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A study of cognates between Gyalrong languages and Old Chinese

Gyalrongic languages, a subgroup of the Burmo-Qiangic branch of the Sino-Tibetan family, are spoken in the Western Sichuan Province of China. They are polysynthetic languages, and present rich verbal morphology. Although they are not closely related to Chinese, they are of particular interest for Sino-Tibetan/Trans-Himalayan comparative linguistics with regards to their conservative phonology and morphology. Based on previous studies on Old Chinese phonology, combining with recent fieldwork data, this paper aims to show how Gyalrong languages could shed light on Old Chinese morphology and thus contribute to the Old Chinese reconstruction. It also proposes a list of possible cognates between Old Chinese, Gyalrong languages, indicating also Tibetan cognates when available.

Keywords: Gyalrong languages, Old Chinese language, etymological cognates, comparative morphology, historical reconstruction.

1. Introduction

Although Gyalrongic languages are not closely related to Chinese (Sagart et al. 2019), they are of particular interest for Sino-Tibetan/Trans-Himalayan comparative studies since they are the rare languages in the family exhibiting complex consonant clusters (Lai 2017) and conservative morphologies (Jacques 2016b; Gong 2017). However, they have hitherto been neglected by comparativists. This paper aims at providing easily accessible data on potential cognates between Old Chinese (OC) and Gyalrong, and discusses how these comparisons could contribute to improve OC reconstruction.

In section 2, we show how Gyalrong data could shed light on distinction between the anticausative and passive derivations in OC. Section 3 proposes a hypothesis on the origin of OC **ʃ-* from pre-OC **sl-*. Section 4 raises some issues concerning medial **-r-* in current OC reconstructions.

The last section contains a list of possible cognates shared among the Gyalrong languages, Tibetan and the Old Chinese, classified by OC rhymes[1]. The reason for choosing rhymes as the order of classification is justified by the fact that there is some consensus on the rhyme categories of OC, while there are more divergences concerning the consonants. In addition, correspondences are easier to establish between the rhymes of OC and Gyalrongic than between their onsets. Many of the etymologies in this work have been discussed before, in particular those with Tibetan cognates, for which we cite the reference in Schuessler (2007) as a summary of previous scholarship (in particular Conrady 1896; Simon 1929; Coblin 1986; Peiros and Starostin 1996; Gong 1995), and builds on previous comparative research concerning Gyalrong languages (Jacques 2004, 2005).

[1] One of the reviewers has kindly advised to add a long table as data supplement. We agree with this advice, but before making the table accessible as recommended by the reader, it is better to wait until we have data of more languages, in order to provide a more complete database.

The Gyalrong data come from three varieties, Japhug, Brag-bar (Situ) and Cogtse (Situ). For each cognate, we first list the Chinese word, provided with middle Chinese (MC) and OC reconstructions. We systematically cite Baxter and Sagart's (2014) reconstruction, but in cases when the comparisons are incompatible with their model, we propose alternative possibilities[2].

2. Anticausative and passive derivations

Anticausative[3] verbs in Gyalrong languages present initial prenasalizing alternations with regards to the basic transitive verbs (Jacques 2008, 84–87; Zhang 2016, 93–95). This process is no longer productive in modern Gyalrong languages. Jacques (2015c) suggests that this prenasalizing element could be etymologically related to the spontaneous-autobenefactive prefix *nɯ-* in Japhug. While the prenasalizing anticausative has been lexicalized, the spotaneous-autobenefactive has undergone regularization and is still highy productive.

As shown in (1), the anticausative verb Brag-bar (Situ) *kə-mblēt* 'be extinct' (S *ɟavən* 'bee'), presents initial prenasalizing alternation in regard to the transitive verb Brag-bar (Situ) *ka-plēt* 'to extinguish' (A *kəɕtɕāk* 'leopard', O *kəɟōk* 'sheep').

(1) a. Brag-bar (Situ) *ka-plēt* 'to extinguish'
kəɕtɕāk kə kəɟōk kəʑē tə na-plôt.
leopard ERG sheep all DET PFV-to.extinguish$_{II}$
'The leopard has eaten all the sheep.'

b. Brag-bar (Situ) *kə-mblēt* 'be extinct'
tʂaɛî ɟavən rgombô kəsâm ˈro-ɕput rɐnə,
Bkra.shis bee box three IFR.PFV -to.feed$_I$ but
u-ɟavən ɲo kəʑē no-ˈkə-mblɐt
3SG.POSS-bee PL all IFR.PFV-3NS.INTR-be.extinct$_I$
'Bkra.shis has fed three beehives of bees, but his bees are all died.'

Note that the direction of derivation should be from a transitive/causative to an intransitive/anticausative verb. This process is not productive in modern Gyalrong languages, however Jacques (2008, 86) noticed that in Japhug it is applied to a Tibetan loanword Japhug *χtor* 'to scatter (vt.)' (Tibetan གཏོར *gtor* 'to scatter') ~ Japhug *ʁndɤr* 'be scattered (vi.)', whereas the anticausative counterpart does not exist in Tibetan (Jacques 2015c).

Many languages in the ST/TH family have voicing alternations related to transitivity. In Middle Chinese and attested Sinitic languages the prenasalized element has been lost, leaving only initial voicing alternations. Baxter and Sagart (2014) reconstructed a prenasalizing **N-* prefix to account for this voicing alternations attested in MC, as for instance between 別 *pjet* < B/S **pret* 'to separate' and 別 *bjet* < B/S **N-pret* 'be separated', an example semantically compatible with an interpretation as an anticausative derivation.

However, we also find in OC voicing alternations with meanings that cannot be interpreted as anticausative, such as that between 見 *kenH* < B/S **[k]ʿen-s* 'to see (vt.)' and 現 *ɣenH* < B/S **N-[k]ʿen-s* 'to appear (vi.)'. Anticausative verbs denote spontaneous situations and

[2] Since the aim of this study is to illustrate the extent to which Gyalrong languages can contribute to OC reconstruction, we provide some minor amendments to existing reconstruction systems. A full revision of OC historical phonology is beyond the scope of this paper.

[3] This argument demoting mechanism derives a intransitive verb from a transitive verb, by suppressing the A of the basic verb and promoting the original O to S (Dixon and Aikhenvald 2000, 315).

exclude an external cause or agent (Haspelmath 1993), and are thus incompatible with verbs of perception. It is thus difficult to compare the voicing alternation in 現 *ɣenH* < B/S **N-[k]ˁen-s* with the Gyalrong anticausative.

In Gyalrong languages however, we also find a passive prefix (*a-* in Japhug, *o-* in Bragbar, *ŋa-* in Cogtse) originating from a nasal **ŋa-*. Example (2) shows the triple contrast between a base transitive verb, its anticausative and its passive in Japhug.

(2) Japhug *prɤt* 'to cut (vt.)'
Japhug *mbrɤt* 'be cut (ANTICAUS, vi.)'
Japhug *a-prɤt* 'be cut (PASS, vi.)'

While a morphological distinction between passive and anticausative seems to be absent in OC, it is possible that the voicing alternation reconstructed as **N-* by Baxter and Sagart results in fact from the merger of an anticausative **N-* and a passive **ŋ-* derivation (this would not be the only case of merger between etymologically unrelated morphological alternations in OC; the *qusheng* derivation appears to be a similar case, see Jacques 2016a).

The verbs 敗 *bæjH* / 敗 *pæjH* possibly provide evidence for a contrast between passive and anticausative derivations. The reading *bæjH* with a voiced initial has two distinct meanings 'be damaged' (3) and 'be defeated' (4), whereas that with an unvoiced initial *pæjH* only means 'to defeat' (5).

(3) Anticausative 敗 *bæjH* < B/S **N-pˁra[t]-s*

魚	餧	而	肉	敗,	不	食
ŋjo	*nwojX*	*ɲi*	*ɲuwk*	*bæjH*	*pwot*	*ʑik*
fish	decay	CONJ	meat	decay	NEG	to.eat

'He did not eat fish or flesh which has gone bad. (Translation of James Legge).' 《論語·鄉黨》

(4) Passive 敗 *bæjH* < B/S **N-pˁra[t]-s*

梁惠王	以	土地	之	故,	糜
Ljaŋ.ɣwejH.hjwaŋ	*jiX*	*tʰuXdijH*	*tɕi*	*kuH*	*mje*
King.Hui.of.Liang	PREP:because.of	territory	GEN	reason	to.tore

爛	其	民	而	戰	之,	大	敗
lanH	*gi*	*mjin*	*ɲi*	*tɕenH*	*tɕi*	*tajH*	*bæjH*
to.destroy	POSS.3SG	people	CONJ	to.lead...to.war	PRON	great	be.defeat

'The king Hui of Liang, for the matter of territory, tore and destroyed his people, leading them to battle. Sustaining a great defeat. (Translation of James Legge)' 《孟子·盡心下》

(5) Transitive 敗 *pæjH* < B/S **pˁra[t]-s*

冬,	與	越人	水	戰,	大	敗	越人
towŋ	*joX*	*hjwotɲin*	*ɕwij*	*tɕenH*	*tajH*	*pæjH*	*hjwotɲin*
winter	with	Yue.people	water	to.fight	great	to.defeat	Yue.people

'In the winter he had an engagement with that of Yue, on which he inflicted a great defeat. (Translation by James Legge)' 《莊子·逍遙遊》

Since the meaning 'be damaged' is necessarily older than 'be defeated' (a semantic change 'defeat' → 'destroy' seems highly unlikely), this verb seems to provide evidence for the idea that the intransitive 敗 *bæjH* is the base form, and that the transitive 敗 *pæjH* is derived from it by a causative prefix (as was insightfully pointed out by Wang Hongzhi, pc).

However, the reasons for not reconstructing a sigmatic causative to account for these voicing alternations have been discussed at length elsewhere (Jacques 2015b; Sagart and Baxter 2012), and it is possible to reconcile OC and Gyalrong data by supposing that 敗 *pæjH* is cognate of Brag-bar (Situ) *ka-prāt* 'to break', Japhug *prɤt* 'to break', and originally meant 'destroy, damage'. The form 敗 *bæjH* **N-pˁrats* in the meaning 'be damaged' would be an anti-causative form of this transitive verb ('become damaged spontaneously, by itself'), itself cognate to Cogtse (Situ) *kɐ-mbrêt* 'to break', Brag-bar (Situ) *kə-mbrāt* 'to break' and Japhug *mbrɤt* 'to break'. The base verb then underwent semantic narrowing to the sense of 'to defeat', from which a passive **ŋ-pˁrats* (merging early with **N-pˁrats*, and undistinguishable in MC from the anticausative) was derived.

3. On the origin of OC **l̥-*

Sagart and Baxter (2012) propose a sound change chain concerning consonant clusters consisting of a presyllable **s(ə)-* and a nasal. Pre-OC tight *s-* preinitial consonant clusters result in voiceless nasals in OC, whereas loose clusters became tight clusters in OC, as illustrated in (6):

(6) Origin of voiceless nasal in OC (adapted from Table 1 in Sagart and Baxter 2012)

Pre-OC		OC		MC
*sm-, *sn-, *sŋ-	>	*m̥-,*n̥-,*ŋ̊-	>	*χ*, *th*, *χ*
*sə.m-, *sə.n-, *sə.ŋ-	>	*sm-, *sn-, *sŋ-	>	*s*

In two sets (7), **l̥-* in OC corresponds to the consonant cluster *ɕl-* in Gyalrong languages, suggesting that one of the origins of OC **l̥-* is earlier **sl-* (in line with Yakhontov and Starostin 1989, 218).

(7)

OC	Gyalrong
失 *ɕit* < B/S **l̥i[t]* 'to lose'	Japhug *ɕluɣ* 'toletsth.fall'
	Cogtse (Situ) ka-ʃlôk 'to fall (from hand)'
脫*thwat* < B/S**mə-l̥ˁot* 'to take off'	Brag-bar(Situ) *ka-ɕlēt* 'to fall (fromhand)'

We thus propose **sli[t]* and *slˁot* as pre-OC forms of 失 and 脫.

(8) Origin of OC **l̥*

Pre-OC		OC		MC
**sl-*	>	**l̥-*	>	*th-*, *ɕ-*
**sə.l-*	>	**sl-*	>	*s-*

Japhug *ɕluɣ* 'to let sth. fall' is a lexicalized causative of Japhug *luɣ* 'to detach' (the productive causative, expressing a volitional action, is Japhug *sɯɣluɣ* 'to cause to detach'), and this is a case where the OC preserves a morphological element as indirect trace only.

4. **-r-* medial in OC reconstruction

The medial **-r-* in OC only partially corresponds to medial *-r-* in languages other than Chinese. In particular, based on comparisons by Gong (1995), Handel (2002) points out that the onsets reconstructed as dental stop or dental affricates+**-r-* generally correspond to clusters with preinitial *r-* in Tibetan, and suggests that metathesis from **rC-* to **Cr-* took place, as summarized in (9):

(9)	OC	Non-Chinese languages
Grave	**Cr-*	**Cr-*
	r-C* (>C-*)	**r-C*
Acute	**r-C* (>**Cr-*)	**r-C*
**s-*	**s-*	**sr-* (before front vowels)
**s-*	**s-*	**s-* (before non-front vowels)

Comparative data from Gyalrong languages could shed light at least on two aspects.

First, the comparison of Japhug *tɤ-zrɤm* 'root' to 參 B/S **s.rum* 'root' shows that Handel (2002)'s hypothesis that **sr-* merges with **s-* in languages other than Chinese before non-front vowel must be amended (Jacques 2015a).

Second, the grave initial syllables reconstructed with medial **-r-* in OC in present reconstructions correspond in some cases to words with preinitial *r-* in Gyalrong languages (Table 1). We suggest to reconstruct preinitial **r-* in these cases in OC.[4] The difference between preinitial **r-* and medial **-r-* is not detectable on the basis of Chinese-internal evidence alone, though (depending on the relative chronology of sound changes between Chinese and Viet-Muong) it is possible that preinitial **r-* would yield lenition in old loanwords into Vietnamese (see Pulleyblank 1981, 284 for a suggestion in these lines).

Unlike Handel, we do not think that it is necessary to suppose that metathesis took place in OC – for examples of retroflexion of dental stop by preceding liquids, see Burrow (1972) on Indic languages and Kümmel (2007, 231). Rather, the rhotic (and perhaps other types of preinitials, as suggested by Pulleyblank) became a suprasegmental rhotacized voice quality, as proposed by (Miyake 2012).

Table 1. Preinitial **r-* in OC

MC	B/S	Amended OC	Gyalrong cognates
冰 *piŋ* 'ice'	**p.rəŋ*	**rpəm*	Cogtse (Situ) *ta-rpâm* 'ice'
			Brag-bar (Situ) *ta-rpâm* 'ice'
			Japhug *tɤ-jpɣom* 'ice'
眉 *mij* 'eyebrow'	**mr[ə][r]*	**rməj*	Cogtse (Situ) *ta-rɲê* 'hair',
			Brag-bar (Situ) *ta-rɲê* 'hair'
			Japhug *tɤ-rme* 'hair'
顏 *ŋæn* 'face'	**C.ŋˁrar*	**rŋˁan*	Japhug *tɯ-rŋa* 'face'

There are however a number of unexplained exceptions, such as 熬 *ŋaw* < B/S **ŋˁaw* 'to fry, roast' (Cogtse (Situ) *ka-rŋô* 'to fry', Brag-bar (Situ) *ka-rŋô* 'to fry', Japhug *rŋu* 'to fry') or 名 *mjieŋ* < B/S **C.meŋ* 'name' (Cogtse (Situ) *tə-rmê* 'name', Brag-bar (Situ) *tə-rmiê* 'name', Japhug *tɤ-rmi* 'name') for which no rhotacization can be reconstructed in OC. Note that Tibetan *ming* མིང་ 'name' also lacks a medial or preinitial *r-*.

[4] This hypothesis implies to abandon the reconstruction **r.ŋˁaʔ* for 魯 *luX* proposed to account for a *xiesheng* relationship with 魚 *ŋjo* 'fish'.

5. Gyalrong cognates

5.1. Open syllable rhymes

5.1.1. 鱼 yu *a

The rhyme 鱼 *a generally corresponds to the vowel *a* in Cogtse (Situ), *iɛ* in Brag-bar (Situ) and *a* in Japhug. The Brag-bar has undergone the *a >iɛ sound change.

1. 斧 *pjuX* < B/S **p(r)aʔ* 'axe', Cogtse (Situ) *ʃa-rpâ* 'axe', Brag-bar (Situ) *ɕɐ-rpiɛ̂* 'axe', Japhug *tɯ-rpa* 'axe'. The first syllable in Situ etyma is the constructed status of the noun Cogtse (Situ) *ʃɐ̃* 'firewood', Brag-bar (Situ) *ɕê* 'firewood'. In Japhug, the *tɯ-* prefix is the indefinite possessive. The Gyalrongic data suggest the presence of an *r-* preinitial in Old Chinese (see section 4), but the rime *-ju* in MC is ambiguous as to the presence or absence of a rhotacizing element.
2. 下 *ɣæH* < B/S **m-gˁraʔ-s* 'to descend', Cogtse (Situ) *kɐ-ŋgrêk* 'fall down', Brag-bar (Situ) *kə-ŋgriɛ̂* 'fall down', Japhug *ŋgra* 'fall down'. The velar coda in Cogtse is unexplained. In Gyalrongic languages this verb is the anticausative of the transitive verb (see section 2), reflected by Brag-bar (Situ) *ka-kriɛ̂* 'to cause to fall down', Japhug *kra* 'to cause to fall down'. An alternative etymology would be 落 *lak* < B/S **kə.rˁak* 'to fall'[5].
3. 蘇 *su* < B/S **s-ŋˁa* 'to revive'. OC **sŋ-* became *s-* in MC (Baxter 1992, 225; Sagart 1999, 65; Schuessler 2007, 482), Cogtse (Situ) *kə-mə-sŋâr* 'feel cold', Brag-bar (Situ) *kə-mə-sŋiɛ̂r* 'come to oneself', Japhug *sŋa* 'come to oneself'. The Situ forms have a *mə-* prefix and a *-r* coda which remain unexplained.
4. 吾 *ŋu* < B/S **ŋˁa* 'I, my', Tibetan *nga* ང་ 'I' (Schuessler 2007, 518), Cogtse (Situ) *ŋā* 'I', Brag-bar (Situ) *ŋā* 'I', Japhug *a-ʑo* 'I'. Northern Gyalrong languages have lost the velar nasal initial *ŋ-* of the singular first person pronouns.
5. 咀 *dzjoX* < **dzaʔ* 'to chew', Tibetan *za-ba* ཟ་བ 'to eat' (Schuessler 2007, 323). Cogtse (Situ) *ka-zā* 'to eat', Brag-bar (Situ) *ka-ndziɛ̂* 'to eat', Japhug *ndza* 'to eat'.
6. 五 *ŋuX* < B/S **C.ŋˁaʔ* 'five', Tibetan *lnga* ལྔ 'five' (Schuessler 2007, 519). Cogtse (Situ) *kəmŋô* 'five', Brag-bar (Situ) *kəmŋêj* 'five', Japhug *kɯmŋu* 'five'. The correspondence of the vowel is irregular. In addition, the correspondence between *lŋ-* in Tibetan and *mŋ-* in Gyalrong languages is also unexplained (Jacques 2004, 125).
7. 夜 *jæH* < B/S **[ɢ]Ak-s* 'night', Tibetan *zhag* ཞག 'one night' (Schuessler 2007, 561–62), Brag-bar (Situ) *rə-ɟāk* 'one night', Japhug *tɤ-rʑaʁ* 'night'. The Brag-bar form takes the numeral prefix *rə-* 'one'. While this cognate set is not in doubt, the reconstruction of the onset in OC, Tibetan and Gyalrong is problematic. Japhug *rʑ-* and Situ *ɟ-* could respectively originate from **rj-* and **j-*, and OC might be better reconstructed with a primary yod initial.

5.1.2. 支 zhi *e

1. 兒 *ɲe* < B/S **ŋe* 'child'. Jacques (2004, 223) relates this word to Japhug *nɤ-rŋi* 'baby', although the first syllable in the Japhug etyma is unexplained. This words could also be related to a lexicalized diminutive suffix in Situ, as in Cogtse (Situ) *kho-lŋâ* 'infant' Brag-bar (Situ) *tapə-rŋiɛ̂* 'infant', however, correspondence between *i* in Japhug and *a/iɛ* in Situ seems irregular and needs to be further investigated.

[5] Etymology suggested by Laurent Sagart.

2. 髀 *bejX* < B/S **m-pʲeʔ* 'thighbone', Tibetan *dpyi* དཔྱི 'thighbone, hipbone' (Schuessler 2007, 164), Japhug *tɯ-χpɣi* 'thigh'.

5.1.3. 之 zhi **ə*

The rhyme 之 **ə* corresponds to *a* in Cogtse (Situ), **a* > *iɛ* in Brag-bar (Situ) and *a* in Japhug.

1. 富 *pjɯwH* < B/S **pək-s* 'rich'. Sagart (2017) relates this word to Tibetan *phag* ཕག 'pig'. If this etymology is accepted, it is also comparable to Cogtse (Situ) *pāk* 'pig', Brag-bar (Situ) *piāk* 'pig', Japhug *paʁ* 'pig'. Schuessler (2007, 152) relates the 'pig' etymon to 豝 *pae* < B/S **pʲra* instead.
2. 子 *tsiX* < B/S **[ts]əʔ* 'child'. Schuessler (2007, 633) proposes that this word is the ST root for 'offspring, child' and relates it to Tibetan *tsha-po* ཚའོ 'grandchild; nephew'. It could be comparable to Brag-bar (Situ) *ta-ˈtsa-pu* 'father's sister's child', Japhug *tɯ-ftsa* 'father's sister's child; sister's child' (for the Gyalrong kinship systems and the designation of this word, see Jacques 2012). The Brag-bar etymon is in an incomplete status of noun-compounding since the word is attested with a penultimate accent instead of the final tonal contrast, it can be resulted by a recent suffixation of diminutive *-pu* (*ta-pū* 'child') on the base noun **ta-(p)tsa* due to changes of its kin terminology. The *p-* preinitial is preserved in the derived social relation collective Brag-bar (Situ) *koɕə-ptsa-pâ* 'paternal cross cousins' daughters'. Correspondence between *p-* preinitial in Situ and *f-* preinitial in Japhug is discussed in Jacques (2004, 269–70). Another possible cognate of 子 is only shared by Situ dialects, Cogtse (Situ) *tə-tsâ* 'boy, son', Brag-bar (Situ) *tə-ziê* 'boy, son'. The Brag-bar etymon has undergone the **ts-* > *z-* lenition, as in Brag-bar (Situ) **tə-matsa* > *tə-mazâ* 'mother's sister's child'.
3. 裘 *gjɯw* < B/S **[g]ʷə* 'fur garment', Tibetan *gos* གོས 'clothes', Cogtse (Situ) *tə-wê* 'garment', Brag-bar (Situ) *tə-ŋgâ* 'garment', Japhug *ŋga* 'to wear'. The *w-* initial of the Cogtse etymon can be explained by **g-* > *w-* lenition in this dialect. The Tibetan etymon is suffixed by the *-s* nominalizer.
4. 耳 *ɲiX* < B/S **C.nəʔ* 'ear', Tibetan *rna* རྣ 'ear' (Schuessler 2007, 225–26), Cogtse (Situ) *tə-rnâ* 'ear', Brag-bar (Situ) *tə-rniê* 'ear', Japhug *tɯ-rna* 'ear'.
5. 牛 *ŋjɯw* < B/S **[ŋ]ʷə* 'ox', Cogtse (Situ) *nəŋâ* 'cow', Brag-bar (Situ) *nəŋiê* 'cow', Japhug *nɯŋa* 'cow'. The first element in the Gyalrong etyma could be related to the constructed status of the word Cogtse (Situ) *tə-nū* 'udder', Brag-bar (Situ) *tə-nū* 'udder', Japhug *tɯ-nu* 'udder'. Although most Gyalrong languages have lost the **-w-* medial, evidence can be found in Zbu *ŋwéʔ* (Gong 2018, 40).

5.1.4. 侯 hou **o*

The rhyme **o* in OC corresponds to the back vowels in Gyalrong language. It corresponds to *ɯ* or *u* in Japhug, and *u* or *o* in Situ.

1. 坐 *dzwaX* < B/S **[dz]ʲo[j]ʔ* 'to sit', Japhug *a-mdzɯ* 'to sit'.
2. 乳 *ɲuX* < B/S **noʔ* 'milk; nipple', Tibetan *nu-ma* ནུ་མ 'udder' (Schuessler 2007, 446), Cogtse (Situ) *tə-nū* 'udder', Brag-bar (Situ) *tə-nū* 'udder', Japhug *tɯ-nɯ* 'udder'.
3. 后 *ɣuwX* < B/S **gʲ(r)oʔ* 'sovereign; queen', Tibetan *mgo* མགོ 'head', Tibetan *'go-pa* འགོ་པ 'headman' (Schuessler 2007, 279–80), Cogtse (Situ) *ta-kō* 'head', Brag-bar (Situ) *ta-wô* 'head', Japhug *tɯ-ku* 'head'. The initial consonant of the Brag-ba etymon has undergone the **k-* > *w-* lenition.

4. 後 *ɣuɯX* < B/S **[ɢ]ˢ(r)oʔ* ‘after’ , Cogtse (Situ) *mə-ŋkhū* ‘be after’, Brag-bar (Situ) *mə-ŋkhū* ‘be after’, Japhug *ma-qhu* ‘be after’. The Situ and Japhug etyma have a denominal prefix (Jacques 2004, 407).
5. 腑 *pjuX* < **poʔ* ‘internal organs’, Cogtse (Situ) *tə-po-leŋtʃê* ‘intestine’, Brag-bar (Situ) *tə-vo-loŋtɕâ* ‘intestine’, Japhug *tɯ-pu* ‘intestine’. The initial consonant of the cognate base in Brag-bar has undergone the **p- > v-* lenition.
6. 軀 *khju* < **kʰ(r)o* ‘body; person’, Tibetan *sku* སྐུ ‘body, statue’ (Schuessler 2007, 435), Cogtse (Situ) *tə-skrū* ‘body’, Brag-bar (Situ) *tə-skrū* ‘body’, Japhug *tɯ-skhrɯ* ‘body’.
7. 寇 *kʰɯwH* < B/S **[k]ʰˢ(r)o-s* ‘to rob; robber’, Tibetan *rku-ba* རྐུ་བ ‘to steal’ (Schuessler 2007, 336), Brag-bar (Situ) *kə-mərkâ* ‘bandit’, Japhug *mɯrkɯ* ‘to steal’. The Brag-bar form might be loanword from other Gyalrong languages, since it has an unexpected *ə* vowel.
8. 嘔 *ʔuɯX* < B/S **qˢ(r)oʔ* ‘vomit’, Tibetan *skyug* སྐྱུག ‘vomit’ (Schuessler 2007, 407, 595), Japhug *qioʁ* ‘vomit’. The final glottal stop **-ʔ* possibly corresponds to Tibetan *-g* and Japhug *-ʁ* (Schuessler 2007, 31–32).

5.1.5. 幽 you **u*

The rhyme 幽 **u* correspond to *u* in Cogtse, *u* in Brag-bar and *ɯ* in Japhug.

1. 保 *pɯwX* < B/S **pˢuʔ* ‘to take care of, protect’. In Gyalrong languages we found fixed expressions such as Brag-bar (Situ) *u-pû ka-viê* ‘to take care of’, Japhug *ɯ-pɯ kɤ-pa* ‘to take care of’, consisting of a possessive prefixing action nominal and a light verb Brag-bar (Situ) *ka-viê* ‘to do’, Japhug *kɤ-pa* ‘to do’. The inalienably possessed noun *u-pû*/*ɯ-pɯ* in this collocation can be analyzed as an action nominal, as in other non-ambiguous cases Brag-bar (Situ) *tə-ɕmô ka-viê* ‘to steal’, consisting of the action nominal Brag-bar (Situ) *tə-ɕmô* ‘stealing’ whose corresponding verbal form is Brag-bar (Situ) *ka-ɕmô* ‘to steal’. Such analysis would suggest the existence of the corresponding verbs Brag-bar (Situ) **ka-pû* ‘to take care of’ Japhug **kɤ-pɯ* ‘to take care of’ at an earlier stage. An alternative to this light verb construction is a denominal transitive Brag-bar (Situ) *ka-ra-pupū* ‘to take care of’ (stem I *rapəpā*, stem II *rapəpâ*, stem I’ *rapupū*) (see 10). The verb is clearly derived from a nominal base *-pu*, by adding a denominal prefix *ra-* on the reduplicated base. It is possible that in Gyalrong languages the basic verb ‘to take care of’ has been lost, whereas the derived action nominal has been preserved and became then the base noun. A similar case is the verb *donner* ‘to give’ in French, which does not come from Lat. *dare* but was recreated from *don* (< *donum* ‘gift’) (List 2016).
2. 浮 *bjuw* < B/S **m.b(r)u* ‘float’ could be indirectly related to Brag-bar (Situ) *ʑbrū* ‘boat’ and Japhug *ʑmbrɯ* ‘boat’, assuming that these nouns are fossilized sigmatic instrumental nominalizations from a verb **mbru* meaning ‘float’.
3. 帽 *mawH* < B/S **mˢuk-s* ‘hat’. Sagart (2017) relates this word to Tibetan *rmog* རྨོག ‘hat, helmet’. The word for ‘mushroom’ shared in all Gyalrong languages could be possible cognate, Cogtse (Situ) *tɐ-jmōk* ‘mushroom’, Brag-bar (Situ) *ta-jmōk* ‘mushroom’, Japhug *tɤ-jmɤɣ* ‘mushroom’ (Breton *tok touseg* ‘frog hat’ for ‘mushroom’).
4. 腦 *nawX* < B/S **nˢ[u]ʔ* ‘brain’, Cogtse (Situ) *tə-rnōk* ‘brain’, Brag-bar (Situ) *ta-rnōk* ‘brain’, Japhug *tɯ-rnoʁ* ‘brain’.
5. 肘 *ʧjuwX* < B/S **t-[k]<r>uʔ* ‘elbow’, Tibetan *gru-mo* གྲུ་མ ‘elbow’ (Schuessler 2007, 624), Cogtse (Situ) *tə-krū* ‘elbow’, Brag-bar (Situ) *tə-krû* ‘elbow’, Japhug *tɯ-zgrɯ* ‘elbow’. The *t-* preinitial in OC could be related to the indefinite possessive prefix *tV-* in Gyalrong languages.

6. 爪 *tʂæwX* < B/S **[ts]ʿ<r>u?* 'claw', Cogtse (Situ) *ta-ndzrū* 'nail', Brag-bar (Situ) *ta-ndzrū* 'nail', Japhug *tɯ-ndzrɯ* 'nail'.
7. 九 *kjuwX* < B/S **[k]u?* 'nine', Tibetan *dgu* དགུ 'nine' (Schuessler 2007, 320), Cogtse (Situ) *kəngû* 'nine', Brag-bar (Situ) *kəngû* 'nine', Japhug *ngɯt* 'nine'. The final *-t* in the Japhug etyma is an innovation in Northern Gyalrong languages; probably due to analogy from Japhug *kɯrcat* 'eighy' (Jacques 2004, 253).
8. 舅 *gjuwX* < B/S **[g](r)u?* 'mother's brother', Tibetan *a-khu* ཨ་ཁུ 'father's brother' (Schuessler 2007, 321), Brag-bar (Situ) *a-kû* 'mother's brother'. The first element in Brag-bar and Tibetan etymon is the vocative prefix. This word is the common Sino-Tibetan root for mother's brother (Benedict 1942), the Tibetan etyma has undergone a semantic shift from mother's brother to father's brother (Nagano 1994). Correspondence between voiced *g-* initial in OC and voiceless *k-* and *kh-* in Gyalrong and Tibetan etyma could be explained in a similar as (Jacques 2017a) proposes for 父 *pjuX* < B/S **[N-p](r)a?* and Tibetan *pha* ཕ 'father'. ST kin terms are often prefixed either by vocative or by possessive, therefore it is possible that a nasal element is inserted between the possessive/vocative prefix and the root, as the case in Limbu (Davids and Driem 1985).
9. 韭 *kjuwX* < B/S **s.[k](r)u?* 'allium', Cogtse (Situ) *ʃkō* 'onion', Brag-bar (Situ) *ɕkō* 'onion', Japhug *ɕku* 'onion', Tibetan *sgog-pa* སྒོག་པ 'wild onion'.

(10) a. Brag-bar (Situ) *u-pû ka-viê* 'to take care of'
nə-ta-ka-mbə-n *tə* *ostō* *u-pū* *rɐ-viê-n*
1SG PFV-1→2-NMLZ-to.give$_{II}$-2SG DET really 3SG.POSS-protection IMP-to.do$_{I}$-2SG
'Take care of what I gave to you.'

b. Brag-bar (Situ) *ka-ra-pupū* 'to take care of'
nə-ta-ka-mbə-n *tə* *ostō* *rɐ-nə-ra-ˈpəpə-n*
1SG PFV-1→2-NMLZ-to.give$_{II}$-2SG DET really IMP-AUTO-DENOM-protection$_{I}$-2SG
'Take care of what I gave to you.'

5.2. *-k* ending rhymes

5.2.1. 鐸 duo **ak*

The rhyme 鐸 **ak* in OC corresponds to *-ak* in Situ and *-aʁ* in Japhug. A few examples correspond to open syllables *a*/*iɛ* and *-a* respectively, a type of correspondence discussed by Sagart (2017).

1. 百 *pæk* < B/S **pʿrak* 'hundred', Tibetan *brgja* བརྒྱ 'hundred', Cogtse (Situ) *pərjâ* 'hundred', Brag-bar (Situ) *pərɟē* 'hundred', Japhug *ɣurʑa* 'hundred'. In Brag-bar, *iɛ* < **a* is realized as *e* after palatal stops. The initial **p-* of the OC etymon corresponds to a presyllable in Gyalrong languages, showing that OC underwent monosyllabicization in this word. The final stop in OC is discussed in Schuessler (2007, 69–70) and Sagart (2017).
2. 膊 *phak* < **pʰˤak* 'shoulder blade', Tibetan *phrag* ཕྲག 'shoulder' (Schuessler 2007, 170), Cogtse (Situ) *tə-rpāk* 'shoulder', Brag-bar (Situ) *ta-rpiāk* 'shoulder', Japhug *tɯ-rpaʁ* 'shoulder'. Since Tibetan lacks a **rp-* cluster, the comparison between Gyalrong and Tibetan suggest that a metathesis **rp-* → **pr-* took place in pre-Tibetan in this etymon.
3. 薄 *bak* < B/S **[b]ʿak* 'thin', Cogtse (Situ) *kə-mbâ* 'to be thin', Brag-bar (Situ) *kə-mbiê* 'to be thin', Japhug *mba* 'to be thin'.

4. 莫 *mak* < B/S **mˁak* 'there is no X such that X ...', Brag-bar (Situ) *kə-miāk* 'not be', Japhug *maʁ* 'not be'. This a common Sino-Tibetan negative copula, it is also related to the negative prefix *mV-* in Tibeto-Burman languages (Lai 2017, 248). Pulleyblank (2000) (also mentioned by Schuessler 2007, 70) considered the coda *-k* in **mˁak* to be a distributive suffix **-k*, and 莫 is derived from 無 **ma* > *mju* 'not have'. Another example provided by Pulleyblank (2000) is 或 **[ɢ]ʷˁək* > *ɣwok* 'someone, something', derived from 有 **[ɢ]ʷəʔ* > *hjuwX* 'have, exist'. Pulleyblank's hypothesis is not compatible with the comparison presented above.
5. 胳 *kak* < B/S **[C.q]ˁak* 'armpit', Tibetan *lag* ལག 'arm' (Schuessler 2007, 252), Cogtse (Situ) *tɐ-jēk* 'arm', Brag-bar (Situ) *ta-jāk* 'arm', Japhug *tɯ-jaʁ* 'arm'. This comparison would be more compatible with a reconstruction such as **klˁak* in OC.
6. 腋 *jek* < B/S **[ɢ](r)Ak* 'armpit', Tibetan *bzhag.'og* བཞག་འོག 'armpit' Japhug *tɯ-pjaʁpa* 'armpit' (the syllable *-pa* is a noun meaning 'down, bottom part'). This comparisons suggest eihter a primary yod or a lateral in OC rather than a uvular.

5.2.2. 錫 xi **ek*

1. 隻 *tsjek* < B/S **tek* 'single', Tibetan *gcig* གཅིག 'one' (Schuessler 2007, 614), Cogtse (Situ) *kə-tēk* 'one', Brag-bar (Situ) *kə-rīk* 'one', Japhug *tɤɣ* 'one'. The initial consonant *r-* of the Brag-bar etymon is due to the **t-* > *r-* lenition. A *t-* initial allomorph can be found in Brag-bar (Situ) *zɟa-tēk* 'eleven'.
2. 滴 *tek* < **tek* 'to drop; drop', Tibetan *thigs-pa* ཐིགས་པ 'a drop', Tibetan *'thig-pa* འཐིག་པ 'to drop' (Schuessler 2007, 209), Cogtse (Situ) *nthēk* 'drop CLF', Brag-bar (Situ) *rə-nthāk* 'drop'.

5.2.3. 職 zhi **ək*

A general correspondence between **ək* in OC and *ak* in Gyalrong languages can be found. The vowel *iɛ* < **a* is realized as *iaC* before velar codas in Brag-bar.

1. 革 *kɛk* < **kˁrək* 'hide' could be compared with Cogtse (Situ) *ka-klāk* 'peel off', Brag-bar (Situ) *ka-kliāk* 'peel off', under the assumption that the meaning 'hide' derives from 'skin that has been peeled off'.
2. 慝 *thok* < B/S **n̥ˁək* 'evil' Tibetan *nag-po* ནག་པོ 'black' (Schuessler 2007, 493), Cogtse (Situ) *kə-nēk* 'be black', Brag-bar (Situ) *kə-nâk* 'be black', Japhug *ɲaʁ* 'be black'. The meaning 'evil' is also found in the lexicalized nominal form Japhug *ɯ-ɣɲaʁ* 'disastrous consequence', in which the preinitial *ɣ-* is a lenited form of the velar participle prefix.
3. 織 *tɕik* < B/S **tək* 'to weave', Tibetan *btags* བཏགས 'to weave (PST)' (Schuessler 2007, 615), Brag-bar (Situ) *ka-tiāk* 'to weave', Japhug *taʁ* 'to weave'.
4. 色 *srik* < B/S **s.rək* 'color; countenance'. Jacques (2015a) relates this word to Japhug *tɤ-zraʁ* 'shame', despite the semantic gap. Alternative cognates 赤 *tshjek* < B/S **[t-qʰ](r)Ak*, 赫 *xæk* < B/S **qʰˁrak* 'red' are proposed by Schuessler (2007, 451).

5.2.4. **ik*

1. 節 *tset* < B/S **tsˁik* 'joint', Tibetan *tshigs* ཚིགས 'segment' (Schuessler 2007, 312), Brag-bar (Situ) *rə-rtsək* 'a segment', Japhug *tɯ-rtsɤɣ* 'segment'. The first syllable of the Brag-bar etymon is the numeral. It could also be related to Cogtse (Situ) *ka-ra-ntsīk* 'to cut (into segments', Brag-bar (Situ) *ka-ra-ntsīk* 'to cut (into segments)' (Stem I *ra-ntsək*, Stem II *ra-ntsîk*, Stem I' *ra-ntsīk*, details of stem alternations in Brag-bar see Zhang 2018).

2. 蝨 *ʂit* < B/S **srik* ‘louse’. **-ik* in OC became *-it* in MC (Baxter and Sagart 2014, 236). Schuessler (2007, 461) compares this word to Tibetan *shig* ཤིག ‘louse’. Japhug *zruɣ* ‘louse’ is also related. The correspondence between **sr-* in OC, Tibetan *ɕ-* and *zr-* in Japhug is treated in Jacques (2015a).

5.2.5. 屋 wu **ok*

1. 曲 *khjowk* < B/S **k*^{h}*(r)ok* ‘to bend’ and 局 *gjowk* < B/S **N-kh(r)ok* ‘be bent, curved’, Japhug *kɤɣ* ‘to curve’ and its anticausative Japhug *ŋgɤɣ* ‘be bent’
2. 啄 *træwk* < B/S **mə-t*^{ʂ}*<r>ok* ‘to peck’, Cogtse (Situ) *tə-ntôk* ‘beak’, Brag-bar (Situ) *tə-ntēk* ‘beak’. The vowel *e* in the Brag-bar etymon is due to a **o* >*e* sound change. This noun originates from a verb ‘to peck’ also indirectly attested as a fossilized participle in the compound Cogtse (Situ) *ʃi-kō kə-ntōk* ‘woodpecker’, Brag-bar (Situ) *ɕewo-ˈkontɐk* ‘woodpecker’, which can be regarded as a lexicalized S/A deverbal noun (Sun and Lin 2007; Jacques 2016c).
3. 殼 *khæwk* < B/S **[k*^{h}*]*^{ʂ}*rok* ‘shell’, Cogtse (Situ) *tə-rkhō* ‘bark’, Brag-bar (Situ) *tə-rkhō* ‘bark’, Japhug *ɯ-rqhu* ‘bark’, Tibetan *skogs-pa* སྐོག་པ་ ‘bark’. The absence of *-k* coda in Gyalrong etyma is unexplained.
4. 角 *kæwk* < B/S **C.[k]*^{ʂ}*rok* ‘horn’. Schuessler (2007, 309) relates this word to Tibetan *rwa* ར་ ‘horn’ (on the rhyme *-wa* in this word, see Jacques 2009). Cognates are found in Cogtse (Situ) *tə-rū* ‘horn’, Brag-bar (Situ) *tə-rū* ‘horn’, Japhug *ta-ʁru* ‘horn’.

5.2.6. 覺 jue **uk*, **iwk*

1. 毒 *dowk* < B/S **[d]*^{ʂ}*uk* ‘poison’, Tibetan *dug* དུག ‘poison’ (Schuessler 2007, 216), Cogtse (Situ) *tāk* ‘poison’, Brag-bar (Situ) *tə-ndōk* ‘poison’, Japhug *tɤ-ndɤɣ* ‘poison’. Cogtse (Situ) *tāk* ‘poison’ is a loanword, otherwise we would expect a voiced initial. Note that in Japhug, the loanword Japhug *tɯɣ* ‘poison’ (Jacques 2004, 166) coexists with the cognate form Japhug *tɤ-ndɤɣ* ‘poison’.
2. 六 *ljuwk* < B/S **k.ruk* ‘six’, Tibetan *drug* དྲུག ‘six’ (Schuessler 2007, 362), Cogtse (Situ) *kə-tʂōk* ‘six’, Brag-bar (Situ) *kətʂōk* ‘six’, Japhug *kɯtʂɤɣ* ‘six’. The initial consonant *tʂ-* in Situ and Japhug comes from the Proto-Gyalrong consonant cluster **tr-* (Jacques 2004, 294).
3. 腹 *pjuwk* < B/S **p(r)uk* ‘belly’, Tibetan *phugs* ཕུགས་ ‘innermost part’ (Schuessler 2007, 246), Cogtse (Situ) *tə-pōk* ‘belly’, Brag-bar (Situ) *tə-vōk* ‘belly’, Tibetan *bug* བུག ‘hole’. The Brag-bra etymon presents **p-* > *v-* lenition.
4. 目 *mjuwk* < B/S **C.m(r)[u]k* ‘eye’, Tibetan *mig* མིག ‘eye’ (Schuessler 2007, 392–93), Cogtse (Situ) *tə-mɲāk* ‘eye’, Brag-bar (Situ) *tə-mɲāk* ‘eye’, Japhug *tɯ-mɲaʁ* ‘eye’. The consonant cluster *mɲ-* in Gyalrong etyma comes from **mj-* in Proto-Gyalrong (Jacques 2004, 299).
5. 蹙 *tsjuwk* < **ts*^{ʂ}*iwk*. The rhyme **iwk* is reconstructed for this word given its *xiesheng* relation 戚 *tshek* < B/S **s.t*^{hʂ}*iwk*. A comparison with Japhug *sthoʁ* ‘to press’ would be possible if the sound change **st-* → **ts-* is accepted (Bodman 1969).

5.3. *-ŋ* ending rhymes

Gyalrong languages have lost final **-ŋ* in native words, so that cognates with Chinese generally have open syllables corresponding to OC **-ŋ*.

5.3.1. 陽 yang *aŋ

The rhyme 陽 *aŋ of OC corresponds to *-o* in Japhug and Situ.

1. 紡 *phjaŋX* < *p^haŋʔ ‘twist, spin’, Tibetan *’phang-ma* འཕང་མ ‘spindle’ (Schuessler 2007, 232), Cogtse (Situ) *ka-pô* ‘to spin’, Brag-bar (Situ) *ka-pō* ‘to spin’, Japhug *pɣo* ‘to spin’. The *ɣ* medial in the Japhug etymon comes from the velarized vowel of Proto-Gyalrong *$pa^ɣ$ŋ.
2. 孟 *maengH* < B/S *$m̥^r$raŋ-s ‘eldest, great’ is possibly related to Tibetan *mag-pa* མག་པ ‘son-in-law’, Cogtse (Situ) *tə-nmak* ‘son-in-law’, Japhug *tɤ-nmaʁ* ‘husband’. Another etymology suggested by L. Sagart relates this word with Cogtse (Situ) *kə-mbrô* ‘be tall’, Brag-bar (Situ) *kə-mbrô* ‘be tall’, Japhug *mbro* ‘be tall’.
3. 攘 *ɲaŋX* < *naŋʔ ‘to oppose; disturb’, Cogtse (Situ) *ka-nô* ‘to chase’, Brag-bar (Situ) *ka-nô* ‘to chase’, Japhug *no* ‘to chase’. 攘 is related to 讓 *ɲaŋH* < B/S *naŋ-s* ‘to allow’, and could be possibly related to Tibetan *g.nang-ba* གནང་བ ‘to give, allow’.
4. 想 *sjaŋX* < B/S *[s]aŋʔ ‘to think’, Cogtse (Situ) *ka-səsō* ‘to think’, Brag-bar (Situ) *ka-səsō* ‘to think’, Japhug *suɯso* ‘to think’. The verbs in modern Gyalrong languages are possible reduplicated forms of *saŋ > *so.
5. 剛 *kaŋ* < B/S *k^raŋ ‘strong, hard’, Cogtse (Situ) *kə-rkô* ‘be hard’, Japhug *rko* ‘be hard’, Tibetan *mkhrang-po* མཁྲང་པོ ‘be hard’. The form 勍 *gjæŋ* < (possible reconstructions would include *graŋ, *N-kraŋ or *N-rkaŋ) possibly reflects a variant of the same root with a *r* like the Gyalrong and Tibetan cognates.
6. 羊 *jaŋ* < *laŋ B/S *ɢaŋ ‘sheep’, Tibetan *g.yang-dkar* གཡང་དཀར ‘sheep’, Cogtse (Situ) *kə-jō* ‘sheep’, Brag-bar (Situ) *kə-ɟōk* ‘sheep’, Japhug *qa-ʑo* ‘sheep’. The first syllable in Gyalrong date is the prefix designating animals, which could correspond to the *g-* preinitial in the Tibetan etymon (< PT *Gə-jaŋ, Jacques 2013). The *-k* coda in the Brag-bar etymon is of unclear origin. Similar phenomenon has also been reported in Kyom-kyo (Situ), in which some words can have two realisations, either with the final velar stop or not, *kəɟoʔ ~ kəɟok*, *kəruʔ ~ kəruk* (Prins 2016, 47–48).
7. 癢 *jaŋX* < B/S *Cə.ɢaŋʔ ‘to itch’, Tibetan *g.ya’-ba* གཡའ་བ ‘to itch’ (Schuessler 2007, 559), Cogtse (Situ) *ka-rajâk* ‘to itch’, Brag-bar (Situ) *ka-rɐɟâk* ‘to itch’, Japhug *rɤʑa* ‘to itch’. *rV-* in the Gyalrong etyma could be the denominal prefix. The *-k* coda in Situ is unexplained. This etymon is better reconstructed with a primary initial yod in OC (Jacques 2013).

5.3.2. 耕 geng *eŋ

The rhyme 耕 *eŋ in OC corresponds to *e* in Situ and *i* in Japhug. A group of *i/*e in Brag-bar became *ɐj*, whose phonetic condition remains to be investigated.

1. 名 *mjieŋ* < B/S *C.meŋ ‘name’, Tibetan *ming* མིང ‘name’, (Schuessler 2007, 387). The Gyalrong cognates Cogtse (Situ) *tə-rmê* ‘name’, Brag-bar (Situ) *tə-rmiê* ‘name’, Japhug *tɤ-rmi* ‘name’ have a *r-* preinitial without equivalent in Chinese and Tibetan.
2. 鳴 *mjæŋ* < B/S *m.reŋ ‘cry (of birds or animals)’, Cogtse (Situ) *kə-mərê* ‘be loud’, Brag-bar (Situ) *kə-mbrêj* ‘be loud’, Japhug *mbri* ‘be loud’. The consonant cluster *mr- in Cogtse became two syllables, with the insertion of *ə*, whereas in Brag-bar and Japhug, *mr- > *mbr-* (Jacques 2004, 137).
3. 繩 *ʑiŋ* < B/S *Cə-m.rəŋ ‘string, cord’, Brag-bar (Situ) *tə-mbrē* ‘rope’, Japhug *tɯ-mbri* ‘rope’.

5.3.3. 蒸 zheng *əŋ

The rhyme 蒸 *əŋ corresponds to *o* in Japhug, after merger with *aŋ.

1. 冰 *piŋ* < B/S **p.rəŋ* 'ice', Cogtse (Situ) *ta-rpâm* 'ice', Brag-bar (Situ) *ta-rpâm* 'ice', Japhug *tɤ-jpɣom* 'ice', (Schuessler 2007, 168). The *-ɣ-* medial of the Japhug etymon comes from the velarized vowel *$a^{ɣ}$ in Proto-Gyalrong. The consonant clusters *rp-* in Situ and *jp-* in Japhug come from the Proto-Gyalrong **lp-*. This comparison suggests an alternative reconstruction **rpəm* with labial dissimilation (see section 4).
2. 夢 *mjɯwŋH* < **muŋs* B/S **C.məŋ-s* 'dream', Tibetan *rmang-lam* རྨང་ལམ 'dream' (Schuessler 2007, 381), Cogtse (Situ) *ta-rmô* 'dream', Brag-bar (Situ) *ta-rmôk* 'dream', Japhug *tɯ-jmŋo* 'dream'. Like the other velar nasal ending rhymes in OC, the rhyme **uŋ* also corresponds to a single vowel in Gyalrong languages. However, the *-k* coda of the Brag-bar etymon is likely to be secondary for two reasons. First, the cognate forms in other Gyalrong languages all end in an open syllable. Second, the denominal verb *ka-va-rmō* 'to dream' has no coda. The *r-* preinitial in Situ and *j-* preinitial in Japhug comes from the **l-* preinitial of Proto-Gyalrong (**lm-* > *rm-* in Situ, *jm-* in Japhug). In addition, the *-ŋ-* medial in Japhug is due to the velarized rhyme *$lma^{ɣ}ŋ$ in Proto-Gyalrong (Jacques 2004, 44).
3. 乃 *nojX* < B/S **n^{ʕ}ə(ŋ)ʔ* 'your', this word is the possessive form of 汝 *nyoX* < **naʔ* 'you (SG)' (Schuessler 2007, 446). It is comparable to Cogtse (Situ) *nō* 'you', Brag-bar (Situ) *nə-ɟô* 'you', Japhug *nɤ-ʑo* 'you'. The second element in the Brag-bar and Japhug etyma is the root of the reflexive pronoun *təɟô* 'oneself' in Brag-bar and *tɯ-ʑo* 'oneself' in Japhug. The cognate pronoun in Brag-bar and Japhug etyma might occur in their constructed status.
4. 蠅 *jiŋ* < B/S **m-rəŋ* 'fly', Japhug *ɣʑo* 'bee', Tibetan *sbrang* སྤྲང་ 'honey' < **smraŋ*.

5.3.4. *iŋ

The rhyme **iŋ* in OC generally corresponds to a single high vowel in Gyalrong languages, *i* in Japhug and *e* in Situ.

1. 薪 *sin* < B/S **[s]i[n]* 'firewood', Tibetan *shing* ཤིང་ 'tree' (Schuessler 2007, 538–39), Cogtse (Situ) *ʃē* 'wood, firewood' Brag-bar (Situ) *ɕê* 'wood, firewood', Japhug *si* 'wood, firewood'.
2. 新 *sin* < B/S **s.ts^{h}i[n]* 'be new', Cogtse (Situ) *kə-ʃīk* 'be new', Brag-bar (Situ) *kə-ɕāk* 'be new', Japhug *ɕɤɣ* 'be new'. This series is also a case of a non-checked rhyme **iŋ* in OC corresponding to a checked rhyme in Gyalrong languages.
3. 身 *ɕin* < B/S **n̥i[ŋ]* 'body, self', Cogtse (Situ) *tə-ʃnē* 'heart', Brag-bar (Situ) *tə-ɕnê* 'heart', Japhug *tɯ-sni* 'heart', Tibetan *snying* སྙིང་ 'heart'.
4. 田 *den* < B/S **l^{ʕ}iŋ* 'field', Tibetan *ʑiŋ-kha* ཞིང་ཁ 'farmland' (Schuessler 2007, 496), Japhug *tɯ-ji* 'field'. It is also related to Brag-bar (Situ) *tə-jē* 'farming' and Brag-bar (Situ) *ka-jê* 'to plant', the verb is derived by replacing the nominal prefix *tə-* by the dynamic infinitive prefix *ka-*. Backformation from the noun to the verb is also possible, though less likely.

5.3.5. 東 dong *oŋ

1. 撞 *ɖæwŋH* < B/S **[N-t]^{ʕ}<r>oŋ-s* 'strike', Japhug *ʁndɯ* 'to hit', Tibetan *rdung-ba* རྡུང་བ 'to beat'.

5.4. *-t* ending rhymes

5.4.1. 月 yue **at*

1. 殺 *ʂɛt* < B/S **s<r>at* 'to kill', Tibetan *bsad* བསད་ 'to kill' (Schuessler 2007, 452), Cogtse (Situ) *ka-sāt* 'to kill', Brag-bar (Situ) *ka-siɛ̄t* 'to kill', Japhug *sat* 'to kill'. For the correspondence between **sr-* in OC and *s-* in Gyalrong and Tibetan etyma, see Jacques (2015a).
2. 敗 *pæjH* < B/S **pˁra[t]-s* 'to defeat', Cogtse (Situ) *kɐ-prêt* 'to break', Brag-bar (Situ) *ka-prāt* 'to break', Japhug *prɤt* 'to break'. 敗 also has an anticausative form *bæjH* < **N-pˁra[t]-s*/**brats* 'suffer defeat', cognate forms are also found in Gyalrong languages, Cogtse (Situ) *kɐ-mbrêt* 'to break', Brag-bar (Situ) *kə-mbrāt* 'to break', Japhug *mbrɤt* 'to break'.

5.4.2. 月 yue **et*

1. 八 *pɛt* < B/S **pˁret* 'eight', Tibetan *brgjad* བརྒྱད་ 'eight' (Schuessler 2007, 152), Cogtse (Situ) *wurjat* 'eight', Brag-bar (Situ) *kərcēt* 'eight', Japhug *kurcat* 'eight'. The Cogtse form suggests (as in the case of 'hundred') that **pˁret* may have come from an earlier form such as **pV-rˁjat* with primary yod through loss of the vowel in the first syllable and monosyllabicization. Among Gyalrong languages, the Brag-bar and Japhug etyma have the irregular onset *rc-*, for the expected correspondence would be **rj-* > *rɟ-* and **rj-* > *rʑ-*, as in Zbu *və-rɟêt* (Gong 2018, 130). The Tibetan etymon has undergone the fortition change **ry* > *rgy* (Li 1959; Hill 2011).

5.4.3. 月 yue **ot*

1. 脫 *thʷat* < B/S **mə-l̥ˁot* 'to take off', Brag-bar (Situ) *ka-ɕlēt* 'to fall (from hand)' (stem I *ɕlēt*, stem II *ɕlôt*).
2. 刮 *kʷæt* < B/S **[kʷˁ]r[a]t* 'to scrape', Cogtse (Situ) *ka-khrōt* 'to scratch', Brag-bar (Situ) *ka-khrət* 'to scratch', Japhug *qhrɯt* 'to scratch'.
3. 掘 *gjut; gjwot* < B/S **[g]ot; *[g]ʷat* 'to dig out (earth)', Cogtse (Situ) *ka-səkū* 'to bury', Brag-bar (Situ) *ka-səkū* 'to bury', Japhug *skɯ* 'to bury', Tibetan *rko* རྐོ 'to dig'.

5.4.4. 質 zhi **it*

1. 躓/蹙 **tr-lit-s** B/S *[t-l]ri[t]-s* 'to slip' (Schuessler 2007, 619), Japhug *aʁdɤt* 'slip'. Schuessler (2007, 619) also relates this word to Tibetan *'dred-pa* འདྲེད་པ 'to slip'.
2. 滅 *mjiet* < **mit* B/S **[m]et/* 'to destroy', Cogtse (Situ) *kə-rmēk* 'to extinguish', Brag-bar (Situ) *kə-mək* 'to extinguish', Japhug *mi* 'to extinguish'. The Japhug etymon has lost the final **-k* > *-ɣ* after the high vowel *i* Jacques (2004, 224). The correspondence between the final *-t* in OC and *-k* in Gyalrong languages is unexplained.
3. 七 *tshit* < B/S **[tsʰ]i[t]* (possibly **s-n̥it*) 'seven'. Schuessler (2007, 419) relates it to 'seven' in Gyalrong languages. Cogtse (Situ) *kəʃnās* 'seven', Brag-bar (Situ) *kəɕnēs* 'seven', Japhug *kɯɕnɯz* 'seven'.
4. 失 *ɕit* < B/S **l̥i[t]* 'to lose', Cogtse (Situ) *ka-ʃlôk* 'to fall (from hand)', Japhug *luɣ* 'to fall', Japhug *ɕluɣ* 'to let sth. fall without any attention'. The Gyalrong etyma could be evidence showing that the rhyme **-it* originates from **-ik* in this word (Baxter and Sagart 2014, 236). The preinitial *ɕ-* is the lexicalized causative prefix.

5. 痹 *pjijH* < *pits* 'stiff', Japhug *ndʑɯrpɯt* 'stiff (IDEO)'[6]. Syllable break of the Japhug etymon is unclear between *ndʑɯ.rpɯt* and *ndʑɯr.pɯt*.

5.5 *-n/-r* ending rhymes

5.5.1. 元 yuan **an/r*

The rhyme 元 **an* possibly corresponds to *a* in Gyalrong languages, but this cannot be confirmed until more cognates are found.

1. 顏 *ŋæn* < B/S **C.ŋˁrar* 'face' could be compared with Japhug *tɯ-rŋa* 'face', an etymology which would imply an alternative reconstruction **rŋan* in OC. Schuessler (2007, 551) proposes two other etymologies of this word: derivation from 御迓訝 *ngjoH* < **[ŋ](r)a-s* 'to meet' by suffixation of *-n* nominalizer, or cognate of Tibetan *ngar* ངར་ 'front side'.

5.5.2. 元 **en/r*

1. 鮮 *sjen* < B/S **s[a]r* 'fresh', Tibetan *gsar-pa* གསར་པ 'fresh,new' (Schuessler 2007, 528), Brag-bar (Situ) *kə-tsâr* 'fresh', Japhug *sɤr* 'fresh'.

5.5.3. 元 **on/r*

1. 酸 *swan* < B/S **[s]ˁor* 'sour', Cogtse (Situ) *kə-tɕôr* 'be sour', Brag-bar (Situ) *kə-tɕôr* 'be sour', Japhug *tɕur* 'be sour'
2. 晚 *mjonX* < B/S **m[o][r]ʔ* 'late', Cogtse (Situ) *tə-mōr* 'night', Brag-bar (Situ) *tə-mēr* 'night' < **tə-mōr*, Brag-bar (Situ) *rə-môr* 'one night', Japhug *tɯ-ɣmɯr* 'night'. The *ɣ-* preinitial in Japhug etymon comes from wrong segmentation from the numeral prefix 'one', as is the case in Japhug *tɯ-xpa* 'one year' (Jacques 2017b).

5.5.4. 文 wen **ən/r*

1. 蚓 *jinX* < B/S **[ɢ](r)ə[r]ʔ* 'earthworm' (Schuessler 2007, 574), Japhug *qa-ndʐe* 'earthworm', Tibetan *srin* སྲིན་ 'worm'. Japhug *-ndʐe* comes from Proto **nre-* (Jacques 2004, 295).

5.5.5. 文 wen **un/r*

1. 昏 *xwon* < B/S **mˌˁu[n]* 'dusk, dark', Japhug *tɯrmɯ* 'afternoon', Tibetan *mun-pa* མུན་པ 'darkness', Tibetan *mun-po* མུན་པོ 'dark'.
2. 熏 *xjun* < B/S **qʰu[n]* 'to smoke', Cogtse (Situ) *tɐ-khô* 'smoke', Brag-bar (Situ) *ta-khû* 'smoke', Japhug *tɤ-khɯ* 'smoke'.

5.6. *-p* ending rhymes

5.6.1. 緝 ji **əp* **ip*

1. 立 *lip* < B/S **k.rəp* 'to stand', Cogtse (Situ) *ka-rjāp* 'to stand', Brag-bar (Situ) *ka-rɟēp* 'to stand'.

[6] Etymology suggested by Gong Xun.

2. 汲 *kip* < *kəp* ‘to scoop water’, Brag-bar (Situ) *ka-kiɛ̄p* ‘to carry water on back’, Japhug *kaβ* ‘to carry water on back’. Brag-bar (Situ) *sa-kāp* ‘well’, Japhug *sakaβ* ‘well’ are lexicalized locative participles, formed by adding the oblique participant nominalizer *sV-* (Sun 2006; Jacques 2016c).

5.7 *-m* ending rhymes

5.7.1. 侵 qin **əm* **um*

1. 頷 *ɣomX* < B/S **[ɢ]ˁ[ə]mʔ* ‘jaw, chin’, Japhug *ta-mɢom* ‘pliers’.
2. 枕 *tɕimX* < B/S **[t.k][ə]mʔ* ‘pillow’, Brag-bar (Situ) *tə-mkâm* ‘pillow’, Japhug *tɤ-mkɯm* ‘pillow’. The *t-* preinitial in OC could be related to the indefinite possessive prefix in Gyalrong languages.
3. 三 *sam* < **ˁsəm* B/S **s.rum* ‘three’, Tibetan *gsum* གསུམ ‘three’ (Schuessler 2007, 449), Cogtse (Situ) *kəsâm* ‘three’, Brag-bar (Situ) *kəsə̂m* ‘three’, Japhug *χsɯm* ‘three’.
4. 參 *ʂim* < **srəm* B/S **s.rum* ‘plant root’, Cogtse (Situ) *tɐ-srêm* ‘root’, Brag-bar (Situ) *ta-srâm* ‘root’, Japhug *tɤ-zrɤm* ‘root’ (Jacques 2015a).
5. 覃 *dom* < **ˁləm* B/S **N.rˁ[o]m* ‘to extend, spread’, Brag-bar (Situ) *rə-kcâm* ‘length of two arms’, Japhug *tɯ-ɟom* ‘length of two arms’, Tibetan *ndom-pa* འདོམ་པ ‘armspan’. The initial consonant *ɟ-* of the Japhug etymon may have come from the Proto **lj-*, and *nd-* in the Tibetan etymon from **nl-* (Jacques 2004, 148). The preinitial *k-* in the Brag-bar etymon remains unexplained.
6. 針 *tɕim* < B/S **t.[k]əm* ‘needle’, Cogtse (Situ) *ta-kāp* ‘needle’, Brag-bar (Situ) *ta-wiɛ̄p* ‘needle’, Japhug *ta-qaβ* ‘needle’, Tibetan *khab* ཁབ ‘needle’. The preinitial **t-* in OC could be related to the indefinite possessive in Gyalrong languages. The *w-* initial in Brag-bar etymon is due the **k-* > *w-* lenition.
7. 陰 *ʔim* < B/S **q(r)um* ‘be cloudy, dark’, Brag-bar (Situ) *ta-ncâp* ‘dark side of the mountain’, Japhug *ɴqiaβ* ‘dark side of the mountain’. The consonant cluster with a uvular initial and *-j-* medial in Northern Gyalrong languages corresponds to the palatal initial in Situ, Proto-Gyalrong **uvular-j-* has been palatalized in Situ Jacques (2004, 309).
8. 熊 *hjuwŋ* < B/S **C.[ɢ]w(r)əm* ‘bear’, Tibetan *dom* དོམ ‘bear’ (Schuessler 2007, 542), Cogtse (Situ) *təwām* ‘bear’, Brag-bar (Situ) *təwām* ‘bear’. The Tibetan etymon comes from **dwam*, **wa* could have been monophthongized to *o* (Jacques 2009) as in Japhug **ɕwa* > *ɕɣa* ‘tooth’ and Tibetan **swa* > *so* ས ‘tooth’.

5.8. *-w* ending rhymes

Gyalrong languages lack *-w* coda in native words.

5.8.1. 幽 you **iw*

The rhyme 幽 **iw* corresponds to a non-front vowel in Gyalrong languages, *ə* in Cogtse (Situ), *u* in Brag-bar (Situ) and *ɯ* in Japhug.

1. 梟 *kew* < **ˁkiw* ‘owl’ (Schuessler 2007, 535), Cogtse (Situ) *pka-khə̄* ‘owl’, Brag-bar (Situ) *pow-khū* ‘owl’, Japhug *pɣɤ-khɯ* ‘owl’. The first syllable of the Gyalrong etyma is the word designating ‘bird’, Cogtse (Situ) *pka-tʃû* ‘chicken’, Brag-bar (Situ) *pa-tɕû* ‘chicken’, Japhug *pɣɤ-tɕɯ* ‘bird’.

5.8.2. 宵 xiao *aw

1. 熬 *ŋaw* < B/S **ŋ^{s}aw* ‘to fry, roast’, Tibetan *rngo* རྔོ ‘to fry’ (Schuessler 2007, 151), Cogtse (Situ) *ka-rŋô* ‘to fry’, Brag-bar (Situ) *ka-rŋô* ‘to fry’ (Stem I *rŋô*, stem II *rŋē*, stem II’ *rŋō*), Japhug *rŋu* ‘to fry’. The Gyalrong forms could also be loanwords from Tibetan.
2. 号 *ɣawH* < B/S **[g]^{s}aw-s* ‘command’, 號 haw < B/S **[C.g]^{s}aw* ‘call out’.. It is comparable to Cogtse (Situ) *ka-ŋa-khō* ‘to shout, call’, Brag-bar (Situ) *kə-okhō* ‘to shout, call’, Japhug *akhu* ‘to shout, call’.

5.9. *-j* ending rhymes

5.9.1. 歌 ge *aj

1. 羆 *pje* < B/S **praj* ‘brown-and-white bear’, Cogtse (Situ) *prī* ‘Asiatic brown bear’, Brag-bar (Situ) *prī* ‘Asiatic brown bear’, Japhug *pri* ‘Asiatic brown bear’.

5.9.2. 脂 zhi *ij

1. 屎 *ɕijX* < B/S **[q^{h}]ijʔ* ‘excrement’, Japhug *tɯ-qe* ‘excrement’. An alternative reconstruction **lhijʔ* is proposed by Schuessler (2007, 465), it is comparable to Tibetan *lci-ba* སྐྱི་བ ‘excrement’ < PT **lhyi*, and Japhug *tɯ-ɣli* ‘excrement’ < Proto-Gyalrong **klij* (Jacques 2004, 313).
2. 米 *mejX* < **mijʔ* B/S **(C.)m^{s}[e]jʔ* ‘millet or rice grains’, *smai-khrī* “小米” (Huáng and Sūn 2002, 550) . The second element of this etymon is the widespread word of ‘rice’ in Situ, Cogtse (Situ) *khrī* ‘rice’, Brag-bar (Situ) *khrī* ‘rice’, also found in Japhug *khrɯ-zwa* ‘cooked rice’. This word is related to Tibetan *khre* ཁྲེ ‘millet’.
3. 矢 B/S **l̥i[j]ʔ* ‘arrow’, Japhug *tɯ-di* ‘arrow’. The voice initial consonant *d-* in Japhug might come from **ld-* in Proto-Gyalrong (Jacques 2004, 313).
4. 死 *sijX* < B/S **sijʔ* ‘to die’, Tibetan *shi* ཤི ‘to die’ (Schuessler 2007, 478), Cogtse (Situ) *ka-ʃî* ‘to die’, Brag-bar (Situ) *kə-ɕî* ‘to die’, Japhug *si* ‘to die’,
5. 妣 *pjijX* < B/S **pijʔ-s* ‘deceased mother’, Schuessler (2007, 162) relates this word to Tibetan *phyi-mo* ཕྱིམོ ‘grandmother’, which according to Benedict (1942) is the common Tibeto-Burman root for grandmother. The Gyalrong words Cogtse (Situ) *ta-ʋî* ‘grandmother’, Brag-bar (Situ) *ta-ʋî* ‘grandmother’, Japhug *tɤ-wi* ‘grandmother’ are possible cognates.
6. 畀 *pjijH* < **pij-s* B/S **pi[t]-s* ‘to give’, Cogtse (Situ) *kɐ-ʋû* ‘to give’, Brag-bar (Situ) *ka-mbī* ‘to give’, Japhug *mbi* ‘to give’, Tibetan *sbyin* སྦྱིན ‘to confer’. The initial consonant of the Cogtse etymon presents **b- > ʋ-* lenition.
7. 二 *ɲijH* < B/S **ni[j]-s* ‘two’, Tibetan *gnyis* གཉིས ‘two’ (Schuessler 2007, 226–27), Cogtse (Situ) *kənês* ‘two’, Brag-bar (Situ) *kənôs* ‘two’, Japhug *ʁnɯz* ‘two’.

5.9.3. 微 wei *əj

The rhyme 微 **əj* **uj* corresponds to a high/mid-high vowel in Gyalrong languages, *i/e* in Cogtse (Situ), *i/e/ɐj* in Brag-bar (Situ) and *i/e* in Japhug.

1. 眉 *mij* < /**mrəj* B/S **mr[ə][r]* ‘eyebrow’ (Schuessler 2007, 377), Cogtse (Situ) *ta-rɲê* ‘hair’, Brag-bar (Situ) *ta-rɲê* ‘hair’, Japhug *tɤ-rme* ‘hair’. This root is also found in compound nouns Brag-bar (Situ) *ta-ʋɐ-rɲê* ‘hair’, Japhug *tɯ-kɤ-rme* ‘hair’, the first syllable is the constructed status of Brag-bar (Situ) *ta-ʋô* ‘head’, Japhug *tɯ-ku* ‘head’.

2. 尾 *mjɨjX* < B/S **[m]əjʔ* 'tail', Cogtse (Situ) *ta-jmî* 'tail', Brag-bar (Situ) *ta-jmî* 'tail', Japhug *tɤ-jme* 'tail'. The *j-* (*jm-*) preinitial in the Gyalrong etyma comes from the **l-* (**lm-*) preinitial before labial initials (Jacques 2004, 271), which has no equivalent in OC.
3. 邇 *nyeX* < B/S **n[ə][r]ʔ* 'near'. Schuessler (2007, 226) relates this word to Tibetan *nye-ba* ཉེ་བ 'near' and Tibetan *snyen-pa* སྙེན་པ 'to come near'. The verb root itself is not attested in Gyalrong languages, but the noun Japhug *tɯ-ɣɲi* 'friend' is a possible cognate of Tibetan *gnyen* གཉེན 'friend, relative', a noun derived from the verb root by the *g-...-n* circumfix (Jacques 2018).
4. 火 *xwaX* < **m̥əjʔ* (Schuessler 2007, 290–91) B/S **[qʷʰ]ˁəjʔ* 'fire'. The phonetic evolution of this word from OC is irregular, as MC *-wa* normally comes from OC **-aj* or **-oj*. The word 火 rhymes as **-əj* in the *Shijing*, as in 七月流火，九月授衣 (« 豳風 · 七月 »). Schuessler (2007, 290–91) relates this word to Tibetan *me* མེ 'fire' (see also Hill 2013 on an alleged spelling of this word in Tibetan cited by some Sinologists). Cognate is found in Japhug *smi* 'fire'. This word could originally be a compound **sɯ-mi*, in which *sɯ* is the construct status of Japhug *si* 'firewood', and cannot be used as evidence for a cluster **sm-* in Old Chinese.

5.9.4. 微 wei **uj*

1. 虺 *xwojX* < **ˁhməjʔ* B/S **[r̥]u[j]ʔ* 'snake brood; sound of thunder' (Schuessler 2007, 287), Cogtse (Situ) *kha-brē* 'snake', Brag-bar (Situ) *kha-prēj* 'snake', Japhug *qa-pri* 'snake', Tibetan *sbrul* སྦྲུལ 'snake' < **smrul* (Jacques 2004, 137). There is no equivalent of *s-* preinitial of the Tibetan etymon in OC and Gyalrong languages. The Gyalrong etymon for 'snake' could also be possible cognate of 巴 *pæ* < **pˁra* 'snake'.

5.10. Wanderwörter

1. 菽[7] *syuwk* < B/S **s-t(ʰ)uk* 'pulse, beans', Cogtse (Situ) *tɐ-stōk* 'broad bean', Brag-bar (Situ) *ta-stēk* 'broad bean', Japhug *stoʁ* 'broad bean'. The Brag-bar etymon has undergone the **o* > *ɐ* sound change. Despite the regular phonetic correspondence between OC and Gyalrong words, (Sagart 1999, 185–88) points out that the bean has been domesticated too recently to be a cognate.
2. 馬 *mæX* < B/S **mˁraʔ* 'horse', Cogtse (Situ) *mbrō* 'horse', Brag-bar (Situ) *mbrō* 'horse', Japhug *mbro* 'horse'. Sagart (1999, 196) suggests that 馬 could be an early loanword from TB, after the loss of vowel nasalization of **mraŋ* or **mrã* (also mentioned in Schuessler 2007, 373).
3. 兔 *thuH* < B/S **l̥ˁa-s* 'rabbit, hare', Cogtse (Situ) *ka-lā* 'rabbit', Brag-bar (Situ) *ka-liɛ̄* 'rabbit', Japhug *qa-la* 'rabbit' (Schuessler 2007, 502). The first syllable in Gyalrong etyma is the lexicalized nominal prefix designating animals (Jacques 2008, 52–54).

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[7] These Wanderwörter have related words in many other branches of ST/TH and beyond, and a full examination of the complete dataset is beyond the scope of this work.

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Чжан Шуя, Гийом Жак, Лай Юньфань. К вопросу о когнатах между гьярунгскими языками и древнекитайским

Гьярунгские языки, составляющие подгруппу бирмано-цянской ветви сино-тибетской семьи, распространены на западе китайской провинции Сычуань. Они относятся к полисинтетическому типу и обладают богатыми системами глагольной морфологии. Хотя гьярунгские языки не демонстрируют близкого родства с китайским языком, они, тем не менее, представляют большой интерес для сравнительного изучения сино-тибетских (транс-гималайских) языков из-за архаичной природы их фонологической и морфологической систем. В данной статье, опираясь на предшествующие исследования в области древнекитайской фонологии и сопоставляя их с результатами новейших полевых данных, мы пытаемся показать, каким образом гьярунгские языки могут пролить свет на особенности древнекитайской морфологии и помочь тем самым скорректировать реконструкцию древнекитайского языка. В статье также приводится список возможных когнатов между древнекитайским и гьярунгскими языками, включая тибетские параллели там, где они обнаруживаются.

Ключевые слова: гьярунгские языки, древнекитайский язык, этимологические когнаты, сравнительная морфология, историческая реконструкция.