

Tangut and Horpa languages

Some shared morphosyntactic features

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Fieldwork from the past decade has yielded new data from a cluster of languages in Western Sichuan (China), resulting in new observations relevant for the understanding of Tangut grammar. In this paper, I intend to present morphosyntactic evidence pointing to the Tangut language's membership within the Horpa taxon, located within the larger Gyalrongic group of the Qiangic branch of Sino-Tibetan. Tangut exclusively shares with Horpa languages cognates that are far too peculiar to be the result of mere chance. By successively considering the verbal, nominal, and postpositional domains, the present paper highlights evidence that links Tangut to Horpa, while proposing new paths to the understanding of grammatical categories of Tangut proper, such as orientational/aspectual preverbs.¹

Keywords: Tangut, Horpa and West Gyalrongic languages, orientation/TAME preverbs, agreement history, locative cases

1. Introduction

Tangut is a medieval non-Sinitic Sino-Tibetan language which was spoken in the Western Xià empire (1038–1227 AD). Though its syntax has been quite well understood since studies as early as Morisse (1904), the most important contribution to the understanding of its grammar today has been Kepping (1985). Though the main focus of her study is said to be on morphology (she named her work *морфология* ‘morphology’), she made important observations with implications for other aspects of Tangut grammar which are still of value today. How-

1. Except for an ensemble of abbreviations listed in the abbreviations section, the glosses used in the present paper follow the *Leipzig Glossing Rules* (see <https://www.eva.mpg.de/lingua/pdf/Glossing-Rules.pdf>).

ever, numerous features of Tangut have remained quite difficult, if not impossible, to account for through the sole use of documents written in the language.²

Over the two last decades, scholars have made considerable progress in the description of non-written languages spoken in Western Sichuan, which have long been suspected of being close relatives of Tangut. Laufer (1916) already included Tangut in a group also comprising the Mosuo and Lolo languages, and since then, other scholars have used modern languages to improve our understanding of Tangut. For example, Nishida (1973; 1976) highlighted some shared features between Tangut and Duoxu. However, the first systematic comparison of Tangut with Japhug, a language of the Gyalrongic clade, dates only to Jacques (2014).

The Gyalrongic subgroup within Qiangic was first proposed by Sun (2000a; 2000b), who listed five common characteristics shared by the Horpa, core Gyalrong, and Khroskyabs languages: glottal inversion, tonal inversion, ablaut, aspiration polarity, and parallelism between the verbal past and progressive stems. Recently, Sun (2019) provided new evidence supporting the existence of the Horpa subgroup within Gyalrongic, proposing new insights on the history of tonal polarity.³ Lai (2017) and Jacques et al. (2017) gave further evidence, both of lexical and morphological nature (desyllabification of preinitials) that led to the subgrouping of Khroskyabs and Horpa into a shared clade, itself genetically linked to core Gyalrong. At the end of Jacques et al. (2017:611), they mention grammatical cases potentially shared by Horpa languages and Tangut.

Figure 1 gives an overview of the languages mentioned in the present study, along with their classification. I argue here that Tangut and Horpa languages should be placed together in the same clade, either Horpa itself, or a superior clade distinct from Khroskyabs. The classifications proposed by these two hypotheses are presented in Figure 2.

The lexical proximity between Tangut and the Horpa languages is quite apparent if one compares, for example, the lexicon given in Sun (2019) with Tangut.⁴ However, the documentation of the Horpa languages being very recent, with the only complete grammars written by Honkasalo (2019), Tunzhi (2019), and now Gates (2021), it has only now become possible to use Horpa languages to understand Tangut's grammar and genetic relationships more fully.

2. For example, the two different possible values for each series of the orientational system (see § 2.2.6).

3. Several different names have been given for this subgroup. I employ the “Horpa” label first proposed by Sun (2007b).

4. This is a topic to be discussed in detail in a future paper; a preview of this lexical proximity – between Geshiza Horpa and Tangut – can be seen below in Table 8 of the present article.

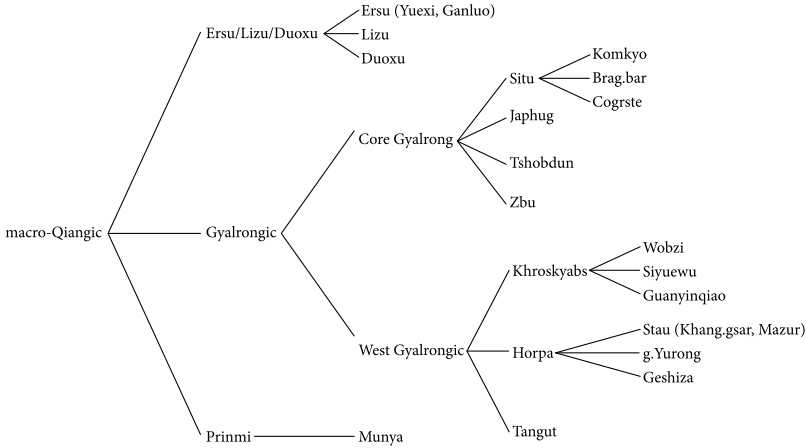


Figure 1. Overview and classification of the languages of the present study

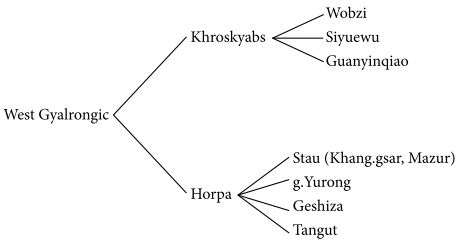


Figure 2a. The genetic position of Tangut: First possibility

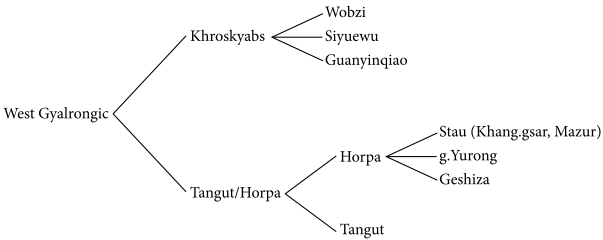


Figure 2b. The genetic position of Tangut: Second possibility

Indeed, all the shared characteristics existing between Tangut and West Gyalrongic, especially Horpa, not only help to establish a link between Tangut and Horpa (the first goal of the present paper), they also justify the (cautious) use of these living languages as a methodological tool for hypotheses regarding Tangut

per se, in order to refine a synchronic account of Tangut grammar (the second goal of the present paper).

This work was conducted independently from Lai et al. (2020), and its scope is different.⁵ First, as stated above, the end goal of the approach used here is two-fold, being as much about Tangut's grammar as its phylogenetic position. Second, the data used focuses on Tangut and Horpa within West Gyalrongic, while also exploring outside Gyalrongic.⁶ It contains fewer examples from non-Horpa West Gyalrongic languages, while incorporating some data from Lizu/Ersu and Munya (Qiangic). The combination of these factors can sometimes lead to different conclusions than what was found in Lai et al. (2020).

The corpus employed is mainly composed of my transcriptions of the 類林 *Djij' bo'* (類林 *Lèilín*, 'Forest of Categories') in the edition of Shi et al. (1993), and the 十二國 *Yá²njí¹ l'jij* (十二國 *Shíèr Guó*, 'The Twelve Kingdoms') in the edition of Solonin (1995). These two texts were translated from Chinese to Tangut, in a way making them closer to the language spoken by the Tanguts (Lin & Ahrens 1992).⁷ For each example extracted from these documents, the translation of the editor precedes my translation. I also conducted searches in the 新集慈孝記下卷 *Sjiw' sío¹ njij² ·wə¹ la¹ mjij² X* (新集慈孝記下卷 *Xīn jí cí xiào jì xià juàn*, 'New Collection on Parental Love and Filial Piety'), edited by Jacques (2007), a document which pertains to the same "oral-like" category. Finally, some analyses used the parts transcribed by Downes (2018) of the autochthonous Tangut Code (also referred to here as legal texts), and the Tangut version of the *Avataṃsaka Sūtra*, with the Japanese translation by Arakawa (2011). The Tangut phonetic recon-

5. Despite the apparent time difference between the two articles, the redaction was contemporaneous. The final, pre-submission version of the present study was achieved and circulated in Europe, China, and Japan as early as December 2020.

6. The first goal is the most innovative one; it is the first time in history that modern languages are close enough to help the synchronic description of Tangut.

7. Kepping was the first scholar to use this kind of texts for grammatical description. The reason for such a choice is well explained in Kepping (1985: 17): "В нашей работе впервые в тангутоведении в качестве материала использованы переводы китайских неканонических сочинений. В отличие от переводов канонических сочинений произведения неканонические, светские, обычно переводились весьма вольно, а то и перелагались без соблюдения текстуальной точности и особенностей оригинала." 'In our work, for the first time in Tangut studies, translations of Chinese non-canonical works were used as source material. Unlike translations of canonical works, non-canonical and secular works were usually translated quite freely, or even shifted without observing the textual accuracy and peculiarities of the original.' Note that this characteristic should make any linguist always depart from the Tangut text in his translations, and consult the Chinese original only as a secondary reference.

struction I follow is the Hwang-Cherng Gong (cf. Gong 2011) system as it appears in Li (2008).

The present study is structured as follows. After undertaking a systematic comparison of the verbal morphology in § 2, I discuss numerals and nominalization § 3, before analyzing locative phrases in § 4.

2. Verb

2.1 The Tangut verbal template

Table 1 presents the structure of the Tangut verb, which is templatic in nature (Bickel & Nichols 2007). Each morpheme in the template is assigned to only one slot, but not all slots need to be filled for each instance of a given verb. Each slot of this template will be subject to a cross-analysis with similar morphemes found in West Gyalrongic languages.

Slot 1 is occupied by two series of orientational preverbs (Type-A/B orientational preverbs), traditionally known (Kepping 1985) to encode the perfective aspect for the first series, and optative mood for the second (a description I shall refine in § 2.2.6).⁸ The orientational value is available only when employed with some verbs, typically motion verbs. Type-B preverbs are derived from Type-A ones by fusion with a former irrealis/interrogative morpheme *-i- (see § 2.2.6).

Slot 2 is filled by negation: general negation 𐰇𐰢 *mji*¹, past/perfective negation 𐰇𐰢𐰢𐰢 *mji*² (NEG.PST), modal negation 𐰇𐰢𐰢𐰢 *mji*¹ (NEG.MOD) and prohibitive 𐰇𐰢𐰢𐰢 *tji*¹. Modals can occupy slot 3: the potential 𐰇𐰢𐰢𐰢 *ts'ji*¹ (POT), the concessive 𐰇𐰢𐰢𐰢 *lji*¹ (CONC), and a morpheme 𐰇𐰢𐰢𐰢 *tsji*¹ whose role remains unclear. Each of these modal preverbs usually collocate with 𐰇𐰢𐰢𐰢 *mji*¹- in negative configurations.⁹ Slot 4, which is the final prefixal position, can be filled with a monosyllabic incorporated noun, which I shall not discuss here. An example illustrating the succession of prefixal morphemes is given in (1):

8. With regard to preverbal positions, the terms “preverb” and “prefix” should be seen as synonyms in the present study. The usage in the practice of Tangut description is to refer to “prefixes”, where the term “preverb” should be favored as these so-called prefixes only occur in preverbal position.

9. There are two facts that indicate that modal morphemes belong to the same slot. First, as stated above in this article, each of these modal preverbs usually collocate with 𐰇𐰢𐰢𐰢 *mji*¹- in negative configurations. Second, two modal morphemes occurring consecutively is unattested. Since the acceptance of this article two years ago, a new interpretation of the modal marker 𐰇𐰢𐰢𐰢 *ts'ji* has been proposed in Beaudouin (2023: §24.2).

- 吃 不 能 食 饭
tʃi¹ rji^{r2}-mji¹-tsʰji¹-tʰji¹
 food DIR-NEG.MOD-POT-eat
 ‘...я не ел пищу.’ (Solonin 1995: 39)
 ‘...I could not eat food.’ (12K, 132.22.05)

Next comes the stem (slot 5), followed by the person agreement suffix (slot 6), which precedes a suffix marking telic aspect (slot 7), traditionally described as a future marker.¹⁰ The next morpheme (slot 8) is a suffix formerly referred to in the literature as perfective, but that will be analyzed here as inferential (IFR, see § 2.3.3). Finally, this suffix can be followed by the progressive 経 *-dijj*² (slot 9). Two examples illustrating suffix ordering are given in (2) – slots 6–8, and (3) – slots 8–9.

- 天將助矣
 $ma^1wu^2nja^2-jij^1-sji^2$
 sky help-2-TEL-IFR
 天將助矣
 (Shi et al. 1993:290)
 ‘Heaven will help you.’
 (*Lèilín*, 06.15B.7)

- 穉絳媛解夔姦蕝胤穉膠縠繭毓逖...
 $we^2 dzju^2 yar^2 = gu^2 \quad ba^2 lu^1 dja^2 - ts^h ju^1 \eta owr^2$
 city lord belly=MEDE insect PFV-EXV whole
 $mji^2 - lji^1 - sjij^1 - sji^2 - djij^2 \dots$
 NEG.PST-CONC-become-IFR-PROG...
 府君胃中有蟲欲成 (Shi et al. 1993: 289)
 ‘There are worms in my commander’s belly. Even if they have not completely
 grown yet...’ (Lèilín, 06.11B.7)

Some morphemes, always occurring after the verb (see § 2.3.4), are analyzed as enclitics, i.e., not part of the verbal template. Note, however, that very little research has been done on word boundaries in Tangut and that this question may be subject to reevaluation in future work. As the affix ordering is quite similar in the two main groups used for comparison (Khroskyabs and Horpa), the analysis

10. Arakawa (2014) mentions examples where a negation follows a verb and is attached to an auxiliary verb, then puts this negation inside the verbal template, after the main verb. I believe these examples can be seen as clues indicating that the auxiliary is independent (i.e., not as a part of the template). Indeed, the auxiliary verbs, even if they are semantically dependent on the verb they modify, behave as verbs from a templatic point of view. In 我还能说 *ts'ji¹ njwi²-ŋa²=j²* (recite can-I=say) 'I can recite' from the *Lèilín* (04.28A.4, 4–7) the auxiliary 还能 bears an agreement suffix, as would any independent verb. The consistent lack of agreement for the main verb, on the other hand, only indicates an infinitive form.

will follow the frame of the verbal template. § 2.2 will focus on prefixal slots, and § 2.3 on suffixal positions (in which I include suffixes as well as enclitics).

2.2 Prefixal slots

2.2.1 Orientational preverbs: An overview

The series of so-called “orientational preverbs” occupies the first position of the template.¹¹ Table 2 lists these preverbs, in parallel to those of Horpa (Geshiza, g.Yurong, and Mazur Stau varieties), Khroskyabs (Guanyinqiao and Wobzi varieties), core Gyalrong (Tshobdun and Japhug varieties), Ersu (Ganluo variety), and Munya.¹²

These preverbs tend to distribute themselves according to subsystems which originate from three major types (Sun 2003), namely, the solar (East, West, North, South), the riverine (upstreams, downstreams), and the vertical (up, down). At first sight, it is worth noting that the preverb system of Munya, a language many researchers have argued to be closely related to Tangut in the past, is the most distant from Tangut.

Building on Arakawa’s (2012) insight that 𐞓𐞐 *dji*²- encodes unspecified orientation, I also analyze 𐞓𐞐 *dja*²- as orientationally unspecified.¹³ As discussed below (§ 2.2.4), the direction for that morpheme is indeed not as straightforward compared to the other orientational prefixes.

2.2.2 The history of dir.0 **rV*-, dir.1 **tV*-, and dir.2 **nV*-

The cognacy for the direction “down” is quite transparent: the prefixes all share the same initial (except for Japhug), and the correspondence Tangut (T.) *a* :: Geshiza (G.) *æ* is widely attested after coronal onsets between the two languages (see Table 7). As for the direction “up”, the configuration is more intricate.

11. The system formed by Tangut’s orientational preverbs has been described in detail by Keping (1985: 176–203, 208–216). The present work is the first to reconsider some of her conclusions.

12. Geshiza Horpa data is from Honkasalo (2019), Mazur Stau Horpa data from Gates (2021), Wobzi Khroskyabs, Guanyinqiao Khroskyabs, and g.Yurong Horpa data from Lai (2017), Tshobdun Gyalrong data from Sun (2007a), Japhug Gyalrong data from Jacques (2021), Kyomkyo Situ data from Prins (2016), Brag-bar Situ data from Zhang (2020), Ganluo Ersu data from Chirkova & Wang (2017), and Munya data from Bai (2019). The place of the Ersu/Lizu/Duoxu cluster (abbreviated Ers/Lz/Dx in Table 2) within Qiangic is to date still questioned, hence the precedence of “macro” when I include data from one of these languages.

13. 𐞓𐞐 *dji*²- is an autobenefactive derivation of 𐞓𐞐 *dja*²- seen with a reduced subset of verbs. In the present study, 𐞓𐞐 *dja*²- and 𐞓𐞐 *dji*²- should be understood as two manifestations of the same category.

Table 2. Orientational preverbs in macro-Qiangic (cognacy marked in red/blue, semantic oppositions marked with column separators)

	dir.0	dir.1: up	INTRG	dir.2: down	dir.3	dir.4	dir.5	dir.6	dir.7
Tangut	ri ¹ 2-	·a-	← ·a-	n'a ¹ -	k'i ¹ - (inw.)			·w'i ¹ 2- (outw.)	di ¹ a ² - (pfv)
Geshiza	(rə-) =	rə-	æ-	nə-	gæ- (upstr.)			wə- (downstr.)	dæ- (pfv)
g.Yurong		ə-	← ə-	nə-	gə- (N)			yə- (S)	də- (pfv)
Mazur Stau	(rə-) =	rə-	æ-	nə-	kə- (NW)			yə- (SE)	tə- (pfv)
Guany.	rə	a-	← a-	na-	ka- (upstr.)	nə- (downstr.)	la- (h. alt.)	və- (l. alt.)	
Wobzi	rə-	æ-	← æ-	nə-	kə- (upstr.)	nə- (downstr.)	lə- (h. alt.)	və- (l. alt.)	
Tshobdun		tə-		mə-	kə- (E)	nə- (W)	lə- (upstr.)	tʰə- (downstr.)	←
Japhug		ty-		pu-	kɣ- (E)	nu- (W)	hɣ- (upstr.)	tʰu- (downstr.)	←
Kyomkyo	ro- (rə-)	to-		na-	kə- (upstr.)	nə- (downstr.)			
(Situ)	Brag-bar	rə- =	rə-	na-	wo- (upstr.)	nə- (downstr.)			
Ers/Lz/Dx	Ganluo Ers.	də-		nə-	kʰə- (inw.)	ni- (obl.down)	dzi- (obl.up)	ŋə- (outw.)	tʰə- (pfv)
					kʰwa- (N, upstr.)			ŋwa- (S, downstr.)	
Prinmi	Munya	ro-		no-	ɣɣ- (upstr., inw., E)			ɛ- (downstr, outw., W)	
		tə-			kʰu- (unspec.)			ngu- (cisl.)	tʰo- (transl.)

Geshiza, Gyalrong, and other macro-Qiangic languages display an apparent discrepancy, with a coronal onset not found in other West Gyalrongic languages (i.e., Tangut, g.Yurong, and Khroskyabs languages). I believe Tangut's unspecified preverb 𐰇𐰏 *rjir*², Geshiza *rə-*, and Mazur Stau *rə-* to be cognates. Below is the hypothesis I propose to explain the distribution.¹⁴

1. The archaic form in macro-Qiangic for 'vertically up' was **tV-*. This form still exists in Munya, Tshobdun, Japhug, and Kyomkyo (it is voiced in Ersu). It coexisted in the system with another preverb **rV-*, present in Situ languages ('towards the mountain'), Tangut and Khroskyabs languages (unspecified direction), and Munya ('in a circle', now unproductive).¹⁵
2. The initial consonant of **tV-* lenited into **rV-*. The correspondence Gyalrong *t-* :: Khroskyabs *r-* :: Horpa *r-* is actually attested.¹⁶ If we look for other cognates in the languages listed in Table 2, another example can be found with the numeral 'one', with Japhug *try* :: Wobzi *ray* :: Geshiza *rəu* (Tangut *lew*¹).¹⁷ From a diachronic point of view, an intervocalic **t- > r-* change (with a probable flap stage **r-*) is documented in core Gyalrong Brag-bar Situ (Zhang 2020: 38, 462–464), even if the precise conditions of the sound change are still under investigation.

14. What follows in this sub-subsection does not try to provide exhaustive evidence, but only a scenario constructed by abduction. Another explanation has also been proposed since in Beaudouin (2023: §23.9.2).

15. The more conservative orientation system of Cogrtse Situ also presents the opposition found in Kyomkyo between *ro-* 'towards the mountain' and *rə-* 'towards the river'. This second orientation seems to be unrelated to all the other languages of Table 2, which specify an upward-like direction for dir.0 **rV-*. As Tangut's dir.0 remains unspecified (not allowing the exclusion of any of the potential cognates), I indicate in Table 2 this downward-like value between parentheses, even if it is unlikely that it is cognate with Tangut's dir.0. Bragbar Situ is representative of the stage when its ancestor departed from proto-Situ (which illustrated by Komkyo and Cogrtse), by loosing this second preverb. The original pair's surviving prefix was inherited by West Gyalrongic languages, together with its acquired homonymy with dir.1.

16. As mentioned by an anonymous reviewer, the change one can infer from this correspondence is problematic, as indeed the syllable onset position cross-linguistically favors fortition rather than lenition. However, very few sentences begin directly with a preverb, whose initial can therefore often be in an intervocalic position. In any event, this does not invalidate the correspondence itself, which I leave unexplained for now until future fieldwork yields more data.

17. The labio-velar found in Tangut and Geshiza is a shared innovation, from a former **-y*. The former coda still exists in other Horpa languages (see Sun 2019).

Table 3. Lateral and approximant onsets correspondences between Tangut and Geshiza Horpa

T. :: G.	Tangut	Geshiza	Meaning
r- ʀ- :: r-	r ¹ ar ¹	ræ	‘to write’
	r ² ar ²	ræ	‘turnip’
	r ¹ ijr ¹	rji	‘horse’
ʃ- ʀ- (< rj- ʀ-) :: rj-	ʃ ² ir ²	rjə	‘hundred’
	ʃ ¹ ar ¹	rje	‘eight’
	ʃ ¹ ər ¹ / ʃ ² ər ²	rjæ	‘to ask’
	wor ¹ ʃar ²	wərja	‘chicken’
ʃ- :: j-	ʃ ²	jə	‘to say’
	ʃ ² ij ²	ji/jæ	‘sheep’

3. The phonetic and semantic proximity in Geshiza and Mazur Stau between *rV- ‘dir.0’ and the lenited rə- (‘up’) resulted in a unique unanalysable rə- which still presents characteristics of the “dir.0” encoded in Situ. Indeed, in Geshiza rə- means ‘away from the river’, i.e., the same meaning as ‘towards the mountain’ in the configuration of a valley. Actually, that exact change happened also in Brag-bar Situ. The only difference is that comparison allows for analyzing two different rə- in Brag-bar Situ, while there is no comparative data available for Geshiza and Mazur Stau.
4. A reanalysis happened in Tangut, g.Yurong, and the Khroskyabs languages between two morphemes occupying the same slot of the template: the interrogative and the direction ‘up’. In Tangut, only one character 𐰚 exists for the two morphemes (i.e., the interrogative and the orientational) encoded by the preverbal syllable .a. The reanalysis may come from the fact that *rV- continued to lenite until the proximity between the interrogative and the orientational became too close in the speakers’ minds. Inside West Gyalrongic, a potential former lateral can be found in the optative counterpart la- of Jorogs Khroskyabs o- ‘upwards’, which is evidence supporting this interpretation. In any case, the T. .a- :: G. rə- correspondence is problematic, as the Geshiza initial should be reflected as a rhotacisation in Tangut (see Table 3), but is reflected neither in Type-A preverb 𐰚 .a nor in Type-B preverb 𐰚 𐰚 .jij¹.

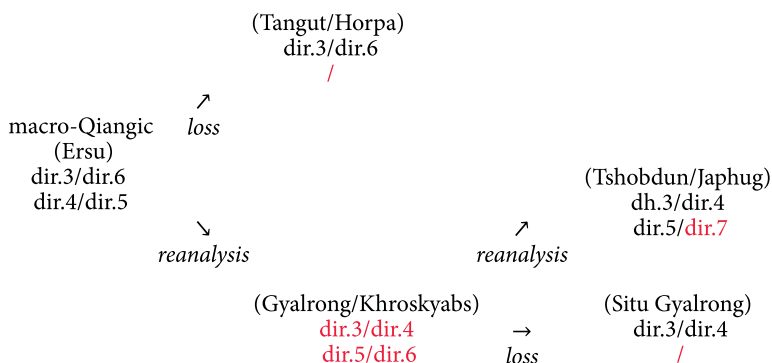


Figure 3. Reanalysis and losses of the macro-Qiangic preverbs system (dir.3 to 6)

2.2.3 Dir.3 to dir.6: A semantic and systemic analysis

2.2.3.1 Innovations by loss and reanalysis

The directions 3, 4, 5, and 6 underwent semantic shift due to considerations proper to each language and speakers' geographical position. Thus “direction 3”, which encodes the centripetal in Tangut (“inwards”), refers to the North in Khang.gsar Horpa, the East in Tshobdun Gyalrong, and an upstream direction in Guanyinqiao Khroskyabs. We can nonetheless establish a common origin not only because the preverbs for that particular slot display semantic and sound correspondences but also parallel oppositions with their counterpart. For example, while *ka-* means ‘upstream’ in Guanyinqiao Khroskyabs and *kə-* ‘East’ in Gyalrong, their counterparts (*nə-* for both languages) mean ‘downstream’ in Khroskyabs and ‘West’ in Tshobdun Gyalrong. Considering these “grouped switches”, cognacy can be induced for directions 3 and 6. The only breaks are an autonomous “downstream” preverb in core Gyalrong (Tshobdun *tʰv-* Japhug *tʰu-*), and incomplete parallelism for dir.3 and dir.6 in Khroskyabs languages (e.g., Wobzi *kə-* ‘upstream’ vs. *və-* ‘low altitude’). The reanalysis hypothesis presented in Figure 3 explains all these discrepancies.

One of the most interesting points in the distribution relates to directions 4 and 5 (“downstream” and “high altitude” in Khroskyabs). The loss of dir. 4 and dir. 5 in both Tangut and Horpa languages could be analyzed as a shared innovation. This loss is probably synchronic to a readjustment which happened in Khroskyabs and Gyalrong, of the former antinomy between dir. 3 and 6 (whose meaning is not so far from that of dir. 4).¹⁸

18. Note the perceptual compatibility between the labels “oblique down” & “oblique up” of Ganluo Ersu, and “downstream” in Khroskyabs languages & “upstream” in Gyalrong languages.

An alternative analysis is that the emergence of dir. 4 and 5 is an innovation shared exclusively by Ersu, core Gyalrong, and Khroskyabs. Still, this view is problematic as Ersu is not known as a Gyalrongic language whereas Horpa, Khroskyabs, and core Gyalrong are known as Gyalrongic languages. The same pattern of innovation by loss can be seen in Situ for dir.5 and dir.6. This loss is probably the conclusion of a reanalysis cycle where the two first oppositions dir.3/ dir.6 (common to Tangut, Horpa languages, Ersu, and Munya) and dir.4/dir.5 were replaced by the oppositions dir.3/ dir.4 and dir.5/ dir.6 (seen in Khroskyabs languages and Gyalrong languages). While Tangut and Horpa did not reanalyze the configuration of these four directions due to loss of dir.4 and dir.5 preverbs, Situ lost dir.5 and dir.6 after the completion of the cycle, while Tshobdun and Japhug's dir.6 was filled through reanalysis by a cognate of the Ganluo Ersu preverb *t^hε-* (dir. 7), which was originally a translocative.¹⁹

2.2.3.2 *The semantic diversification of the dir.3/dir.6 pair*

The pair formed by dir.3 and dir.6 preverbs (𐰚𐰆 *wji*² 'outwards' vs. 𐰚𐰏 *kji*¹ 'inwards' in Tangut) is well attested in languages of the macro-group constituted by languages of the West Gyalrongic and Ersu taxons. However, the semantics attached to these preverbs display variation, and only Ganluo Ersu has a pair of preverbs, which establish a one-to-one semantic correspondence with Tangut. The explanation for such diversity could be provided by that language, which shows two sets of preverbs (*k^hε-* 'inwards' vs. *ηε-* 'outwards' and *k^hwa-* 'North, upstream' vs. *ηwa-* 'South, downstream') phonetically close enough to have merged into a unique category. Interestingly, all the meanings resulting from the union of these two preverbs' respective meanings can be found in related West Gyalrongic languages. This fact allows one to map in Figure 4 an illustration of that semantic shift path.

The correspondence Khroskyabs/Gyalrong *l-* :: Ersu *dz-* is not straightforward, even if it is systematically suggested by the distribution of the prefixes. There are examples of *dz-* :: *l-* correspondences between Duoxu, Ersu, and Lizu, but in the other direction (Ersu has the lateral); e.g., for 'head', Duoxu *wu*⁵³*dzu*³² :: Ersu *ɣlɪ* :: Lizu *^{LP}wuli*. However, at the same time, the orientational preverb *dzi-* of Ganluo Ersu seems to be cognate to Duoxu's orientational preverb *dzi-*, which would indicate a permeability between the two sounds *l-* and *dz-* in the cluster of languages. The possibility of palatalization is not so odd, knowing that orientational preverbs do not begin an utterance, which makes the sound change – if it took place – correspond to the pattern of Duoxu *wu*⁵³*dzu*³².

19. The existence of a least one cognate in Ersu makes an innovation proper to Khroskyabs and Gyalrong unlikely. Note the regularity of the correspondences if one compares dir.7 (reanalyzed into dir.6 in Japhug and Tshobdun) with dir.2 'down': Tangut *nja*¹ / *dja*²; Geshiza *næ-* / *dæ-*; g.Yurong *nə-* / *də-*; Tshobdun *nɐ-* / *t^hɐ-*; Ganluo *nɛ-* / *t^hɛ-*; Munya *no-* / *t^ho-*.

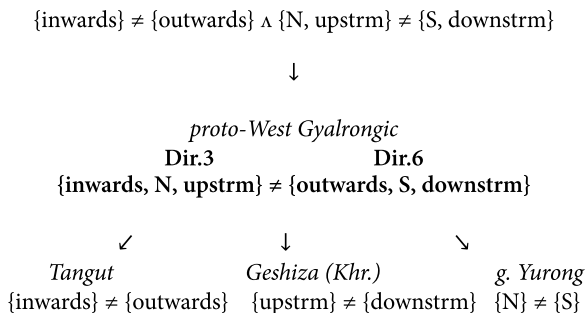


Figure 4. Emergence (by reunion and redistribution) of dir.3 and dir.6 preverbs in Tangut, Geshiza Horpa and g.Yurong Horpa

2.2.4 Dir.7: Tangut 𑖇𑖅 *dja*²- as a perfective marker

The loss of dir.4 & dir.5 is not the only orientational preverb feature shared by Horpa and Tangut: the undefined orientational prefixes Geshiza *dæ-*, g.Yurong *də-*, and Stau *tə-* can also reasonably be assessed to be cognate to 𑖇𑖅 *dja*²- which, as said before, does not clearly encode direction. Indeed, as I shall demonstrate now, there are some problems with an orientational interpretation of the preverb 𑖇𑖅 *dja*²-.

2.2.4.1 The semantic inadequacy of the orientational/modal interpretations
 The first problem with an orientational interpretation lies in the distribution of the verbs occurring together with 𑖇𑖅 *dja*²-. In Table 4, the multiplicity of semantic features attached to the verbs cooccurring with 𑖇𑖅 *dja*²-, which do not consistently encode a distancing from the agent, tends to seriously invalidate the orientational interpretation. The second group's verbs are more indicative of mood, similar to the Mandarin Chinese resultative 掉 *diào*, which indicates loss and disappearance (a view also formerly expressed in Kepping 1985 and retained in Lai et al. 2020). Nevertheless, that interpretation overlooks the other verbs Kepping had in mind when proposing an orientational interpretation, plus some others which only indicate a change of state (纓 *·we*² 'to become', 𑖇𑖅 *ɣwər*² 'to heal, recover').

The label “perfective” is, in fact, the best choice for 𑖇𑖅 *dja*²- because it covers the semantic range of this preverb (i.e., a true change of state, including disappearance and distancing from the agent, depending on the verb).

2.2.4.2 The systemic inadequacy of the orientational/modal interpretations
 The orientational interpretation is also invalidated by facts from the system formed by 𑖇𑖅 *dja*²- and its Type-B counterpart 𑖇𑖅 *dji*²-. If Type-B orientational preverbs usually appear in uses similar to their Type-A counterpart, equilibrium

breaks with 𪛗 *dja*²- and 𪛗 *dji*²-.²⁰ Table 5 shows that of the 24 verbs associated with 𪛗 *dji*²- in *Lèilín*, most also occur with 𪛗 *dja*²-, but others are associated with another Type-A orientational preverb. 𪛗 *dji*²- is the only Type-B preverb analyzable as a counterpart of such a range of different Type-A preverbs, some of them with completely opposing meanings.

Table 4. 27 most frequent verbs occurring with 𪛗 *dja*²- in *Lèilín*

Verb	Meaning	
𪛗 <i>jir</i> ¹	'to ask'	
𪛗 <i>ta</i> ¹	'to flee'	
𪛗 <i>p^hji</i> ²	'to throw'	
𪛗 <i>k^hjow</i> ¹	'to give'	orientational meaning?
𪛗 <i>rji</i> ²	'to leave, to go'	
𪛗 <i>wji</i> ²	'to send, unleash'	
𪛗 <i>wja</i> ²	'to send, unleash'	
𪛗 <i>tji</i> ¹	'to put'	
𪛗 <i>sja</i> ¹	'to kill'	
𪛗 <i>k^hjwi</i> ¹	'to cut'	modal meaning?
𪛗 / 𪛗 <i>sji</i> ²	'to die ₂ '	
𪛗 <i>ljwi</i> ¹	'to die' (honorific)	
𪛗 <i>ljij</i> ²	'to destroy'	
𪛗 <i>jijr</i> ²	'to execute'	
𪛗 <i>bej</i> ¹	'to be defeated'	
𪛗 <i>zar</i> ²	'be ashamed'	
𪛗 <i>lia</i> ²	'to be drunk'	
𪛗 <i>ljij</i> ¹	'to change' (transitive)	
𪛗 <i>lej</i> ²	'to change' (intransitive)	aspectual meaning?
𪛗 <i>ɣewr</i> ¹	'be disordered'	
𪛗 <i>we</i> ²	'to become'	
𪛗 <i>dzjwa</i> ¹	'to finish' (intransitive)	
𪛗 <i>ɣwər</i> ²	'to heal, recover'	
𪛗 <i>o</i> ¹	EX.V.on	
𪛗 <i>t^hju</i> ¹	'to have'	
𪛗 𪛗 <i>njiij¹.ljij²</i>	'to feel happy'	

20. The only exception to that equilibrium being the verb 𪛗 *ljwi*² 'sink', which correlates in my corpora with the Type-A centripetal and with the Type-B preverb marking vertical downward direction.

Table 5. Verbs associated with 𠵹 *dji*²- in *Lèilín* (with their Type-A counterpart in parentheses)

𠵹 <i>ljij</i> ¹	to change	𠵹 <i>śju</i> ¹	to be damaged, destroyed (<i>dja</i> ²)
𠵹 <i>rjir</i> ¹ , 𠵹 <i>rjor</i> ²	get (-a)	𠵹 <i>sjj</i> ¹	die ₁ (<i>dja</i> ²)
𠵹 <i>rej</i> ²	be many	𠵹 <i>dq</i> ²	know (<i>dja</i> ²)
𠵹 <i>ju</i> ²	to find (<i>nja</i> ¹ , <i>rjir</i> ²)	𠵹 <i>śjij</i> ¹	to become (<i>dja</i> ²)
𠵹 <i>sej</i> ¹	be calm, clean	𠵹 <i>džijij</i> ¹	to live, be somewhere (<i>dja</i> ²)
𠵹 <i>wę</i> ¹	be mediocre	𠵹 <i>wəə</i> ¹	to defeat (<i>dja</i> ²)
𠵹 <i>lju</i> ²	to put, install (<i>nja</i> ¹)	𠵹 <i>wę</i> ²	be defeated (<i>dja</i> ²)
𠵹 <i>sjwij</i> ¹	be evident	𠵹 <i>bej</i> ¹	be vanquished (<i>dja</i> ²)
𠵹 <i>sjiw</i> ¹	be new	𠵹 <i>o</i> ¹	EX.V.ON (-a, <i>kji</i> ¹ , <i>dja</i> ²)
𠵹 <i>njwi</i> ²	be able, capable (-a)	𠵹 <i>tji</i> ¹	to put, place on (<i>nja</i> ¹ , <i>dja</i> ² , <i>rjir</i> ²)
𠵹 <i>ji</i> ²	to say (<i>kji</i> ¹ , <i>rjir</i> ²)	𠵹 <i>sja</i> ¹	to kill (<i>dja</i> ²)
𠵹 <i>ηwu</i> ¹	to declare	𠵹 <i>lhjwi</i> ¹	to take, catch (<i>dji</i> ²)

As a matter of fact, this contrast is already observable with the preverb 𠵹 *dja*²-, which is replaced by a preverb with clearly orientational semantics when this is required by the context. In Table 6, adapted from Table 4, I put all the verbs occurring only with 𠵹 *dja*²- or its optative counterpart 𠵹 *dji*²- at the top, and all the verbs occurring not only with 𠵹 *dja*²-, but also with other orientational prefixes at the bottom. Sometimes mismatches are only present with Type-B preverbs.²¹ As this situation only occurs in legal texts, I indicate the occurrences of these unexpected Type-B preverbs without taking them into account for now. Finally, some texts only present one occurrence of the verb, with a preverb not being 𠵹 *dja*²-, an occurrence which is boldfaced. The verbs below the dashed line are verbs for which an orientational analysis could work but is not attested with genuine orientational preverbs.

Most of the top category’s verbs do not collocate with the semantics of direction, in contrast to verbs at the bottom, whose semantics are compatible with the semantics of direction and orientation. Those directions are most of the time logical: 𠵹 *tji*¹ ‘to put’ can often (four occurrences) be seen together with 𠵹 *nja*¹, ‘downwards’, as in Example (4):

21. I indicate occurrences with a slash “/” and leave the cell blank when the verb does not appear in the document or when I did not find prefixed occurrences.

Table 6. Compatibility with other preverbs of *Lèilín*'s 27 most frequent verbs occurring with 𐰇𐰺𐰍 *dja*²-

Verb	Meaning	<i>Lèilín</i>	12K	Cxj	<i>Avnɿsk</i>	Tangut Code (1261–1376)
𐰇𐰺𐰍 <i>sja</i> ¹	'to kill'	/	/	/		/ (kɿjɿ ¹ , 3)
𐰇𐰺𐰍 <i>kɿwi</i> ¹	'to cut'	/	/			(wɿjɿ ² , 5)
𐰇𐰺𐰍 / 𐰇𐰺𐰍 <i>sji</i> ²	'to die ₃ '	/	/	/		/
𐰇𐰺𐰍 <i>ɿwi</i> ¹	'to die' (honorific)	/	/	/		
𐰇𐰺𐰍 <i>ɿji</i> ²	'to destroy'	/	/			
𐰇𐰺𐰍 <i>bɿj</i> ¹	'to be defeated'	/	/			
𐰇𐰺𐰍 <i>lia</i> ²	'to be drunk'	/	/	/		
𐰇𐰺𐰍 <i>zar</i> ²	'be ashamed'	/	/			
𐰇𐰺𐰍 <i>nɿji</i> ¹ <i>ɿji</i> ²	'to feel happy'	/	/			
𐰇𐰺𐰍 <i>ɿewr</i> ¹	'to be altered, troubled'	/	/			
𐰇𐰺𐰍 <i>dɿjwa</i> ¹	'to finish' (intransitive)	/	/			
𐰇𐰺𐰍 <i>ɿji</i> ¹	'to change' (transitive)	/	/			/
𐰇𐰺𐰍 <i>ɿj</i> ²	'to change' (intransitive)	/	/			
𐰇𐰺𐰍 <i>we</i> ²	'to become'	/	/	/	/	/
𐰇𐰺𐰍 <i>ɿwar</i> ²	'to heal'	/	/	/		
𐰇𐰺𐰍 <i>o</i> ¹	EXX.on	/				/ (kɿjɿ ¹ , 3)
𐰇𐰺𐰍 <i>ɿjɿ</i> ¹	'to ask'	/	/			/
𐰇𐰺𐰍 <i>ta</i> ¹	'to flee'	/	/	/		
𐰇𐰺𐰍 <i>pɿji</i> ²	'to throw'	/	/	wɿjɿ ² (1)		/
𐰇𐰺𐰍 <i>kɿjow</i> ¹	'to give'	/	/	ɿjɿɿ ² (1)		/
𐰇𐰺𐰍 <i>ɿjɿ</i> ²	'to leave, to go'	.wɿjɿ ² (3), kɿjɿ ¹ (1)	/	/	/	
𐰇𐰺𐰍 <i>wɿji</i> ²	'to send, unleash'	/	ɿjɿɿ ² (4)		ɿjɿɿ ² (1)	
𐰇𐰺𐰍 <i>wɿjɿ</i> ²	'to send, unleash'	ɿjɿɿ ² (1)	/	/		
𐰇𐰺𐰍 <i>ɿj</i> ¹	'to put'	nɿa ¹ (4), ɿjɿɿ ² (2)	ɿjɿɿ ² (1)	ɿjɿɿ ² (1)		/ (kɿjɿ ¹ , 4, ɿjɿɿ ² , 1)
𐰇𐰺𐰍 <i>ɿɿju</i> ¹	'to have'	nɿa ¹ (1)	nɿa ¹ (1)			
𐰇𐰺𐰍 <i>ɿjɿ</i> ²	'to execute'	.wɿjɿ ² (1)	.wɿjɿ ² (1)			

- (6) 纛纛纛纛纛纛纛纛纛纛纛纛纛
 $sji^1 \quad rjur^1 = k^1 a^1$ $lhji^2 kj\dot{a}^2 = wji^1 - djij^2 = tja^1$ $bju^1 \quad thji^1$
 now world=INTERE mourning.song=LV:do[A]-PROG=TOP reason Tian
 $xiwaj^1 = ya^2 \cdot wji^2 - rjir^2$
 heng=LOC PFV:OUT-go.out
 今之輓歌起此 (Shi et al. 1993: 314)
 ‘The reason by which today in the world one is singing that mourning song
 comes/dates from Tian Heng.’ (Lèilín, 09.08.A.2)
- (7) 鞞鞞鞞鞞鞞鞞鞞鞞鞞鞞鞞鞞
 $kow^1 - ts\grave{a}^1 xjwi^1 = d\acute{z}ji \cdot wji^1 \cdot ji^1$ $kow^1 = jii^1$ $\cdot wji^2 - jijr^2$
 Gongzi Hui=ERG Yin Gong=ANTIERG PFV:OUT-execute
 ‘Принц Хуй убил Инь-гуна.’ (Solonin 1995: 47)
 ‘The prince Hui executed Yin Gong.’ (12K, 132.58.07)

Finally, there are cases of verbs taking the preverb 𐏃 *rjir*²⁻. These cases are more challenging to interpret, as 𐏃 *rjir*²⁻ is known in the literature for not encoding any particular direction. Beaudouin (2018) formerly noted that the prefix distribution in *Leilin* shows that the verbs associated with 𐏃 *rjir*²⁻ are always dynamic and qualified it as marking ‘unspecified direction.’ This analysis is accurate here, as (8) and (9) show. As the subject of the verb seems to be always at a distant position from the place of the verb’s action in these sentences, one also could conjecture that the preverb 𐏃 *rjir*²⁻, when appearing together with a verb usually collocating with 𐏃 *dja*²⁻, encodes the notion of being distant from the subject/agent of the verb.²⁴ This conjecture, however, needs to be tested on a larger number of sentences.

- (8) 席廐設牝羝彘羖毳毼苑𪛗𪛗設牝緡玃𪛗𪛗
*nji*² *ɲwə*¹ *lu*¹ *gur*¹ *rjir*²-*wji*¹ *kiew*²=*rjar*¹ *twu*¹ *rjir*²-*tji*¹ *lu*¹ *gur*¹ *mji*¹=*kʰju*¹
King five rock.ox DIR-do[A] march=range place DIR-put rock.ox tail=SUBE
*kie*¹ *rjir*²-*tji*¹=*wji*¹
gold DIR-put=LV:do[A]
秦王作五石牛，置於界首，遺金於石牛後 (Shi et al. 1993: 316)
‘The king of Qin made five oxen with rocks and put them in a place within the
marches; then he put gold behind the tails of the oxen.’ (*Lèilín*, 09.13.B.3)

24. That characteristic is present in (8). In (9), Bu Shi has left his farm after giving it to his brother to raise goats in the mountain. He is then far from his brother at the time of the transfer.

- separate lot-times **DIR-give[A]**
 弟盡破其產，式輒複分與弟者數矣 (Hàn shū, vol. 56)
 ‘Son frère avait quant à lui perdu tout ce qu’il avait obtenu et était devenu
 pauvre. (Bu Shi) lui donna des biens à plusieurs reprises.’ (Jacques 2007: 52–53)
 ‘When his brother lost everything he had earned before and became poor, he
 (Bu Shi) gave parts of his goods away to him several times.’ (C*xj*, 4–17)

2.2.4.3 Comparative evidence for the perfective analysis

In Geshiza Horpa, the only function of the preverb *dæ-* is to encode perfective aspect without any orientational implication. This preverb corresponds to Tangut 𐰇𐰏 *dja*² in many respects:

1. First, phonologically speaking, the correspondence G. *-æ* :: T. *-a*, already found for the plain vowel (INTRG, 'one': G. *æ* :: T. *a*) is attested in other cognates with coronal initials, as seen in Table 7.²⁵

Table 7. Examples of Geshiza -æ :: Tangut -a correspondences with coronal onsets

Meaning	‘road’	PFV	‘to kill’	‘to release’	‘to write’	PFV:DOWN
Tangut	tʃa ¹	dʒa ² -	sʰa ¹	lʒa ²	rʰar ¹	nʒa ¹ -
Geshiza	tɕæ	dæ-	sʰæ	læ	ræ	næ-

2. Second, as for the verbs collocating with Tangut 𐰇𐰏𐰤 *dja*², Geshiza Horpa *dæ*- can collocate with verbs compatible with other preverbs when those verbs have an orientational meaning. Compare (10) and (11).

- (10) Geshiza Horpa
gadə gadəyi brəŋgu dæ-əhoŋ
 morning early.morning TOPON PFV-go.PST.1
 ‘I went (downriver) to Danba County Town early in the morning.’
 (Honkasalo 2019: 546)

- (11) Geshiza Horpa
gadə gadəyi brəngu wə-əhoŋ
 morning early.morning TOPON PFV.DIR-go.PST.1
 ‘I went (downriver) to Danba County Town early morning.’
 (Honkasalo 2019: 546)

25. For “one”, the particular usages also coincide (see § 3.1).

3. Third, the verbs occurring together with the preverb are similar in both languages, and they have the same distribution on the whole. Table 8 lists the 27 Geshiza verbs most frequently seen with the perfective preverb *dæ-* in Honkasalo (2019). Apart from the presence in the last row of verbs denoting semantic assimilation to the agent ('to eat', 'to drink') or pure action ('to do', 'to build'), the three categories depicted in Table 4 above can be found. The first group is potentially orientational in nature, the second group is related to mood ('loss'), and the third group expresses a simple change in state due to the preverb's perfective nature. As for Tangut, only a generic perfective analysis can encompass such a wide range of usages.

Ten verbs in my comparative data take the generic perfective in both Tangut and Geshiza. A cognate not preceded by 𐰇𐰏 *dja*² (Tangut verbs of the second column) does not imply that the association is impossible. It is possible that we simply do not have enough texts to ascertain it for the time being. Finally, some verbs for which I did not find any cognate in Tangut still have perfect synonyms in Table 4 (e.g., 'to finish', 'to become').

Beaudouin (2018) has also formerly proposed that 𐰇𐰏 *dja*² is a mood marker. However, it is not surprising that any irreversible change (the perfective aspect), associated with specific verbs already denoting loss, could be seen as a loss. Indeed, due to the semantics of the verb, should one use that former explanation to treat examples in (12) from Geshiza (Honkasalo 2019: 545), *dæ-* could also be seen as a prefix denoting mood, which is not the case:

- (12) a. *rjəu=ke=nɔ* *dæ-bædzo-s^{hi}*
 wife=DAT=TOP.C PFV-divorce.3-IFR
 'He got divorced from his wife.'
- b. <*taʃsɛ*>-*væ=dze æ-γi* *dæ-sæ-s^{hi}*
 TOPON-NAT=TOP one-CLF.person PFV-die.PST.3-IFR
 'A person from Dazhai village had died.'

Among the orientational prefixes of Ganluo Ersu, apart from the similarity in meaning for the inwards/outwards pair (T. 𐰇𐰏 *kji*¹ 'inwards' :: Ganluo Ersu *khe*- 'inwards'; T. 𐰇𐰏 *wji*² 'outwards' :: Ganluo Ersu *ɲɛ*- 'outwards'), one can observe the existence of a prefix specialized in the encoding of perfective aspect *t^hɛ-*, which collocates with verbs similar to those just described above ((13), where *-ǎ* indicates a new situation—NSIT).²⁶ This cognate preverb (see Table 2) enforces the

26. Chirkova & Wang (2017:6–7) write: 前綴 9 (*t^hɛ-*) 有專有構成完整體的功能，詞彙意義虛化，主要與終止型動詞 (telic verbs) (瞬成動詞和達成動詞) 相搭配，如 *t^hɛ-só* '死'、*t^hɛ-bzɛ* '敗'、*t^hɛ-tó* '折斷、斷掉'、*t^hɛ-mé* '忘記'、*t^hɛ-tʃhá* '康復'、*t^hɛ-lí* '融化'。The ninth prefix (*t^hɛ-*) has a function specifically encoding the perfective aspect. Its lexical meaning is null

view expressed above. However, note that the translocative interpretation is not wrong from a diachronic point of view, as the cognate preverb *tʰo-*, in Munya, is a genuine translocative. The former analysis of Tangut 𐰚𐰆 *dja*²- as a translocative is then consistent with the fact that the general perfective found in Tangut, Horpa languages, and Ganluo Ersu probably *originated* from a translocative.

(13) Ganluo Ersu

tʰé zámá dz̥z̥ tʰé-dz̥=ǎ
 3SG food eat PFV-finish=NSIT
 ‘He finished eating the food.’

(Chirkova & Wang 2017: 364)

Orientational preverbs in Geshiza are more similar to Tangut orientational preverbs than any other orientational preverb system in documented languages of the area. Geshiza’s system displays the same phenomenon of the addition of orientation to the general perfective aspect (i.e., orientational meaning is available only with certain verbs). Geshiza also has a preverb *dæ-* cognate with 𐰚𐰆 *dja*²-, whose behavior allows one to attribute to that same 𐰚𐰆 *dja*²- a coherent semantic value. The next subsection will show that the Tangut preverb system is derived in the same manner: optative from imperative and interrogative from perfective. A comprehensive analysis of Tangut 𐰚𐰆 *kji*¹-, whose counterpart in Geshiza is the only preverb being used in an imperfective way, could potentially provide new insight into the Tangut orientational preverbs system.

and it is mostly associated with telic verbs such as *tʰè-fó* ‘to die’, *tʰè-bz̥z̥* ‘to be defeated’, *tʰè-tó* ‘to break’, *tʰè-mé* ‘to forget’, *tʰà-tʰhá* ‘to recover’, *tʰè-lí* ‘to melt’). As a matter of fact, the verbs found with Tangut 𐰚𐰆 *dja*²-, and Geshiza *dæ-* are largely identical. Thus, we could see the perfective preverbs of those three languages as cognates going back to a proto-subgroup inside macro-Qiangic, including Ersu but excluding Munya. The original preverb was either already grammaticalized or displayed semantic features that conditioned the same grammaticalization pathway (which departed from a genuine translocative, attested by Munya). Another possibility would be to see in the grammaticalization an areal innovation shared by Tangut, Horpa, and Ersu at a stage of early contact.

Table 8. 27 most frequent Geshiza verbs with the preverb *dæ-* in Honkasalo (2019), with their Tangut cognates

Geshiza verb	Meaning	Tangut cognate		
		Found with 𐰇𐰺 <i>dja</i> ² -	Not found with 𐰇𐰺 <i>dja</i> ² -	
<i>k^ho</i>	‘to give’	𐰇𐰺 <i>k^hjow</i> ¹		
<i>ɛə</i>	‘to go’	𐰇𐰺 <i>ʃji</i> ¹		
<i>læ</i>	‘to release, to send’		𐰇𐰺 <i>lja</i> ²	direction?
<i>jə</i>	‘to say’		𐰇𐰺 <i>·ji</i> ²	
<i>n-zæ</i>	‘to give birth’		𐰇𐰺 <i>lhji</i> ²	
<i>sæ</i>	‘to kill’	𐰇𐰺 <i>sja</i> ¹		
<i>k^huæ</i>	‘to cut’	𐰇𐰺 <i>k^hjwi</i> ¹		
<i>sæ</i>	‘to die’	𐰇𐰺 <i>sjɪ</i> ¹		‘loss’?
<i>lmə</i>	‘to forget’	𐰇𐰺 <i>mji</i> ²		
<i>ra</i>	‘to hit’		𐰇𐰺 <i>rjijr</i> ²	
<i>tæpæ</i>	‘to take out’			
<i>st^hæ</i>	‘to finish’			
<i>tje</i>	‘to become’			
<i>rji</i>	‘to wake up’			
<i>lxua</i>	‘to appear, go back’		𐰇𐰺 <i>lhjwo</i> ¹	
<i>zæ</i>	‘to come’			
<i>ntɛ^ho</i>	‘to have’	𐰇𐰺 <i>tʃ^hju</i> ¹		PFV
<i>ndzo</i>	‘to stay’	𐰇𐰺 <i>džjiij</i> ¹		
<i>dzi</i>	EX.V (animate)	𐰇𐰺 <i>džjiij</i> ²		
<i>wi</i>	EX.V (inanimate)	𐰇𐰺 <i>·wjij</i> ²		
<i>ɲuə</i>	COP		𐰇𐰺 <i>ɲwu</i> ²	
<i>ma</i>	NEG.EX.V		𐰇𐰺 <i>mjiij</i> ¹	
<i>ɲgə</i>	‘to eat’			
<i>t^hi</i>	‘to drink’		𐰇𐰺 <i>t^hji</i> ¹	
<i>və</i>	‘to do’		𐰇𐰺 <i>·wji</i> ¹	?
<i>dæ</i>	‘to do’			
<i>t^ho</i>	‘to build’			

2.2.5 Interrogative preverb

Tangut shares with other West Gyalrongic languages a cognate interrogative prefix (14). As in g.Yurong Horpa and Khroskyabs languages, this preverb is identical to that which encodes the direction “upwards”. For the moment, the split observed in West Gyalrongic between Geshiza and Mazur Stau and the other West Gyalrongic languages for the direction “upwards” is still difficult to account for from the point of view of Tangut. I believe *rə-* to be cognate with the unspecified orientational prefix 𐰇𐰺 *rjir*²- found in Tangut (§ 2.2.2). We should nevertheless be able to reconstruct a common interrogative preverb for proto-West Gyalrongic.

- (14) 麤繼弱翯叢駁麤泖泖夥夥 榜甯
 mjo²=tja¹ tšjow¹ ji²te¹ ŋwu² dzji¹dzeej¹ lja¹ kjir²=mjijr² .a⁰-dju¹
 1.HUM=TOP Zhang Yide COP compete come dare=NMLZ INTRG-EXV
 「吾是張翼德，敢來決敵也！」 (Shi et al. 1993:316–317)
 “I am Zhang Yide; will there be people who dare to compete with me?”
 (Lèilín, 09.15.A.6)

2.2.6 “Optative” preverbs

The most striking similarity between Tangut and Geshiza (and Stau also) regarding mood lies in a common alternation observed between the two series of orientational prefixes (see Table 9). In Geshiza and Stau, the series with *-i* is the result of the fusion of the Type-A prefix with an irrealis morpheme *-i-*. That morpheme produces an interrogative mood when the prefix it attaches to has an underlying indicative mood (usually with aspectual implications), and an optative mood when the prefix it attaches to marks the imperative (Honkasalo 2019: 535). There is also a third series, labeled “non-actual” (NACT), not reflected in Tangut.

Table 9. Type-A/B orientational preverbs in Geshiza and Tangut

Orientation	TAM	Geshiza	Tangut
meaning		IND, IMP / NACT / INTRG, OPT	IND, IMP / INTRG, OPT
undefined		/	rjir ² / rjjir ²
<i>perfective (secondary)</i>			
upwards		rə- / rə- / ri-	.a / .jij ¹
<i>perfective (secondary)</i>			
<i>interrogative</i>		æ-	.a
downwards		næ- / nə- / ni-	nja ¹ / njij ²
<i>perfective (secondary)</i>			
outwards (T.), dwnstr. (G.)		wə- / wə- / wi-	·wji ² / ·wjij ²
<i>perfective (secondary)</i>			
inwards (T.), upstr. (G.)		gæ- / gə / gi-	kji ¹ / kjij ¹
<i>imperfective</i>			?
<i>perfective (primary)</i>		dæ- / də- / di-	dja ² / djij ²

This description should therefore allow us to consider the possibility that in Tangut the optative would also be a derivation of the imperative, and that there are interrogative occurrences derived from the indicative perfective, a possibility tested successfully below.

First of all, the optative prefix in Tangut does not lose its orientational meaning, as illustrated by (15). Here, the officiant has to remove the animal “out of” the place it used to be.

‘The officiant, when sending back the official document, must remove the dead animal (from the record).’ [Tangut Code, article 1362, Sacrificial animals]

Then, arguing that optative preverbs are derived from the imperative requires finding examples of imperative sentences with the first series's preverb. Such uses exist, as (16) shows:

‘Give him back his rank and raise his emoluments higher than those he had before!’ (12K, 132.26.02)

If the system is similar, and as there are two moods possible for the first series in Geshiza, it also requires that one should be able to find examples of Type-B preverbs bearing interrogative meaning in Tangut. Such an example can precisely be found (17). Note that this example can leave no doubt about the interrogative nature of 𐞗 *djij*²-, as the as the verb 𐞗 *jir*¹ 'to ask' introduces the question, the answer being introduced by 𐞗 *ku*²*da*² 'respond'. Note also that the correlate Type-A prefix is used in the answer, in perfect parallel with the question.

“Did you manage to free the Situ of Wei?” He answered: “I did.”

 $(12K, 132.01.07)$

As for the perfective above, the system found in Geshiza perfectly parallels that of Tangut; in fact, it gives the best explanation to date regarding the distribution of Type-A/Type-B preverbs one can observe in Tangut.

2.2.7 Negative preverbs

Table 10 gives an overview of negative preverbs in Tangut, Geshiza, Mazur Stau, and Wobzi. Other languages of the Qiangic family (including Gyalrong) have potential cognates, but the usages diverge significantly.²⁷ The comparison here focuses then on the West Gyalrongic subgroup.

Table 10. Negative preverbs in Tangut, Geshiza, Stau, and Wobzi

	NEG.1	NEG.2	NEG.3	NEG.4
Tangut	mji ¹ -	mji ² -	mji ¹ -	tji ¹ -
Geshiza	mi-	mɛ-	mə-	di-
Stau	mi-	mæ-	mə-	ti-
Wobzi		mə-		tə-

All four languages have a default negative preverb, which is in the Table placed in the column “NEG.1”; and in all three languages, NEG.4 derives prohibitive or negative jussive constructions.²⁸ Nevertheless, only Tangut and Horpa languages have a negative morpheme (NEG.3) preceding a subset of modal verbs similar to those found in Tangut.²⁹ For example, in Tangut and Geshiza, a cognate verb Geshiza *dzo* ‘to bear, be able to put up with’ :: Tangut *džioow*² ‘to bear, be suited to’ only occurs with modal negation, as illustrated in (18) and (19).

- (18) 𐰇𐰏𐰚𐰚𐰚𐰚 𐰇𐰏𐰚𐰚𐰚𐰚
tsji¹ lu¹lji² ŋwu² lji¹ mji¹-džioow²
just rocky.land COP cultivate NEG.MOD-bear
猶石田也，不可種之
(Shi et al. 1993: 261)
‘It is just a wasteland, it is not fit for cultivation.’
(Lèilín, 03.21A.6)

27. For example, Japhug has four negative preverbs *mɿ-*, *mu-*, *ma-*, and *múj* which are manifestly related to Tangut’s first three forms. Nevertheless, the distribution is very different to what one can see in West Gyalrongic: *múj-* is a sensory evidential negation; *ma-* occurs with prohibitive verb forms; *mɿ-* occurs on non-finite verbal forms without orientation preverb, in factual non-past, irrealis and when preceded by interrogative and proximative morphemes; *mu-* is seen elsewhere. In Munya, the system is on the whole very different, as four prefixes *tɕu-*, *tɕɛ-*, *nyu-*, and *mo-* form it.

28. Munya also has a cognate *tɕu-*. This prohibitive can be traced back as far as proto-Trans-Himalayan (Matisoff 2003: 586).

29. In Mazur Stau, *mə-* does not only appear with modals, though mostly with modals and Class 1 verbs (which tend to be stative). Gates (2021) calls it a negative imperfective. A dedicated modal negation marker is also documented for the Phoxiu variety of Stau, Central Horpa (Sami Honkasalo, personal communication).

- (19) *ŋa mɲa-me dæ-dəu tɛ^hu mdzurtenme=nɔ stɛ^hək^{hi}-zæ*
 1SG NEG.EX.V-NMLS:P PFV-do.1 CONJ common.people=TOP.C watch-NMLS:P
mə-dzoŋ-ræ
 NEG.MOD-bear.1-SENS

'I did something wrong, so I cannot bear facing people.' (Honkasalo 2019:648)

The functions of Geshiza's *mε-* (Neg.2) on the whole also match Tangut 𐰢𐰆 *mijj*², which is traditionally described as marking the past. In Geshiza, *mε-* marks also the past, except with the prospective aspect. This behavior might actually be identical in Tangut, but more investigation is still needed. In (20), 𐰢𐰆 *mijj*², being prefixed to a verb marked with the telic/future 𐰢𐰆 *jij*¹, cannot be accurately glossed as “past negation”. It appears the configuration corresponds here to the definition Comrie (1989:64) gives of the prospective, i.e., an aspect expressing a “present state relative to a future event.”

- (20) 羈 窳 緇 覓 戔 賸 揆 廩 玃 祲 僭 儗 僂 羈 蔎 揆 玃 殞 羈 玃 玃 玃
ciə¹ tsʰew² ɣo² tʰwə¹ kji¹-mjij²-sji¹-.jij¹ zzij¹ gji²=.jij¹ lʰji²we¹ ɳa²
 Shi Cao ill get DIR-NEG-die1-TEL time[A] child=ANTIERG bequeath 1SG
dja²-sji¹ zzij¹ yur¹ djij¹.rew²=kʰju¹ rjir²-tjo¹
 PFV-die₁ time[A] corpse stairs=SUBE DIR-put[B]
 ‘Ши Цао заболел и, перед смертью, завещал своему сыну: “Когда я умру,
 положи моё тело на ступени дворца.”’ (Solonin 1995:62)
 ‘Shi Cao fell ill and as he still hadn’t died [but was about to], said to his son:
 “When I am dead, put my body below the stairs.”’ (12K, 133.27.04)

Morphologically speaking, the vocalic alternations in the negation preverbs are a local retention of what could be a very ancient distinction. These alternations are seen in other Gyalrongic languages (although with different semantic values) and also in Tibetic, which has a *mi* / *ma* opposition (Tournadre & Dorje 2010:423).

2.2.8 Modal preverbs

The slot which immediately follows negation can be filled in Tangut, Geshiza, and Wobzi with a modal preverb incorporated into the verbal template.

These morphemes in Tangut are 𐞗𐞧 $tʃji^1$ (potential), 𐞗𐞧 lj_i^1 (concessive) and 𐞗𐞧 $tsji^1$ (uncertain function).

2.2.8.1 𪚩 *tsʰji¹* (*potential*)

Two possible candidates compete in Geshiza to establish cognacy with the Tangut “potential” modal preverb 𐰚𐰆 *tsʰji¹* (21).³⁰

30. Beaudouin (2023: §24.2) analyses now this morpheme as a realis marker.

- (21) 慨手敝纒孺散叢席窺撈翥夥席發辨嫌
niow¹ p^ho² šioow¹ ŋa²=ji¹ sɔ¹ tšiej² nji²=do² ·a-pow¹=·wji¹.
 POSTE Bao Shu 1SG=ANTIERG three time king=TERM PFV:UP-help=LV:do[A].
nji² mji¹-tš^hji¹-nji²
 King NEG.MOD-POT-listen[B]
 ‘Потом Бао Шу три раза помогал мне [встретиться] с ваном, а ван не стал
 меня слушать.’ (Solonin 1995: 38)
 ‘After, Bao Shu helped me three times before the king. [But] the king could/
 would not [still] hear me.’ (12K, 132.19.06)

First, Geshiza has a bound deontic auxiliary *-tə^hi* (22) that expresses acceptability (‘can, be all right’). Phonologically speaking, the correspondence works, as Tangut /i/ syllables with palatal affricate aspirated onsets are reflected as a high vowel in Geshiza, as in T. *tš^hji¹* :: G. *tə^he* ‘narrow’.³¹ However, that morpheme, although bound to the verb as for Tangut 𐽳𐽭 *tš^hji¹* (potential), is located in a suffixal position.

- (22) Geshiza
lmæ=ntshe smæŋa xo=zɔ gæ-ɕoŋ-tə^hi-ræ=je
 3=ASSOC.GEN girl DEM.LOC=only DIR-go.NPST.1-AUX-SENS=MOD
 ‘(On a trip to Dandong,) you can go (to stay) in their daughter’s place.’
 (Honkasalo 2019: 573)

Another possibility would be to see another auxiliary verb *tə^ha* ‘can’ as a potential cognate in Geshiza (23). Like its putative Tangut cognate (the modal verb 𐽳𐽭 *tš^hji¹*) this verb appears just after the negative slot.

However, there are three potential counterarguments to that second solution: first, *tə^ha* ‘can’ in Geshiza is not part of the verbal template and usually acts as an independent verb (notably, it bears conjugation). Second, Tangut syllables with the surface form /tš^hja/ seem to correspond to Geshiza /tə^ha/, as with the superessive T. *tš^hja* :: G. *tə^ha* (postposition ‘on’). Still, it should be kept in mind that the particular infixal position of *tš^hji¹* would make it easy for the syllable to produce a neutralized form.

Only further investigation will reveal the correct etymology, knowing that the two potential cognate verbs may also have a link in Geshiza itself. In fact, Tangut 𐽳𐽭 *tš^hji¹* could also be the result of reanalysis due to the semantic and syntactical proximities of the two morphemes.

31. The correspondence with unaspirated palatal affricate onsets is still unclear: T. *tšji¹* :: G. *qtə^hi* ‘to move’, and T. *tšjir¹* :: G. *rtə^he* ‘to tie’ (see also Wobzi Khroskyabs *rchē*), but T. *tšjir²* :: G. *stæær* ‘to be afraid’. However, that last correspondence seems unlikely, as pre-Tangut preinitials *s- are usually reflected as a dot below the vowel in Hwang-cherng Gong’s reconstruction.

- $$d-\partial-vk\partial=ke=ræ$$

 $r\partial-r0 \quad r\partial-n\epsilon^h\partial$

PFV-NACT-get.full.NPST.3=seq=lnk dir-adv DIR-jump.INF

mə-tʃʰa-mə-ræ

NEG.MOD-AUX.can.NPST.3-EP-SENS

'After getting full, it could not jump up (and go away).' (Honkasalo 2019:648)

2.2.8.2 𪔐 *lji*¹ (*concessive*)

Lai (2021) reports in Siyuewu Khroskyabs a formerly undocumented prefix *də*- ‘even’ (24a), related to another homonymous enclitic =*də* in the same language (24b).

- PST-NEG-even-sleep₇-1

'I didn't even sleep.'

- sleep₁=even PST-NEG-sleep₂-1

'I didn't even sleep.'

As proposed by the author, the two morphemes could be cognate with the pair encoded by Tangut 𐰇𐰏 *lji*¹.³² Both of the roles of 𐰇𐰏 *lji*¹ can indeed be seen in similar configurations; first as a clitic with the meaning ‘also’ (inclusive focus marker) or ‘even’ (additive focus marker – 25), second as a preverb immediately attached to the verb with a unique additive focus function (26).³³

- $$sjij^1 \quad \eta wuu^1 = \textcolor{red}{lj\ddot{i}}^1 \quad mjij^2 - to^2$$

now word=**even** NEG.PST=go.out

‘Ныне он не сказал ни слова.’

(Solonin 1995: 38)

‘He did not even say a word.’

 $(12K, 132.18.04)$

- $$ts^{hji^1}mj\tilde{t}^1njij^2\acute{s}jij^1\quad j\tilde{a}^2\quad l^h_{jij}=d\acute{z}j\cdot wji^1\quad l^h_{jij}$$

Qimin king reign Yan State=ERG state

$$dji^2 - lji^1 - l^h jwi^1 = wji^1 - djij^2$$
$$.ji^2 \quad la^1 \quad kji^1-lji^1$$

PFV:AUTOB-**CONC**-taking=LV:do[A]-PROG again hand PFV:IN-sink.into

‘Во время циского Минь-вана царство Янь захватило царство [Ци], но [потом] оно снова вернулось в руки [Минь-вана].’ (Solonin 1995: 40)

‘During the reign of king Qimin, although Yan was seizing his country, he restored it (to Qimin).’ (12K, 132.24.03)

32. Yunfan Lai, personal communication.

33. The enclitic in Siyewu Khroskyabs can be attached to nouns. Note that there are other examples of correspondence Tangut *l-* :: Khroskyabs *d-* with the numeral ‘four’, see § 3.1.

Lai (2021) favors the hypothesis of a grammaticalization pathway departing from the enclitic to explain the synchronic existence of the two morphemes. If this hypothesis is correct, it could be a clue to the cognacy between Geshiza deontic auxiliary *-te^{hi}* and Tangut potential 𐽳𐽳 *ts^{hi}ji¹*, as it provides an example of grammatical prefixation with a suffixal origin.³⁴

2.3 Suffixal positions

2.3.1 Agreement suffixes

In this subsection, after I give a brief overview of the Tangut person indexation system, well known since the seminal works of Kepping (1975) and Gong (2001), then I provide a cross-analysis with verbal paradigms in several West Gyalrongic languages. I do not discuss here the dual suffix 𐽳𐽳 *-kji¹* first revealed by Nishida (2004), and whose existence has been since confirmed by Arakawa (2018) with very convincing examples.³⁵ This morpheme, which occurs only in first person contexts, must be related to Siyuewu Khroskyab's first person dual agreement suffix *-y* (Lai 2017: 347–349), which appears in similar configurations. However, more research is required on how and why these suffixes surface to propose a systematic comparison (which will have to include inverse constructions).

2.3.1.1 Agreement rules

In intransitive contexts, the agreement scheme is quite simple: the verb, with just one argument, agrees with that unique argument employing the suffix *-ŋa²* 𐽳𐽳 for the first person singular, *-nja²* 𐽳𐽳 for the second person singular, and *-nji²* 𐽳𐽳 for the plural of both the first and second person. I focus next on the transitive conjugation, which is far more complex.³⁶

In local scenarios (between first and second person), agreement can be likened to an ergative-absolutive system, with agreement always targeting the patient (P) (𐽳𐽳𐽳𐽳 *p^{hi}ji¹-ŋa²* 'You send me', 𐽳𐽳𐽳𐽳 *p^{hi}ji¹-nja²* 'I send you'). However, in mixed contexts (i.e., if the interaction takes place between first or second and third person), agreement occurs with the first or second person, regardless of its syntactic role (i.e., agent or patient), the only difference being the vowel of the root, stem A for 3 → 1/2 configurations, stem B for the 1/2 → 3 ones. In Exam-

34. Geshiza has a scalar concessive conditional marker =*be* 'too, even', not attested at a prefixal position, which is not etymologically related.

35. Neither do I discuss the dual suffix 𐽳𐽳 *tsji¹* whose existence has been revealed very recently (Zhang 2022).

36. Beaudouin (2022) has shown that agreement in Tangut is primarily mandatory, the exception being circumscribed in dependency patterns.

ple (27) (mixed context, $2 \rightarrow 3$), the agreement is with the agent, in contrast with Example (28) (mixed context, $3 \rightarrow 1$), where the agreement is with the patient.

- (27) 祿鞏 窺 窺 窺 窺 窺 窺 窺 窺
 xwá¹ kow¹ .jir¹ dɑ² dʒji wji² .wa² .wjo²-nja²
 Huan Gong ask say perform skill INTRG can[B]-2
 ‘Хуань-гун спросил: “Какое искусство [ты] покажешь?”’ (Solonin 1995: 36)
 ‘Huan Gong asked: “What fine art are you good at?”’ (12K, 132.12.03)
- (28) 儼 儼 儼 儼 儼 儼 儼 儼
 .ju² sjij² ʒji¹ tsier¹ dzjwo²=dʒji-wji¹ mja¹-sja¹-ɲa²
 often think left right people=ERG IRR-kill-1
 常慮左右圖己
 (Shi et al. 1993: 267)
 ‘He was often thinking: “My waiters could kill me.”’ (Lèilín, 04.03A.4)

In Table 11, I give the attested paradigm of the Tangut verb, first described by Gong (2001:32–34). 1 → 3 and 2 → 3 contexts produce the emergence of stem B (Σ^2 , marked in red).

This alternation, which makes it possible for the speaker to differentiate $3 \rightarrow 1$ and $3 \rightarrow 2$ configurations from these contexts, has been shown by Jacques (2009a) to originate from the merger of an ancient third-person patient suffix *-w (whose presence is widespread in the Sino-Tibetan family, see for example DeLancey 2010).

Table 11. Agreement paradigm of the Tangut verb

A \ P	1SG	1PL	2SG	2PL	3
1SG			Σ^1-nja^2 𐌆	Σ^1-nji^2 𐌇	$\Sigma^2-\eta a^2$ 𐌈
1PL					Σ^1-nji^2 𐌇
2SG					Σ^2-nja^2 𐌆
2PL	$\Sigma^1-\eta a^2$ 𐌈	Σ^1-nji^2 𐌇			Σ^1-nji^2 𐌇
3			Σ^1-nja^2 𐌆	Σ^1-nji^2 𐌇	Σ^1

Gong (2017) revealed a remnant showing striking similarities between mixed contexts of Tangut and the stem 3 of a core Gyalrong language, Zbu, which also results from the merger of **-w* with the stem. I give an adaptation of his discovery in Table 12.³⁷

37. The preverb *va-* corresponds to the inverse discussed in the next paragraph.

Table 12. Zbu Gyalrong stem 3 and Tangut stem B (‘to eat’)

	3 = P	3 = A	
1SG	<i>ⁿdzo-ŋʔ</i> <i>dzjo'ŋa²</i> 'I eat it'	<i>və-ⁿdzé-ŋʔ</i> <i>dzji'ŋa²</i> 'It eats me'	Zbu Tangut
2SG	<i>tə-ⁿdzoʔ</i> <i>dzjo'ŋja²</i> 'You eat it'	<i>tə-və-ⁿdzéʔ</i> <i>dzji'ŋja²</i> 'It eats you'	Zbu Tangut
3SG	<i>ⁿdzoʔ</i> <i>dzji¹</i> 'He eats it'	<i>və-ⁿdzéʔ</i> <i>dzji¹</i> 'It eats him'	Zbu Tangut
1PL	<i>ⁿdzé-jə</i> <i>dzji'ŋji²</i> 'We eat it'	<i>və-ⁿdzé-jə</i> <i>dzji'ŋji²</i> 'It eats us'	Zbu Tangut
2PL	<i>tə-ⁿdzé-ŋə</i> <i>dzji'ŋji²</i> 'You eat it'	<i>tə-və-ⁿdzé-ŋə</i> <i>dzji'ŋji²</i> 'It eats you'	Zbu Tangut

2.3.1.2 Cross-analysis of Tangut, Khroskyabs and Horpa verbal agreement paradigms

I give in Table 13 the paradigm of Wobzi Khroskyabs, in Figure 5 the paradigms of Geshiza and Dgebshes Stau, and in Figure 6 the paradigms of Gexi and Khang.gsar.³⁸ In those figures, I mark in red all the forms for which I can establish biunique correspondences with Tangut, and in blue those for which I can establish biunique correspondences but where one of the Tangut forms is missing in the modern language (i.e., when a merger occurred).

Table 13. Verbal paradigm of Wobzi Khroskyabs

A \ P	1SG	1PL	2SG	2PL	3
1SG					<i>Σ-ŋ</i>
1PL			<i>Σ-n</i>		<i>Σ-j</i>
2SG					<i>Σ-n</i>
2PL	<i>u-Σ-ŋ</i>	<i>u-Σ-j</i>			
3			<i>u-Σ-n</i>		<i>u-Σ</i>

38. Wobzi Khroskyabs data is from Lai (2017), Geshiza Horpa data from Honkasalo (2019), Dgebshes Stau Horpa data from Gates (2017) and Sun & Tian (2013), and Khang.gsar Stau Horpa data from Jacques et al. (2014).

The motive for displaying all of these paradigm charts is twofold. First, trivially enough, a comparison using a more comprehensive ensemble of paradigms can lead to better accuracy in the analysis. Second, the internal variation revealed in Horpa forces us to remain cautious when drawing conclusions. Indeed, as one can see, Khang.gsar has its history (the disappearance of all the suffixes when the P is a second person, for example), but the distance from Tangut gradually diminishes when one compares Tangut with Geshiza and Dgebshes.

<div><div></div><div>A</div></div> <div>P</div>	1SG	1PL	2SG	2PL	3
1SG			Σ- <i>n</i>		Σ- <i>w</i>
1PL					Σ- <i>ŋ</i>
2SG					Σ- <i>i</i>
2PL		ν-Σ- <i>ŋ</i>			Σ- <i>n</i>
3			ν-Σ- <i>n</i>		ν-Σ

<div><div></div><div>A</div></div>	P	1SG	1PL	2SG	2PL	3
1SG						Σ- <i>u</i>
1PL				Σ- <i>n</i>		Σ- <i>ā</i>
2SG						Σ- <i>i</i>
2PL			ν-Σ- <i>ā</i>			Σ- <i>n</i>
3				ν-Σ- <i>n</i>		ν-Σ

Figure 5. Paradigms of Geshiza (left) and Dgebshes as in Gates 2017 (right)

<div><div></div><div>A</div></div>	P	1SG	1PL	2SG	2PL	3
1SG				Σ- <i>n</i>		Σ- <i>u</i>
1PL						Σ- <i>ŋ</i>
2SG						Σ- <i>i</i>
2PL		ν-Σ- <i>ŋ</i>				Σ- <i>n</i>
3				ν-Σ- <i>n</i>		ν-Σ

<div><div></div><div>A</div></div>	P	1SG	1PL	2SG	2PL	3
1SG						Σ- <i>w</i>
1PL				Σ		Σ- <i>ā</i>
2SG						
2PL			ν-Σ- <i>ā</i>			Σ- <i>j</i>
3					ν-Σ	

Figure 6. Paradigms of Dgebshes as in Sun & Tian 2013 (left) and Khang.gsar Horpa (right)

Of all modern languages, the person indexation system of Tangut (Figure 11) is for once most similar to that of Wobzi Khroskyabs (Table 13). Apart from the differences due to the absence of an attested inverse in the Tangut verbal paradigm and a merger between second person singular and plural forms in Wobzi, the paradigms are nearly identical. However, some features of the Tangut agreement system exist only in Horpa languages. As stated above, Stem B results from the fusion with an ancient third-person patient suffix *-w, an affix we can still find in a lot of varieties of Horpa (-u and -w being different notations of the same suffix).

If one considers the reflexes observed in all the West Gyalrongic languages listed above, this cross-comparison enables the reconstruction given in Table 14 for proto-West Gyalrongic.

2.3.2 Telic (future) suffix

In Mazur Stau, the slot immediately following the agreement suffix can be filled by a telic suffix *-jæ* (Gates 2021: 324). This suffix exemplified in (29) is cognate with the Tangut suffix 𐰇𐰏 *:jij*¹. Apart from the position of the two morphemes in the template, which is identical, the correspondence Mazur Stau *-æ* :: Tangut *-ij* can already be seen for past negation (see § 2.2.7).

- (29) Mazur Stau
 ɪæ χæji *dza-jæ* mjæ-rə
 1SG still well-TEL NEG.COP-SENS
 ‘I’m still not completely well.’ (Gates 2021: 337)

The suffix 徃 *jij'* in Tangut is traditionally analyzed as indicating future. However, a telic interpretation is also possible. The telic aspect expresses that an action is, or will be, completely finished when a point is reached. In (30) already given above (see § 2.2.7), the death of Shi Cao is the ineluctable point towards which is directed the process encoded by the verb 斃 *sji'* 'to die'.

- (30) 魏 嶺 姚 死 發 喪 掘 窆 茲 祔 而 慨 慨 茲 叢 掘 茲 殯 輒 輒 茲 殯 茲 殯
ciə¹ ts^{hew} ʔo² t^hʋə¹ kji¹-mji²-sji¹-jij¹ zzij¹ gji²=jij¹ l^hji²we¹ ɲa²
 Shi Cao ill get DIR-NEG-die₁-TEL time[A] child=ANTIERG bequeath 1SG
dja²-sji¹ zzij¹ yur¹ dji².rew²=k^hju¹ rji²-tjo¹
 PFV-die₁ time[A] corpse stairs=SUBV DIR-put[B]
 ‘Ши Цао заболел и, перед смертью, завещал своему сыну: “Когда я умру,
 положи моё тело на ступени дворца.” (Solonin 1995: 62)
 ‘Shi Cao fell ill and as he still hadn’t died [which he was about to], said to his
 son: “When I am dead, put my body below the stairs.” (12K, 133.27.04)

In (31), the telic analysis also fits perfectly, and is coherent with the presence of the inferential ㄝ *-sjɪ*². This morpheme induces a completion of the action, in which the speaker evaluates (including by anticipation) the source of knowledge after the action or event has taken place.

- (31) 膝 肱 脰 脰 肱
 $m\dot{a}^1 \cdot wu^2 \cdot nja^2 \cdot j\dot{i}j^1 \cdot sji^2$
 sky help-2-TEL-IFR
 天將助矣 (Shi et al. 1993:290)
 ‘Heaven will help you.’ (*Lèilín*, 06.15B.7)

2.3.3 Inferential (mirative) suffix

In Geshiza Horpa, a suffix *-s^{hi}* denoting inferential access to the information (also present in Stau as *-sə* and in Wobzi as *-si*) has a cognate in Tangut with a suffix 𐞗𐞧 *-sji²*, formerly glossed in the literature of Tangut grammar as a perfective.³⁹

From a homonymic and distributional point of view, this is perfectly coherent. As in Geshiza, where a nominalizing perfective suffix *-s^{hi}* can be observed, the Tangut 𐞗𐞧 *-sji²* has a determinative counterpart 𐞗𐞧 *-sji²*, whose role is analyzed below in § 3.⁴⁰ Thus, the question here is not to discuss the cognacy of the two morphemes, which is beyond doubt, but to be confident about the accuracy of the “inferential” value in Tangut.⁴¹

An interesting two-fold fact supports the view that 𐞗𐞧 *-sji²* is related to a category that pertains to modality or evidentiality. The suffix is absent from the legal texts glossed by Downes (2018) (which do not contain reported speech), and it usually occurs in (semi-) direct speech. Such an absence would be difficult to account for by considering 𐞗𐞧 *-sji²* as a perfective, as one should expect such a category to appear regardless of the document type. Conversely, the label “inferential” matches the distribution well, as depicted by the examples given in (32).⁴²

- (32) a. Wobzi
 <dàngāo>=tə vluvzâŋ=yə u-dzɪ=*si*
 cake=DEF Blobzang=ERG PST.INV-eat₂=*IFR*
 ‘Blobzang a mangé le gâteau (Blobzang ate the cake).’ (Lai 2017: 495)
- b. Geshiza
 zə noŋ wrə də-lvo-*s^{hi}*
 field in water PFV-freeze-*IFR*
 ‘The water in the field has frozen.’ (Honkasalo 2019: 606)
- c. 𐞗𐞧 𐞗𐞧 𐞗𐞧 𐞗𐞧 𐞗𐞧 𐞗𐞧 𐞗𐞧 𐞗𐞧
p^{hi}io²=tja¹ k^{hi}i¹ la¹ mjij¹ nja² p^{hi}io² mjij²-sji²-sji²
 snake=TOP leg arm NEG.COP 2SG snake NEG-achieve-*IFR*
 ‘У змеи нет ног и рук. Ты нарисовал не змею.’ (Solonin 1995: 43)
 ‘A serpent does not have arms and legs! You didn’t draw a snake.’
 (12K, 132.37.06)

39. This cognacy is mentioned by Lai et al. (2020), who give other examples, though without mentioning the homonymous nominalizer.

40. The same homonymy between the inferential and a perfective nominalizer *-sə* can also be observed in Stau.

41. In Lizu (Chirkova 2017), a cognate =sə 非親見標記 ‘inferred’ can also be found.

42. A fact recalled in a statement given by Lai (2017: 496) for Wobzi Khroskyabs: “dans les histoires et les récits, le marqueur =si est très fréquemment attesté. (*In stories and tales*, the marker =si is widely attested).”

The “inferential” label usually refers to a grammatical category encoding conscious knowledge that the information was not obtained through first-hand eye witness (Tournadre & LaPolla 2014). In (32a) the speaker did not see Lobsang eat the cake; he realizes the cake has been eaten when returning to the place where it was placed. The same goes for (32b): the speaker did not witness the process by which the water froze (a process marked by the presence of the perfective). In (32c), each painter occupies his place, and we can assume that the speaker has to use the inferential, as he did not witness the process by which the other painter drew the wrong animal.

Tangut, like other languages, can employ the inferential when indicating the surprise of the speaker, with a mirative overtone:⁴³

- (33) a. *jdâ=tə pâ kə-rpʰâm=si*
 water=DEF all PFV-freeze₂=**MIR**
 ‘Le fleuve est complètement gelé!’ (‘The water has completely frozen!’)
 (Lai 2017: 497)
- b. *laspə rə-lxua-sʰi*
 body PFV-gain.weight.3-**IFR**
 ‘You have gained weight!’
 (Honkasalo 2019: 606)
- c. 甞𠵿 𠵿𠵿 𠵿𠵿 𠵿𠵿 𠵿𠵿 𠵿𠵿 𠵿𠵿 𠵿𠵿 𠵿𠵿 𠵿𠵿
thja¹ lew¹.kjiir².dzjwo² jji²gu² dɑ².jə² tʰji² .o² dja².ɣiə¹nji²-sji²
 DEM_{dist} servants altogether say DEM_{prox} alcohol PFV-scant-**IFR**
 ‘Слуги решили так: “Этого вина очень мало.”’ (Solonin 1995: 43)
 ‘The servants said altogether: “There is now very little of this wine!”’
 (12K, 132.37.01)

2.3.4 Modal enclitics

Here I examine two modal particles found in Tangut, which also have counterparts in Horpa: the uncertainty marker 𐞖𐞧 = *mo*² and the interrogative 𐞖𐞧𐞧𐞧 *jaa*¹. The cognacy of this last marker with Geshiza *-ja* seems to be plausible, but in contrast with 𐞖𐞧 = *mo*² and 𐞖𐞧𐞧𐞧 = *-sji*², this candidate does not benefit from any distributional argument. In any event, the existence of potential cognates elsewhere in Qiangic tends to point more to a retention than to an innovation.

43. The term ‘mirative’, coined by DeLancey (1997), then re-employed by Aikhenvald (2004), is used here due to the benefit it brings of referring to an overtone attested in Tangut, as one can see. However, the justification for a separated grammatical category is still not evident, as pointed out by Hill (2012). Regarding (32a), the author states that the sentence is uttered in an exclamative mood, making the label ‘mirative’ also applicable here. Conversely, in (33a), a basic inferential interpretation is also possible, as the speaker did not witness the process by which the river froze; likewise in (33c), where the servants did not see how wine became so scarce.

2.3.4.1 Hypothetical 𐰚𐰆 = *mo*²

The syllable 𐰚𐰆 *mo*² in Tangut represents three different morphemes: it can either be a conjunction indicating a choice (Duan 2015), a question marker, or a particle seen in the apodosis of conditional constructions. In the latter case, it indicates the speaker's uncertainty about the veracity of his own statement, hence the label “hypothetical” (34).

- (34) 𐰚𐰆
sjij¹ nja²=jij¹ tsji¹ njir¹ dja²-l^hew²-p^hji¹-nja²=tja¹
 now 2SG=GEN sorrow misfortune PFV-liberate-CAUS-2=TOP
mji¹-lew¹=mo² nioow¹ xja¹ sj¹-ja² ji²-nja² thji²-yiej¹
 NEG.MOD-satisfied=**HYP** after quickly go₁-1 say-2 INTRG-true
 “Ныне вы недовольны тем, что я избавил вас от беды и горестей и
 теперь говорите: “Я быстро уйду”. Почему это?” (Solonin 1995: 37)
 ‘Today, it seems that I did not entirely freed you from your misfortunes, but
 then you say: “I will leave quickly.” How can it be?’ (12K, 132.15.07)

As already mentioned by Lai et al. (2020: 195–196) and Gates (2021: 338–339), Mazur Stau Horpa has a clause level irrealis enclitic =*mo* which is cognate with 𐰚𐰆 *mo*². This cognate occurs in three different contexts which are similar to those of the Tangut 𐰚𐰆 *mo*². In (35), =*mo* marks the apodosis of the conditional construction.

- (35) Mazur Stau
tchagε jaε=tchæ mtshere vε-rε ni thi pi ke-qhāmæ vi rege
 then 1SG=ON scold do-SENS 2SG DEM_{dist} like INTENS-bad do.2 and
smeze=ji mo=ni qε-re dε-rε=mo jε-rε
 girl=GEN eye=PL go.blind-NMLZ have-SENS=IRR say-SENS
 “‘Then she scolded me, “To do like this is bad and the girl’s eyes will be
 blinded.”’” (Gates 2021: 339)

2.3.4.2 Interrogative 𐰚𐰆 = *jaa*¹

There is in Tangut an interrogative 𐰚𐰆 *jaa*¹ found in rhetorical questions. I found a similar morpheme in the same contexts in Geshiza (§ 2.3.4). Example (36) in Geshiza illustrates a situation where the speaker knows that the recipient will eat, just like the Tangut Example (37), in which the speaker knows that he is not going to meet with Fu Zijian.

- (36) *dzi mi-ηgi=jɔ*
 food NEG-eat.2=**Q**
 ‘Don’t you eat?!’ (Honkasalo 2019: 611)

- ηa^2 $t^h j a^1$ $\cdot w j i^1 t s \partial^1 t s^h j a^2 = r j i r^2$ $t^h j i j^2 s j o^2$ $b e r^1 \eta a^2 = j a a^1$ $j i^2$
 1SG DEM_{dist} Fu Zi qian=COMIT how meet-1=INTRG.RTH say
 “[Почему я...] встрече с Фу Цзы-цянем радуюсь?” (Solonin 1995: 49)
 “How could I meet with that Fu Zijian?” (12K, 132.65.07)⁴⁴

A cognate of that interrogative can be found in Lizu, as demonstrated by Example (38):

- (38) Lizu
jô â-bê mē=dʒo tē jê
 self voc-father NEG=EX.V.ANM one Q
 ‘Am I the one without a father?’ (Chirkova 2017: 836)

2.4 Summary

As a conclusion to the present section, I give in Table 16 an overview of the cognates found in languages of the macro-Qiangic family for each position of the Tangut verb template. The data is from Honkasalo 2019 (Geshiza), Gates 2021 (Mazur Stau), Lai 2017 (Wobzi), Prins 2016 (Kiyomkio), Zhang 2013 (Yuexi Ersu), and Bai 2019 (Munya). Three Lizu forms (in parentheses) are from Chirkova & Wang (2017) and Chirkova (2017): the inferred =sæ, the interrogative jê, and the uncertainty particle me.⁴⁵ The coloring in red indicates a cognacy fostered by external information, either semantic or distributional. For the orientational preverbs, it implies *direct systemic and semantic correspondences* (i.e., the preverbs function by pairs consistent with those found in Tangut and/or display an identical behavior). For the negative and modal preverbs, the coloring indicates that their roles are similar to that found in Tangut. For agreement suffixes, relatedness with the stem is marked in blue, and relatedness with the suffix in red. Finally, the cognacy for the inferential -shi of Geshiza is supported by homonymy with another morpheme, i.e., Mazur Stau's irrealis enclitic =mo.

44. My translation differs slightly from that of Solonin in this sentence.

45. In Ganluo Ersu, the forms for the orientational preverbs would be $n\varepsilon$ -, $\eta\varepsilon$ -, $k^h\varepsilon$ -, and $t^h\varepsilon$ -, respectively. The Lizu forms for which cognates can be found in Ersu are not indicated.

Table 16. Overview of the cognacy with each Tangut verbal slot in macro-Qianguic

	Tangut	pWR	Geshiza	Maz. Stau	Wobzi	Kyomkyo	Y. Ersu / (Lizu)	Munya
1	𐞗 <i>a-</i> / 𐞗 <i>jij</i> ¹ - 𐞗 <i>nja</i> ¹ - / 𐞗 <i>njj</i> ² - 𐞗 <i>wji</i> ² - / 𐞗 <i>wjj</i> ² - 𐞗 <i>kji</i> ¹ - / 𐞗 <i>kjj</i> ¹ - 𐞗 <i>dja</i> ² - / 𐞗 <i>djj</i> ² - 𐞗 <i>rji</i> ² - / 𐞗 <i>rjj</i> ² - 𐞗 <i>a-</i>		<i>næ-/ni-</i> <i>wə-/wi-</i> <i>gæ-/gi-</i> <i>dæ-/di-</i> <i>ra-/ri-</i> <i>æ-</i>	<i>nə-/né-</i> <i>ya-/yé-</i> <i>kə-/ké-</i> <i>tə-/té-</i> <i>rə-/ré-</i> <i>æ-</i>	<i>æ-</i> <i>næ-</i> <i>və-</i> <i>kə-</i> <i>rə-</i> <i>æ-</i>	<i>na-</i> <i>kə-</i> <i>a-</i>	<i>nə-</i> <i>ŋə-</i> <i>kʰə-</i> <i>tʰə-</i> <i>a-</i>	<i>no-</i> <i>ɛ-</i> <i>ɣɣ-</i> <i>tʰo-</i>
2	𐞗 <i>mji</i> ¹ - 𐞗 <i>mjj</i> ² - 𐞗 <i>mji</i> ¹ - 𐞗 <i>tji</i> ¹ -		<i>mi-</i> <i>mɛ-</i> <i>mə-</i> <i>di-</i>	<i>mi-</i> <i>mæ-</i> <i>mə-</i> <i>ti-</i>	<i>mə-</i> <i>tə-</i>	<i>ma-</i> 	<i>ma-</i> <i>tʰa-</i>	<i>mo-</i> <i>tɕuu-</i>
3	𐞗 <i>tʰji</i> ¹ - 𐞗 <i>lji</i> ¹ - 𐞗 <i>tsji</i> ¹ -		<i>-tɕʰi</i>		<i>də-</i>			
6	1SG:3 (Σ ₂) 𐞗 <i>-ŋa</i> ² 2/3:1SG Σ ₁ 𐞗 <i>-ŋa</i> ² 2SG:3 (Σ ₂) 𐞗 <i>-nja</i> ² 1/3:2SG Σ ₁ 𐞗 <i>-nja</i> ² 1PL:3 Σ ₁ 𐞗 <i>-nji</i> ² 2/3:1PL Σ ₁ 𐞗 <i>-nji</i> ² 2PL:3 Σ ₁ 𐞗 <i>-nji</i> ² 1/3:2PL Σ ₁ 𐞗 <i>-nji</i> ²	<i>*-wŋa</i> <i>*-ŋa</i> <i>*-wna</i> <i>*-na</i> <i>*-jŋa</i> <i>*-jŋa</i> <i>*-jna</i> <i>*-jna</i>	<i>-w</i> <i>-ŋ</i> <i>-i</i> <i>-n</i> <i>-ŋ</i> <i>-ŋ</i> <i>-n</i> <i>-n</i>	<i>-u</i> <i>-ā</i> <i>-i</i> <i>-u / -ā / ɔ</i> <i>-ā</i> <i>-ā</i> <i>-n</i> <i>-u / -ā / ɔ</i>	<i>-ŋ</i> <i>-ŋ</i> <i>-n</i> <i>-n</i> <i>-j</i> <i>-j</i> <i>-n</i> <i>-n</i>	<i>-ŋ</i> <i>-ŋ</i> <i>-w</i> <i>-n</i> <i>-j</i> <i>-j</i> <i>-jn</i> <i>-jn</i>		
7	𐞗 <i>-jij</i> ¹			<i>-jæ</i>				
8	𐞗 <i>-sji</i> ²		<i>-sʰi</i>	<i>-sə</i>	<i>-si</i>		(=sæ)	
9	𐞗 <i>-djj</i> ²							
M1	𐞗 = <i>mo</i> ²			= <i>mo</i>			(<i>me</i>)	
M2	𐞗 = <i>jaa</i> ¹		= <i>jɔ</i>				(<i>jě</i>)	

The agreement system is the feature that is the most suggestive of Tangut’s Gyalrongic affiliation, whereas cognacies with other tokens of the Tangut verbal slots strongly point to a West Gyalrongic affiliation.⁴⁶ I include the reconstructed form of the proto-West Gyalrongic verbal paradigm to allow a clearer view of the correspondences.⁴⁷ The proximity is particularly manifest with Geshiza and Mazur Stau, which are the only languages displaying a second series of orientational pre-

46. The second person patient forms of Mazur Stau are innovative. In second person patient contexts, the agreement system of Mazur Stau ceased to index the patient.

47. I reconstructed these forms without taking into account the Kyomkyo Situ paradigm, whose proximity should thus be seen as no more than a confirmation.

verbs with similar usages (see § 2.2.6), three negative preverbs with nearly identical behavior, and more post-verbal cognate morphemes.⁴⁸

3. Noun phrase

Many similarities between Tangut and Horpa languages, especially with Geshiza Horpa, can also be observed in the domain of the nominal phrase. First of all, Tangut, as Horpa and Khroskyabs languages, has lost the possessive proclitics still seen in core Gyalrong.⁴⁹ There are also specific morphemes and functions of those morphemes that suggest Tangut's placement within the Horpa subgroup specifically and not just in West Gyalrongic. I analyze here two kinds of evidence.

First, I present numeral cognates shared by Tangut and Geshiza (§ 3.1). Secondly, I give examples of cognate nominalizer enclitics in West Gyalrongic languages (§ 3.2).

3.1 Numerals

Table 17 lists Tangut numerals and their cognates in Geshiza Horpa, Mazur Stau Horpa, Siyuewu Khroskyabs, Wobzi Khroskyabs, Japhug Gyalrong, and Munya (Qiangic). I have colored innovations in red, and retentions in blue. The phonetic correspondences will be discussed in detail in a future paper.⁵⁰

48. Even if it is beyond the scope of the present study, phonetically speaking, the proximity between Geshiza and Tangut is also more evident, with correspondences in articulation between the vowels, the exception G. -æ :: T. -i occurring only in post-velar contexts. Knowing that Tangut *i* and *ə* are in complementary distribution, the former only occurring after the yod -j- (i.e., one of the controversial elements of Hwang-Cherng Gong's reconstruction), the correspondence T. *i* :: G. *ə* could actually be seen as T. *ə* :: G. *ə*.

49. This feature may be areal, as pointed out by Sun (2019), as Tibetan works in a similar fashion.

50. The preinitial x- in Siyuewu is an allophone of ɣ- in an unvoiced context; as one can see, correspondences between Siyuewu and Wobzi regarding preinitials are not only systematic but also proportional.

Table 17. Numerals in Tangut, Geshiza, Stau, Khroskyabs, Japhug, and Munya

NUM	Tangut	Geshiza	Stau	Siyuewu	Wobzi	Japhug	Munya
1	𐞰 <i>lew</i> ¹	<i>rəu</i>	<i>ro</i>	<i>ræ̃ɣ</i>	<i>râɣ</i>	<i>ci / tɿɣ</i>	
pref. 1	𐞰 -a-	<i>æ-</i>	<i>æ-</i>	<i>â-</i>	<i>â-</i>	<i>tuu-</i>	<i>to-</i>
2	𐞰 <i>n̥iɪ</i> ¹	<i>wne</i>	<i>ɣne</i>	<i>ɣnæ̃ɣ</i>	<i>jnê</i>	<i>ɛnuwz</i>	<i>nə-</i>
3	𐞰 <i>sɔ</i> ¹	<i>ws^hu</i>	<i>ɣsu</i>	<i>xsễm</i>	<i>çsễm</i>	<i>χsum</i>	<i>sɔ-</i>
4	𐞰 <i>biir</i> ¹	<i>wzæ</i>	<i>ɣkə</i>	<i>vdə</i>	<i>vdə</i>	<i>kuβde</i>	<i>rə-</i>
5	𐞰 <i>ɲwə</i> ¹	<i>ɲuæ</i> (< *w-)	<i>ngvɛ</i>	<i>mɲád</i>	<i>mɲá</i>	<i>kumɲu</i>	<i>ɲa-</i>
6	𐞰 <i>ts^hiɪw</i> ¹	<i>wts^həu</i>	<i>ɣts^ho</i>	<i>xtɛ́ɣ</i>	<i>ftɛ́u</i>	<i>kuwtɿɣ</i>	<i>ts^hü-</i>
7	𐞰 <i>sja</i> ¹	<i>sɲe</i>	<i>zɲe</i>	<i>sɲê</i>	<i>sɲê</i>	<i>kuɛnuwz</i>	<i>nyü-</i>
8	𐞰 <i>jaɾ</i> ¹	<i>rɲɛ</i>	<i>rɲɛ</i>	<i>vjáɖ</i>	<i>vjá</i>	<i>kuwɾcat</i>	<i>ɛo-</i>
9	𐞰 <i>giɪ</i> ¹	<i>ɲgæ</i>	<i>ngə</i>	<i>ɲgád</i>	<i>ɲgá</i>	<i>kuwɲut</i>	<i>ngw-</i>
10	𐞰 <i>ɣa</i> ²	<i>zɣa</i> (<i>ɣæ</i>)	<i>sɣa</i>	<i>sǰêɖ</i>	<i>sǰə</i>	<i>sqi</i>	<i>-ɣá</i> (<i>ɣɔ-</i>)

The numeral ‘one’ has a prefixed version consisting of a simple vowel and is usually used with classifiers, which I included in the second row of Table 17. This monovocalic morpheme is not an innovation, as it can be found in Qiang (LaPolla & Huang 2003), where it is subject to vowel harmony.⁵¹ However, in the case of Tangut and West Gyalrongic languages, the cognacy is confirmed by the homophony found in all the languages between this numeral prefix and the interrogative prefix, which is not the case for Qiang.⁵² Munya only has a prefixed numeral which occupies the two first lines.

Tangut lost codas, like Wobzi (except for the rhyme *-əm*), Geshiza and Munya. But some developments are specific to Tangut and Horpa, in particular Geshiza. First, in Tangut and Geshiza the rhymes for the numerals 1 and 6 underwent the same reduction of a former **-ɣ* into *-w*, with a scalar raising (*-ew* → *-iɪw*) of the vowel based on the presence or absence of *-j-* in Tangut. Second, Tangut 𐞰 *ɲwə*¹, Geshiza *ɲuæ* (numeral 5), and Stau *ngvɛ* went through a metathetic loss of a former preinitial **w-* (*wɲ-* → *ɲw-*).⁵³

51. This could actually point towards the phenomenon of root suppletion for ‘one’ in Qiangic as a retention, the innovation being the reanalysis from the CVC morpheme.

52. Moreover, in Qiang number counting causes *a* to appear even without a classifier. However, for numeral + classifier combinations, West Gyalrongic languages use the CVC form from the first row in Table 17.

53. There are cognates in Ersu and Duoxu, where the numeral ‘five’ is respectively *ɲwá* and *ɲo*³² (Chirkova 2014).

Some *w*- preinitials in Geshiza are retentions (see “four”), while others are innovative (see “two”, “three”). The proximity between velars and labio-velars makes it sometimes difficult to identify the place of the innovation (in terms of place of articulation, as the consistent voicing of the preinitial brings Geshiza and Stau together). If Geshiza reanalyzed all its numerals with *w*- (“two” and “three” were probably influenced by the form for “four”) and Stau with *ɣ*- (see “four”), there is a discrepancy in Khroskyabs between Wobzi and Siyuewu which impedes a straightforward understanding of what happened for “six”. For that numeral, two scenarios seem possible. Geshiza and Wobzi forms could be innovative, as could be Stau and Siyuewu forms. I favor the second hypothesis, as Japhug’s form for “four” shows that a labial preceding a stop should be kept, which probably indicates for that language the loss of a fricative velar (a loss made easier by the overall back vocalic context of the prefix preceding the affricate). The innovative *f*- of Wobzi should not automatically be analyzed as a common innovation with Geshiza, though. Wobzi has itself a tendency to simplify velar preinitials, as show the palatalized forms of “two” and “three” before continuants, and this innovation could be independent.

This chart offers new insights into Tangut phonology. The tenseness observed in the numeral 𐰇 *ʃja*¹ ‘seven’ cannot come here from a former *S-, and could be the result of the simplification of a former complex onset *ʃp-, as the coronal fricative is still present in Tangut.⁵⁴ An interesting distributional fact could also interest the value of vowel lengthening in Tangut, which is still a controversial topic. As one can see, all Tangut numerals with a long vowel correspond to Geshiza words with sonorant preinitials, either nasal before a plosive voiced initial, or approximant before a continuant. It is actually not impossible that the form seen in Geshiza corresponds to the actual pronunciation in Tangut, a subject which will be explored in future work. Since the acceptance of this paper, I proposed new reconstructions in Beaudouin (2023: §9).

That is not all. The proximity between Geshiza and Tangut is apparent, once again, in common specific uses of numerals. In Geshiza, the prefixed alternation for the numeral “one” has meanings ranging from the use with a classifier (*æ-ɣi*, one-CLF.PERS = ‘one person’) to the use as a prefix deriving collective nouns (*æ-stæpa*, one-villager = ‘all villagers’) or indicating approximation in a succession of numerals (*æ-wnæ-sq^ha*, one-two-ten = ‘twenty-something’). One can find

54. Most of the tense vowels of Tangut are usually seen as remnants of former *S- (see Gong 1999).

similar usages in Tangut. First, as in Geshiza (and also Stau: *æ-be* and Siyuewu Khroskyabs: *â-be*, one-CLF), the bound form 𐞑𐞐 *-a-* is used with classifiers (39).⁵⁵

- (39) 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐
lu¹ kji¹-lji¹ ·a-kjiw¹ rar² nioow¹ [yu¹ lu¹ lji¹ lji²]=do²
 stone DIR-plant **one-year** pass POSTE [before stone plant place]=TERM
·juu¹=sji²
 see=go₂
 經一年，往所種地看 (Shi et al. 1993: 303)
 ‘One year passed after he had planted the stone; he went to look at the place he
 had planted the stone before.’ (Lèilín, 07.26.B.1)

Even if 𐞑𐞐 *-a-* does not derive a collective noun of formerly separated entities as *æ-* in Geshiza (as does also Siyuewu Khroskyabs for that matter: *â-rgænræn*, one-wife.and.husband), it nonetheless has the same meaning of ‘all’. In (40), 𐞑𐞐 *-a-* indicates the entirety of the defined country (differing from the prototypical indefiniteness usually observed with classifiers):⁵⁶

- (40) 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐
·a-l^hjij zji² niəj¹=k^ha¹ lew¹ ŋa² tjij¹ sej¹ ·ji¹-dzjwo² zji²
one-country all mired=INTERE only 1SG alone clear lot-people all
lia²=k^ha¹ lew¹ ŋa² tjij¹ gji¹=ji²
 drunk=INTERE only 1SG alone be.awake=say
 一國皆濁，惟我獨清，眾人皆醉，惟我獨醒。 (Shi et al. 1993: 261)
 “‘In the whole country, while all are mired, there is only me to be clear; while a
 lot of people are drunk, only I am awake.’” (Lèilín, 03.22B.6)

Finally, Tangut makes use of the same strategy to encode approximate number by a succession of numerals (41), a behavior not seen in Khroskyabs (Yunfan Lai, personal communication):

- (41) 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐 𐞑𐞐
la² ·ju² zjiw¹ sji¹ ·a-njii¹-ya² p^hu² ·o¹
 tomb ANTE cypress **one-two-ten** CLF EX.V.ON
 墓前有數柏樹 (Shi et al. 1993: 264)
 ‘There were around twenty cypresses in front of the tomb.’ (Lèilín, 03.30A.5)

55. This suppletion pattern for “year”, seen also in Stau, has already been mentioned by Jacques (2014: 213).

56. This behavior is also seen in Siyuewu Khroskyabs: *â-dyām*, one-family (Yunfan Lai, personal communication).

3.2 Nominalizers

Nominalizers form another grammatical category in which morphemes from Tangut and Horpa languages display similarities exceeding mere resemblance. Some nominalizers embed clauses inside other clauses, primarily to construct relative clauses.

3.2.1 The subject/agent nominalizer $\text{ᄡᆞᆫ} = mji:r^2$

The subject/agent nominalizer 蔀 = *mjiɹ*² is a very productive morpheme which, when attached to a verb it derives, conveys the meaning ‘one who (verb)’. Probably related to the noun 蔀 *mjiɹ*¹ ‘people’, it is also cognate to core Gyalrong Japhug *turme* ‘human being, someone else’ and Zbu *tərmē* ‘man (masculine), someone else’. The morpheme’s nominal origin could explain why the nominalized form can often stand by itself as a noun, even if an interpretation as a headless relative clause is sometimes possible, as in (42).

- (42) 誰刻刻嗷羽姪設嬭彥彥繼誰彥
 t^hji^2 $ywie^1=do^2$ $dzjwo^2$ gji^2 $džjij^1$
 DEM_{prox} strength=TERM man INDF EX.V
 $jij^1-luu^1-wji^1=mjijr^2=tja^1$ $rejr^2=lji^1$
 OPT-digging=LV:do[A]=NMLS:s|A=TOP be.numerous=EXCLAM
 ‘Чтобы человек пребывал в этом могуществе, тех, кто копает, должно
 быть много.’ (Solonin 1995:54)
 ‘In order for a man to have such a strength (= to be in that strength), those
 who need to dig are many.’ (12K, 133.02.04)

The behavior of 𐰚 *mjiir*² is in every respect similar to a nominalizer *-me* found in Geshiza.⁵⁷ Both of these highly productive markers encode the subject or the agent of the verb's action, and follow the same trinomial pattern.⁵⁸ Table 18 gives examples of nominal derivations for stative (S-NMLZ, first pattern) and transitive verbs, either realized in a simple way (A₀-NMLZ, second pattern) or by incorporation of the object (A₁-NMLZ, third pattern). Here, Tangut and Geshiza display exceptional morphological stability across centuries.⁵⁹

57. Considering the relatedness between Tangut and Geshiza regarding that nominalizer, the etymology points in Geshiza towards a native element of the lexicon and not a loanword from Tibetan མི *mi* ‘person’.

58. In Siyewewu Khroskyabs, a cognate *=mā* can also nominalize the patient in real configurations. I do not find such uses in my corpora.

59. The technique by which this derivation occurs seems to be areal. The Ersu/Lizu/Duoxu nominalizers *su/ɕu* have exactly the same functions and are also derived from ‘man/person’ (Katia Chirkova, personal communication). Here though, apart from the phonetic proximity

Table 18. Subject/Agent nominalization with Geshiza *-me* and Tangut *-mjijr²*

Source		Output
S-NMLZ		
Geshiza	<i>ŋo</i> ‘to be sick’	<i>ŋo-me</i> ‘sick person’
	<i>sʰæ</i> ‘die’	<i>sʰæ-me</i> ‘dead person’
Tangut	孀 <i>tʰjwɪ¹</i> ‘to be young’	孀 <i>tʰjwɪ¹-mjijr²</i> ‘young person’
	𪚩 <i>lia²</i> ‘to be drunk’	𪚩 <i>lia²-mjijr²</i> ‘drunk person’
A ₀ -NMLZ		
Geshiza	<i>mdzəska</i> ‘to watch’	<i>mdzəska-me</i> ‘spectator’
	<i>v-ræ</i> ‘write’	<i>ræ-me</i> ‘writer’
Tangut	𪚩 <i>dji²</i> ‘to cure’	𪚩 <i>dji²-mjijr²</i> ‘healer’
	𪚩 <i>rjar¹</i> ‘to write’	𪚩 <i>rjar¹-mjijr²</i> ‘writer’
A ₁ -NMLZ		
Geshiza	<i>tʃhetsə læ</i> ‘to drive a car’	<i>tʃhetsə-læ-me</i> ‘driver’
	<i>dzi və</i> ‘to cook food’	<i>dzi-və-me</i> ‘cook’
Tangut	𪚩 <i>rjijr¹ śioow¹</i> ‘to raise horses’	𪚩 <i>rjijr¹-śioow¹-mjijr²</i> ‘esquire’
	𪚩 <i>zju² lju²</i> ‘to catch fishes’	𪚩 <i>zju²-lju²-mjijr²</i> ‘fisherman’

As stated above, nominalization with 𪚩 *mjijr²* is highly productive. Sometimes the operation exceeds the scope of mere object incorporation, to produce a fully lexicalized output. In (43a) 𪚩 *jwir²-la¹-mjijr²* ‘text-transcribe-NMLS:S|A’) can be translated as ‘scribe’. With the nominalized output of this example, it is actually the frequency of use of the nominalized form that can support the attribution of genitive value to 𪚩 =*jij¹*, as examples where 𪚩 =*jij¹* marks a recipient can also be found, like the one given in (43b).

with Geshiza, plus the ascertainable Gyalrongic etymology for Tangut (the *-r* coda of 𪚩 *mjijr²* reflects a former preinitial *r-* still present in core Gyalrong), the trinomial patterns of Geshiza and Tangut fit perfectly.

- 周宣王史官也 (Shi et al. 1993: 311)
'He was king Zhouxuan's scribe.' (Lèilín, 08.21.A.5)

- b. 刻報毀敗發發發發發發發發發發而紅多修飛鋒乾而修端發發
 $tji^1 tji^1 bji^2 mji^2 r^2 l\varphi^1 tsju^1 liji^1 dzjwo^2 = k^h a^1 nji^2 nji^2 \eta a^2 = jji^1$
 CONJ officials and servants=INTERE everyday 1SG-ANTIERG
džjar²-ts^hjij¹-mji^r dju¹ ku¹ thja²=jji¹ bjuu² k^hwej² k^hjij¹. $\eta a^2 . ji^2$
 fault-say[A]-NMLS:S|A EX.V then 3SG=ANTIERG reward great give[B]-1 say
 “Если сановники и должностные лица ежедневно станут [мне] гово-
 рить о моих проступках, то я дам им большую награду.”
 (Solonin 1995: 45)
 “Were there among the officials and servants someone reporting my mis-
 conducts everyday to me, I would reward him.” (12K, 132.53.06)

3.2.2 The determinative nominalizer 尅 *sji*²

Geshiza and Tangut have a cognate evidential suffix and nominalizing/determinative morpheme, which are homophonous in each language. This suffix behaves very similarly in the two languages, except that the nominalizer *-shi* is described in Geshiza as being attached to perfective/past stems (vs. *-me*, attached to non-past stems), whereas in Tangut, no aspectual restriction seems to be required. The determinative in Tangut also requires a nominal head to its right.⁶⁰

- ‘There is a stone that grows.’ (Honkasalo 2019:688)

- b. 瓶拔覓蠶 販數統新涿撈翽
 sji^ji'ju'²=do² *kji¹-k^huu²* ·o'-kjur¹*sji²**gju²**gji²*
 common.people=TERM PFV:IN-searchalcohol-pourNMLZutensileINDF
 ·a-rijir¹
 PFV:UP-get[A]
 於百姓家搜得酒具(Shi et al. 1993: 276)
 ‘He came to search among the people and got a wine ladle (= a utensile
 that lades wine).’(Lèilín, 04.06B.6)

There is a particularity attached to Tangut $\text{𐰚𐰆} \text{ } sji^2$ though, which can be seen in relative clauses. $\text{𐰚𐰆} \text{ } sji^2$ usually requires a head noun positioned to its right, as (45)

60. As does another past nominalizer of the same phonological form found in Dgebshes Horpa (see Tian & Sun 2019: § 2.4).

shows by displaying a pattern similar to (44b) above. In this way, this morpheme behaves like a determiner – like the particle 的 *de* in Modern Mandarin Chinese, also used to construct relative clauses – even if it is still a nominalizer, as it always follows a verb.⁶¹

- (45) 黃 銀 孀 毓 祿 孺 孺 救 設 嗽 祿 鋒 發 慢 瓶 効
ʃja¹ kjiw¹.we² ʃji² mji¹=jij¹ l^hju¹=ŋwu² lu¹dzjwo² tji¹ ku¹
 seven year become NMLZ girl=GEN milk=INS stone.person make.eat then
kji¹dji² lej² ji²
 certainly change say
 須七歲女子以乳之，則當變 (Shi et al. 1993:294)
 ‘If one makes a man of stone drink the milk of a seven-year-old girl, he will
 necessarily change.’ (Lèilín, 06.28B.4)

4. Locative case markers

Jacques et al. (2017) list some grammatical cases with common origins in Gyalrongic, including Tangut. This present section focuses on locative cases, the category displaying the most significant number of striking similarities. Core cases like the antiergative/oblique 孺 *jij¹* have counterparts in West Gyalrongic, as illustrated by Lai et al. (2020).⁶² However, the exact behavior of these morphemes in Tangut still need further description and analysis before they can be used to ascertain whether Tangut is closer to Horpa or Khroskyabs.

61. This homophony between a nominalizer and an inferential morpheme is also found in several Qiangic languages (including Muya, Queyu) and Tibetan dialects of Sichuan (Katia Chirkova, personal communication). It could be a feature of an areal nature but could also come from a cognitive alignment resulting from an areal feature (indeed, the postverbal position of the two morphemes might enable one category to influence the pronunciation of the other). The use of the same character in Tangut to transcribe the two morphemes could be a clue for such an interpretation: the nominalizer and the inferential, at least for the scribes who created the Tangut script, shared a certain unity. In any event, this does not perturb the assignment of cognacy between the Geshiza and Tangut morphemes, as cognacy can already be established separately.

62. This term was coined by LaPolla (1992) to indicate the antagonist of the ergative case in ergative languages, i.e., the oblique argument of the verb. It can refer in Tangut to a semantic object (accusative), a recipient (dative), or a beneficiary (benefactive).

4.1 Overview

I give in Table 19 an overview of some potential cognate cases in Tangut, Geshiza Horpa, and Wobzi Khroskyabs. To help to visualize the proximity between Tangut and West Gyalrongic, I provide below, when possible, related morphemes in Kyomkyo Situ (Prins 2016), Ersu (Zhang 2013), and Munya (Bai 2019). Once again, one can observe some similarities between Tangut, Horpa, and Ersu, as was the case for orientational preverbs in § 2 (§ 2.2). Apart from a palatalized postposition *tɕʰo* ‘on’, Ersu also has a multifunctional postposition *kə* with meanings overlapping with the interressive 𐰚𐰍 *kʰa¹*. There is a Kyomkyo cognate *wəkʰa* ‘among, through’, which is derived from *təkʰa* ‘mouth’.

Table 19. Potential cognate cases in Tangut, Geshiza and Khang.gsar Horpa, Wobzi Khroskyabs and other macro-Qiangic languages

Tangut	𐰚𐰍 <i>ya²</i> LOC	𐰚𐰍 <i>tɕʰiaa¹</i> SUPE	𐰚𐰍 <i>kʰa¹</i> INTERE	𐰚𐰍/𐰚𐰍 <i>niow¹</i> POSTE
Geshiza	<i>ya</i> LOC	<i>tɕʰa</i> LOC ‘on’	(<i>kʰa</i> APPROX)	<i>no</i> ‘after, because’
Khang.gsar	<i>ka</i> ALL	<i>tɕʰa</i> LOC ‘on’	<i>kʰa</i> INS	
Wobzi	<i>ka</i> LOC	<i>tʰa</i> LOC ‘on’		
Kyomkyo			<i>wəkʰa</i> ‘among, through’	
Yuexi Ersu		<i>tɕʰo</i> ‘on’	<i>kʰə</i> ‘inside, among (etc.)’	<i>no</i> ‘outside’
Munya				

The semantic shift observed in Table 19 for the cognates of the first column (a general locative in Tangut, Geshiza, and Wobzi; an allative in Khang.gsar Horpa) can be easily explained by a characteristic of locative cases of Tangut and Gyalrongic languages in general, namely the absence of contrast between location with motion and static location in the use of case markers. In Tangut, the only information given is the position in reference to the head, as seen in Example (46), where the superessive can be translated both by ‘on the top of’ and ‘from the top of’. The notion of motion from/towards the speaker being inherent to the verb, a semantic shift resulting in the specialization as an allative in Khang.gsar Horpa is then easy to imagine.

- (46) 散 叢 蕤 靉 緋 緋 散 叢 蕤 靉 緋 緋
 sɔ¹ tsiej² ko¹=ts^hjaa¹ ·wji²-dzuu² sɔ¹ tsiej² ko¹=ts^hjaa¹
 three time vehicle=SUPE PFV:OUT-sit three time vehicle=SUPE
 nja¹-l^hji²
 PFV:DOWN-descend
 ‘...три раза садился в колесницу и три раза сходил с неё.’ (Solonin 1995: 39)
 ‘He sat three times on the vehicle, and three times got down from it.’
 (12K, 132.21.02)

4.2 𪛗=ya²: General locative

The first cognate locative case to be discussed, found in the Tangut, Wobzi Khroskyabs, and Horpa languages, is the general locative. Examples of this cognate are given below, first in Wobzi (47), then in Geshiza (48), and Tangut (49).⁶³

- (47) ænarəsi <piàn pian>=tə=ka jɔŋsâ lbé=çsærpa=tə dzâŋ ró
 but fabric=DEF=LOC:general again urine=new=DEF EX.V₁ must₁
 “Mais il faut qu’il y ait de l’urine fraîche sur le tissu.” (“But there must be fresh urine on the fabric.”)
 (Lai 2017: 189)
- (48) mtç^hærtēn-ya skærva dæ-van
 stupa-LOC circumambulation PFV-LV:do.1PL
 “We circumambulated the stupa.”
 (Honkasalo 2019: 386)
- (49) 𪛗 𪛗 𪛗 𪛗
 lju²=ya² k^hwa²lji¹ o¹
 body=LOC pants EX.V.on
 (良妻) 身著布裙
 [She – Wang Liang’s wife] had pants on her.
 (Shi et al. 1993: 309)
 (Lèilín, 08.11.A.4)

The case has become unproductive in Geshiza, but there are other varieties of Horpa such as Stau where it is still widely used, with different degrees of productivity and functions. Described previously as an allative (Jacques 2017: 604), its functions are actually more numerous. In Mazur Stau (Gates 2021: 307–308), apart from the allative function, it can express the semantics of “on a vertical location” (50a). It can also mark the oblique argument (50b) or the object (50c) of a transitive verb, indicating thus an accusative function.⁶⁴

63. There is in Shuhi (Naic) a locative 𪛗 ‘on’ that could be related (Katia Chirkova, personal communication).

64. These usages seen elsewhere in West Gyalrongic show that the allative function is probably secondary and results from characteristics discussed in § 4.1. The emergence of the accusative function could be a side effect of the progressive specialization of the case as an allative. In many accusative languages (like Russian or Sanskrit), allative constructions require the use of the accusative case.

- (50) Mazur Stau
- a. *jõ=ka per xi-rə*
wall=ALL picture EX.V.ON-SENS
‘There is a picture on the wall.’ (Gates 2021: 307)
- b. *stændzətə^huscə rjezo=ka kε-rcu rgæ-rə*
Bstan.’dzin.chos.skyid potato=ALL INTENS-much like-SENS
‘Bstan.’dzin.chos.skyid likes potatoes a lot.’ (Gates 2021: 308)
- c. *ɲæ t^hε=ka γə-t^hu*
1SG DEM=ALL PFV-drink.1
‘‘I drank it.’’ (Gates 2021: 308)

4.3 $\overline{\text{𐎧𐎡𐏁}} = ts^h jaa^1$: Superessive, time enclitic

The second of the locative cases listed in Table 19 is the superessive, for which an example was given above in (46). It is used in Tangut after a VP or after a demonstrative pronoun – cf. (51) and (52) – with a temporal meaning instead of a locative meaning. Kepping (1985) described this phenomenon, seeing in it the marking of the iconic temporal precedence of the first NP to the second (usually translated ‘when’ in a perfective way for post-VP occurrences, and ‘then’ for post-pronominal ones). I prefer to analyze it as encoding a precise localization in time.

- (51) 屏 覷 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮
 ·u² la² ʒji¹=bju¹ ·jow¹ sjo²=jij me²=tʰjaa¹
 Middle aunt jealous=because Wang Xiang=ANTIERG sleep=SUPE
 tʰaa¹bji¹r¹=ŋwu² sja¹kie²
 suppress.dagger=INS kill desire
 後母患之，乃持刀往祥所斫之 (Shi et al. 1993:263)
 ‘As his middle aunt was jealous, she wanted, at the exact moment Wang Xiang
 would fall asleep, to kill him with a sword.’ (Lèilín, 03.29A.6)⁶⁵
- (52) 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮 獮
 gji²bji² ·wji²-lʰo⁰ ·wa¹·juu¹ lji² tʰja¹=tʰjaa¹ tʰji²rja² dja²-lju²
 wife PFV:OUT-go.out pig see come DEM=SUPE immediately PFV-catch
 其妻乃出看豬，遂擒之。 (Shi et al. 1993:289)
 ‘The wife went out, saw the pig; she immediately caught it.’ (Lèilín, 06.09B.1)

The same uses of the superessive can be found in Horpa languages, e.g., ((53) and (54)). In Geshiza and Stau, however, it indicates simultaneity, not iconic suc-

65. The interpretation ‘bedroom’ for the word 寢 me^2 seems unlikely, as the location 寢所 $me^2=twu^1$ ‘bedroom’ occurs in the next sentence, with a clear verbal value for 寢 me^2 in the tatpuruṣa compound (‘the place to sleep’). Near nominal interpretations of the verb do exist though, e.g., in association with the medessive postposition in 寢寐 $me^2=gu^2$. In that case, 寢 me^2 can be analysed as an action nominal, i.e., a non-finite form of the verb.

cession. This interpretation could also be more accurate for Tangut; in (52), the enclitic, attached to a perception verb, strongly indicates immediacy, calling into question an analysis of iconic succession.

(53) Dgebshes

ŋa tʂaʃi jo ʔe-ŋ=tʃʰa tʰə=ɣu dʒa v-tʰi-gə ji-rə
 1SG Trashi home arrive₂-1=LOC 3SG=AGT tea MARK.TR-drink-NMLZ EX.V-MED
 “When I got to Trashi’s home, he was drinking tea.” (Sun 2019)

(54) *tʰi tɛʰa*

DEM.GEN ON

‘on this/that (spatial meaning), then’ (with the temporal meaning ‘at that time’)
 (Honkasalo 2019: 335)

Such similarities in the locative marker’s morphology *and* its uses (same morpheme to encode both specific spatial and temporal meanings diverging from each other) strongly suggest considerable closeness between Tangut and the Horpa languages.⁶⁶

4.4 𐰚𐰆 =*kʰa*¹: Intercessive, instrumental, superlative

The enclitic 𐰚𐰆 =*kʰa*¹ usually controls nouns referring to things not having definable existence, typically natural elements without boundaries (Beaudouin forthcoming). In such cases it means ‘in’. It can also be attached to collective nouns, with the meaning ‘among’.⁶⁷ These meanings, proper to Tangut, are not far from the label “approximative” label of Geshiza. However, the surface form =*kʰa* in that language is not a part of the case system, even if it is close to the instru-

66. It is indeed the cooccurrence of these two similarities (both the semantic and the morphological) that tend to indicate cognacy, as the temporal use of locative words is otherwise typologically well attested (cf. French ‘sur ce’, English ‘thereupon’, etc.). Note here that in both languages the surface form is identical regardless of the function, in contrast with French and English.

67. Yuexi Ersu (Zhang 2013: 285) has a bound enclitic =*kə* which matches strikingly well this description.

mental of Stau varieties.⁶⁸ Attached to a VP, 𐎧𐎠𐎧𐎡𐎢𐎡𐎠 = *k^ha¹* also has a temporal meaning ‘when’.⁶⁹

The status of 糍 = *k^ha*¹ is sometimes unclear if one only uses the traditional interpretations of that morpheme in Tangut. Comparative evidence again permits some new conjectures. There are some scenarios where an instrumental interpretation is possible, like in Khang.gsar Horpa (close to the meaning ‘through’ of the cognate form in Kyomkyo Situ), as in the examples presented in (55).⁷⁰

- (55) a. 緡縹繻纒毳毼壑
ɲwu²kwar¹=k^ha¹ t^hja¹ ·we²nja¹-kiew¹
cry(ing)=INTERE DEM_{dist} city PFV:DOWN-collapse
(Not translated by Solonin.)
‘The city collapsed in/with/through tears.’ (12K, 132.47.07)
- b. 叢藪羈阨鋒窺繻絏援阨
tʃij¹dja²-bej¹-nja² ku¹ ywej¹=k^ha¹ kə¹.bjɑ²-nja²
if PFV-loose-2 then **fight(ing)=INTERE** life.break-2
“...если же потерпите поражение, то в сражении закончите жизнь.”
(Solonin 1995: 43)
“If you lose, then you will perish in/by/through fighting.”
(12K, 132.38.04)

There are also occurrences (56) of a superlative derivation of 𐰽𐰆 *k^ha'*, a pattern of derivation found in Geshiza for postpositions (*zə-tə^ha*, *SUPL-on* = ‘(on) the highest above’, Honkasalo 2019: 333).⁷¹ However, this derivation seems to be fossilized in Tangut, as it is only attested with 𐰽𐰆 *k^ha'*.

68. This proximity is even more evident in Stau itself (Mazur variety), which has an approximate time enclitic $=k^h\text{æ}$ related to Geshiza $=k^ha$, and an instrumental $=k^h\text{æ}$ related to Khang.gsar $=k^ha$. Even if these two enclitics differ in functions, they could still be specializations of a unique original form, in different contexts.

69. Both Lizu and Ganluo Ersu also have a form *kʰæ* and *xa*, meaning ‘when,’ which is most likely derived from a locative (Katia Chirkova, personal communication). The Yuexi Ersu bound enclitic *=kə* can also be employed with temporal meanings.

70. The primary use of 羸 *ywej*¹ is verbal, with the prefix 𢵿 *-a-* and the comitative 茲 *=rjir*²; [A] 茲𢵿羸 = 'fight against/with [A]':

71. Stau postpositions can also take the superlative prefix, see Gates (2021:227).

- (56) 𐰇𐰺𐰍𐰏𐰚 𐰇𐰺𐰍𐰏𐰚 𐰇𐰺𐰍𐰏𐰚 𐰇𐰺𐰍𐰏𐰚 𐰇𐰺𐰍𐰏𐰚 𐰇𐰺𐰍𐰏𐰚 𐰇𐰺𐰍𐰏𐰚 𐰇𐰺𐰍𐰏𐰚
ljij²jwɪ¹ tsjiir¹=tja¹ zji²-k^ha¹ k^hwej² ɣwu² t^hja²=ts^hjaa¹ l^hu¹=tji² mji¹
 lingyin rank=TOP **SUPL-INTERE** big COP DEM_{dist}=SUPE add=NMLZ NEG.COP
 ‘Ранг линъинь – самый большой, [какой можно измыслить]. Выше него
 прибавить нечего.’ (Solonin 1995: 43)
 ‘The rank of lingyin is the highest of all and there is nothing to add above it.’
 (12K, 132.36.06)

4.5 𐰇𐰺 / 𐰇𐰺 *nioow¹*: Time postessive, causal

In Geshiza, a postposition *ɲo* (Honkasalo 2019: 341) can either encode (after an NP or a VP) the precedence of the marked constituent to the main clause (as ‘after’ in English, 58), or a causal relation (57).⁷² Interestingly enough – and conversely to other time postpositions – that morpheme does not convey any spatial meaning.⁷³ Mazur Stau has a postposition *ɲoɲu* ‘behind’ (Gates 2021: 228) which does convey spatial semantics. However, in most compound words, the component *ɲu* (cognate to Tangut and Geshiza’s forms) has temporal meanings, e.g., *leɲu* ‘afternoon’, *ɲusɲi* ‘next day’ (Gates 2021: 484).

- (57) *rgæn=t^hət^hə læsær ɲo <sæn-jyefən>=ke rgæn*
 early.corn=TOP.RED New.Year **after** three-month=DAT early.corn
g-ə-zoŋ.
 IPFV-NACT-plant.1
 “Then (lit. after that) there is the early corn. We plant the early corn after the
 New Year in March.” (Honkasalo 2019: 341)
- (58) *ɲi smæn-ræ tɕ^hu ɲi ɲo bəra də-zan.*
 2SG like-2-SENS CONJ 2SG **because** TOPN PFV-come.1
 “I like you, so I came to Balang Village for your sake/because of you.”
 (Honkasalo 2019: 341)

In Tangut, there is an enclitic 𐰇𐰺 =*nioow¹* ‘because’, which governs the entire clause (after an NP or a VP, see examples below), and which has a homonym postposition 𐰇𐰺 *nioow¹* POSTE (59) expressing the same notion of time as Geshiza *ɲo*.

72. This causal use is relatively rare, but still exists. (Sami Honkasalo, personal communication). In Tangut documents, 𐰇𐰺 is also more employed than 𐰇𐰺.

73. In Example (58), *tɕ^hu* is a cognate of Tangut 𐰇𐰺 *tɕ^hwo¹*, also seen in causal constructions.

- (59) 手散纒疍羆纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒
p^{ho}2 sioow¹ ηa²=jij¹ *džju²y^u¹mji¹-sej¹=tja¹* *ηa² mja¹* *džjij²=*
 Bao Shu 1SG=ANTIERG weak NEG-consider=TOP 1SG mother have=
nioow¹ *nioow¹* *p^{ho}2 sioow¹ ηa²=jij¹* *sə¹* *tšiej² njij²=do²*
 because POSTE Bao Shu 1SG=ANTIERG three time king=TERM
a-pow¹=wji¹
 PFV:UP-helping=LV:do[A]
 “Бао Шу не считал меня слабым и трусливым, ибо [он знал], что у меня
 есть мать [и я боюсь погибнуть]. Потом Бао Шу три раза помогал мне
 [встретиться] с ваном.” (Solonin 1995: 38)
 “If Bao Shu didn’t see me as weak, it was because (he knew that) I had a
 mother (reason because of which the character was afraid to die). Afterwards,
 Bao Shu three times helped me before the king.” (12K, 132.19.06)
- (60) 纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒纒
sjiij¹ *wji¹džwi¹ gji²=nioow¹* *thji²=sju² ηwu²kwar¹-nja²=tja¹ ljo²-tjij²*
 now [friend INDF]=because DEM=as cry-2=TOP INTRG-way
 ‘Какая причина, что вы так убиваетесь из-за какого-то человека?’
 (Solonin 1995: 38)
 ‘You are crying now because of a friend; why?’ (12K, 132.19.03)

The morpheme 𐰚 *nioow*¹ can also convey spatial meaning, but in a very unusual way. Usually, time morphemes establish a cognitive link with a spatial notion of being “after” a perceived object from a subjective point of view, or “after” a conceptualized object from an objective perspective. However, the spatial 𐰚 *nioow*¹ looks more like an abessive than a spatial postessive and is strictly limited in our corpus to sentences where the marked NP is 𐰢 *ya*¹ ‘door’ (61). This uniqueness suggests that this spatial meaning in Tangut reached a certain stage of fossilization. There is in Lizu and in Ersu a locative *no* meaning ‘outside’ which must be cognate to Tangut 𐰚 *nioow*¹. With such links, one could conjecture that the fossilized abessive and the postessive/causal are from different origins. Only new fieldwork can potentially provide the data to allow us to know what happened.

- (61) 虺 撈 葦 鞞 𨔵 𨔵 𨔵
*njij² a-zow² ɣa¹ **niow¹** . wji² -l^ho*
 weapon PFV:UP-hold door **ABE** PFV:OUT-go.out
 ‘Держа меч, вышел за ворота.’ (Solonin 1995: 35)
 ‘He took the weapon and went out of the gates of the city.’ (12K, 132.09.06)

4.6 Summary

As I did for the verbal template, I list in Table 20 the cognates found in the two preceding sections in the domains of the noun and locative phrases. As in Table 16, the data is from Honkasalo 2019 (Geshiza), Gates 2021 (Mazur Stau), Lai 2017 (Wobzi), Prins 2016 (Kiomkyo), Zhang 2013 (Yuexi Ersu), and Bai 2019 (Munya). The Lizu form is from Chirkova (2017).⁷⁴

Some elements belong to the West Gyalrongic taxon (as the alternation between a CVC plain numeral and a monovocalic prefix), others only exist in Tangut and Geshiza.⁷⁵ The nominalizers are maybe the more striking commonality, even if these morphemes have lexical cognates elsewhere in Gyalrongic (see § 3.2). The resemblances between Geshiza, Tangut, and Ersu/Lizu are quite thought provoking although in the present state I can provide no further insights into these similarities.

5. Conclusion

The amount of common morphosyntactic similarities shared between Tangut and Geshiza Horpa is too important to be the result of mere chance. Language contact between Tangut and Horpa languages is not a plausible explanation since the Horpa languages are separated greatly from Tangut by time and space. Instead, the similarities between Tangut and Horpa suggest a close genetic relationship. Geshiza is particularly close to Tangut, and offers insights into Tangut grammar.

Apart from the fact that Geshiza Horpa and Tangut share the same distribution of orientational preverbs – a fact which points to the loss of preverbs seen in Khroskyabs and core Gyalrong (dir. 4 and dir. 5, cf. Table 2) as a shared innovation – morphological, semantic, and distributional comparison of verbal templates allows an interpretation of the so-called orientational preverb 𐰚𐰍 *dja*² as a perfective. Simultaneously, comparison gives new insights that could be valuable for the history of the macro-Qiangic preverb system. The analysis of optative preverbs in the light of Geshiza Horpa then gives the key to the process of derivation occurring in Tangut from Type-A preverbs to Type-B preverbs, with a binary

74. The Lizu forms for which cognates can be found in Ersu are not indicated. Lizu ‘on’ is *tɛ^hòtɛ^hó*.

75. It is worth recalling that in all three languages this numeral prefix is a perfect homonym to the (non-orientational) interrogative preverb.

Table 20. Overview of the cognacy with Tangut in macro-Qianguic (Noun & Locative phrases)

Tangut	Geshiza	Maz. Stau	Wobzi	Kyomkyo	Y. Ersu / (Lizu)	Munya
Numerals	1	𐼀 <i>lew</i> ¹ 𐼁 <i>a-</i>	<i>ro</i> <i>æ-</i>	<i>rây</i> <i>â-</i>	<i>ta(-)</i>	<i>to(-)</i>
	5	𐼂 <i>ɲwa</i> ¹	<i>ɲuæ</i> (< * <i>w-</i>) <i>ngve</i>	<i>mɲá</i> <i>kamɲi</i>	<i>ɲuà</i>	<i>ɲa-</i>
Nominalizers		𐼃 <i>-mɲijr</i> ² 𐼄 <i>-sɲi</i> ²	<i>-me</i> <i>-s^{hi}</i>			
	LOC	𐼅 <i>=ɲa</i> ²	<i>-ɲa</i>	<i>=ka</i>		
Case	SUPE	𐼆 <i>=s^{hi}ad</i> ¹	<i>te^ha</i>	<i>=t^ha</i>	<i>=te^ho</i>	
	INTERE 'when'	𐼇 <i>=k^ha</i> ¹	<i>=k^ha</i> 'about' INS 'about'	<i>wak^ha</i>	<i>=kə</i> (<i>k^hæ</i>)	
	POSTE 'because' ABE	𐼈 <i>nioow</i> ¹	'after' <i>ɲo</i> 'because'			
		𐼉	'after' 'because' 'outside'		<i>ɲo</i> 'outside'	

aspectual basis for the stem where the same process derives the optative from the imperative and the interrogative from the indicative perfective.

Tangut and Geshiza behave very similarly with regards to negation, both systematically and semantically; there is an etymological link between two modal preverbs in Tangut and their cognates in West Gyalrongic.

My analysis of verb agreement, made across each paradigm, shows common retentions abandoned in Wobzi Khroskyabs, even if the parallelism of the agreement system of Wobzi seems at first sight closer to Tangut. The analysis of suffixes and enclitics also revealed many morphemes behaving in the same way, not only for one use, but a whole range of uses observed in Geshiza.

Some aspects of noun and locative phrases display cognacy, in form and function, which is unlikely to be due to mere chance. Geshiza Horpa is now the closest known relative to Tangut. This proximity has already led to new hypotheses in the understanding of nominalizers, and to new clues which will be followed soon in other works, which should rely on data from a larger range of Horpa languages.

Methodologically speaking, the present paper also exploits an original way of establishing cognacy by using cognatic homonymy as a comparative tool. Such a tool cannot ascertain cognacy by itself, but can still be a valuable member of what is known in judicial practice as ‘a set of concordant items of evidence’ (French ‘faisceau d’indices’). More investigation will be needed to improve our understanding of the relationship between the Ersu/Lizu/Duoxu cluster and Gyalrongic, the proximity of the former with Tangut having already been pointed out, in the case of Duoxu, by Nishida.

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Abbreviations

*	unattested	$\Sigma[B]$	stem 2 of transitive verbs
!	unexpected	Σ_1	non-past stem
?	unknown	Σ_2	past stem
Σ	verb stem	1	first person agreement
$\Sigma[A]$	stem 1 of transitive verbs	2	second person agreement

3	third person agreement	LNK	linker
1SG	first person singular pronoun	LV	light verb
2SG	second person singular pronoun	MED	mediative (→sensorial)
		MEDE	medessive
12K	<i>The Twelve Kingdoms</i>	MIR	mirative
ABE	abessive	MARK.TR	marked transitive (→inverse)
ADV	adverbializer	MOD	modal
AGT	agentive (→ergative)	N	North
ANM	animate	NACT	non actual
ANTE	antessive	NAT	nativity and source suffix
ANTIERG	anti-ergative	NP	Noun Phrase
ASSOC	associative	NPST	non past
ASSERT	assertive	NSIT	new situation
AUTOB	autobenefactive	obl.down	oblique down
<i>Avtṃsk</i>	<i>Avataṃsaka Sūtra</i>	obl.up	oblique up
centrf	centrifugal	OPT	optative
centrp	centripetal	outw.	outwards
COMIT	comitative	PART	particle
COMP	comparative	PL	plural
CONC	concessive	POSTE	postessive
CONJ	conjunction	POT	potential preverb
<i>Cxj</i>	<i>New collection on parental love and filial piety</i>	RED	reduplication
		RHT	rhetorical
DEM _{dist}	distal demonstrative	S	South
DEM _{prox}	proximal demonstrative	SENS	sensory evidential
DIR	first series orientational preverb	SUBE	subessive
		SUPE	superessive
downstr.	downstream	SUPL	superlative
E	East	T.	Tangut
EP	epistemic suffix	TAME	tense, aspect, mood, evidentiality
EX.V	existential verb		
EXCLAM	exclamative	TEL	telic
G.	Geshiza	TERM	terminative
h.alt.	high altitude	TOP.C	contrastive topic
HUM	humilific	TOPON	toponym
HYP	hypothetical	unspec.	unspecified
IFR	inferential	upstr.	upstream
INTERE	interessive	VP	Verb Phrase
INV	inverse	W	West
inw.	inwards	X	unknown pronunciation
l.alt.	low altitude		

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