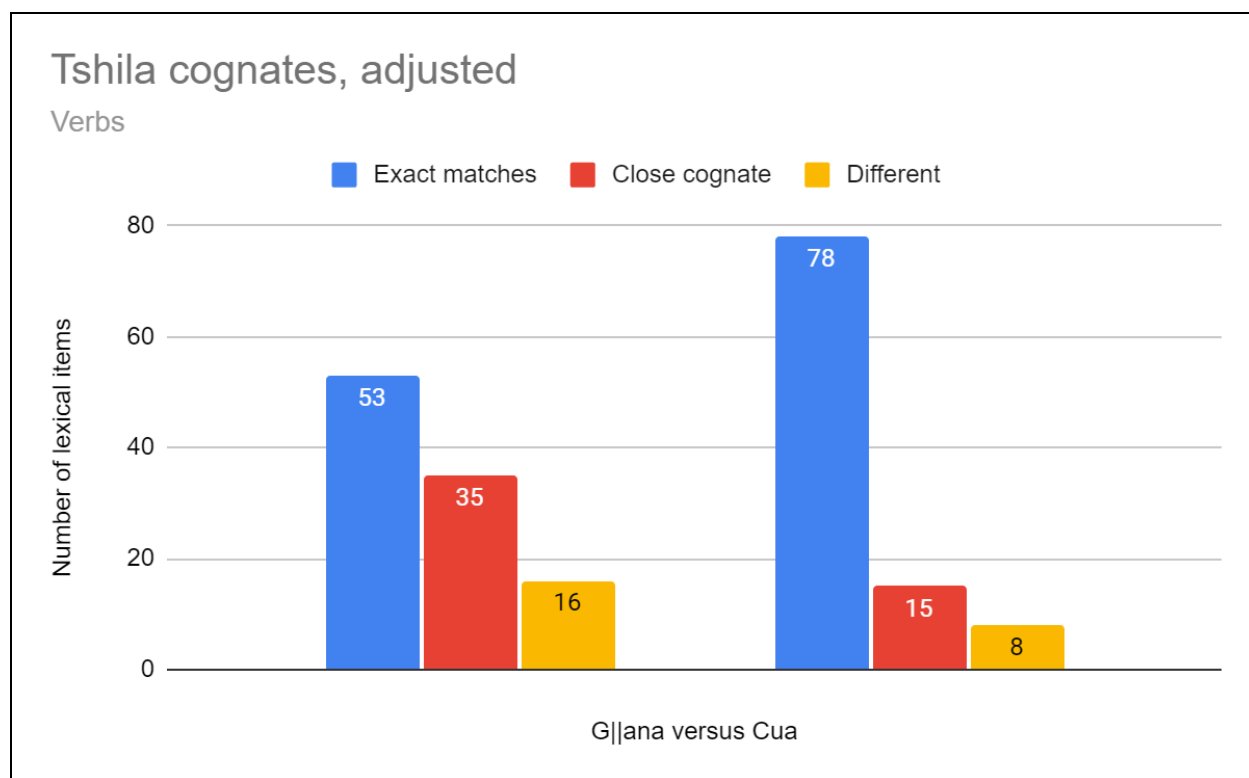


Table 2: 101 Tshila verbs compared with cognates in Kua/Gllana and tone-adjusted cognates in Cua, accounting for tone depression and MH-reanalysis (Collins 2023b,a). Exact matches are identical in tone, segments, and meaning; close matches differ in at least one aspect.

IV. Tshila is closer to Cua than to Gllana/Kua

This paper presents three forms of evidence to posit that the Tshila language spoken in Kaudwane, Botswana is genealogically related more closely to Tshwa-cluster languages than to the Gllana cluster it has been assigned to thus far in the literature (Vossen 1984:21; McGregor 2018:44). This is demonstrated through comparison of ‘submerged features’ (Honken 1977), specifically the pronominal paradigm and question words. A statistical comparison of a 281-word cognate list might initially suggest the opposite – a closer relationship between Tshila and Gllana/Kua. However, after accounting for tone depression as a recent Tshwa innovation arising from contact with Bantu (Mathes & Chebanne 2018:23), and after accounting for a mismatch in labeling the LM/MH tone class, a lexical comparison no longer points to a closer relationship between Gllana/Kua and Tshila. Tshila can be considered an example of a conservative Tshwa variety without click loss and without tone depression.

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