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 *l- 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 rhymes1. 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. Anticausative and passive derivations

Anticausative 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 nu- in Japhug. While the prenasalizing anticausative has been lexicalized, the spontaneous-autobenefactive has undergone regularization and is still highly productive.

As shown in (1), the anticausative verb Brag-bar (Situ) ka-plöt ‘to extinguish’ (S jaβn ‘bee’), presents initial prenasalizing alternation in regard to the transitive verb Brag-bar (Situ) ka-plöt ‘to extinguish’ (A kætɕɔk ‘leopard’, O kajök ‘sheep’).

(1) a. Brag-bar (Situ) ka-plöt ‘to extinguish’

kætɕɔk  kɔ  kajök  kæz  tɔ  na-plöt.

leopard  erg  sheep all  det  pfv-to.extinguish

‘The leopard has eaten all the sheep.’

b. Brag-bar (Situ) ka-plöt ‘be extinct’

tɕəci  jaβn  rgomɔb  kæɔm  ro-eput  rәnә,
Bкра.шis  bee  box  three  ifr.pfv-to.feed  but
u-jaβn  po  kæz  no-kɔ-mlöt
3sg.poss-bee  pl  all  ifr.pfv-3ns.intr.be-extinct

‘Bкра.шis 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 ʁndr ‘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]en-s ‘to see (vt.)’ and 現 yenH < B/S *N-[k]en-s ‘to appear (vi.).’ Anticausative verbs denote spontaneous situations and

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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 an 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 yenH < B/S *N-[k]’en-s with the Gyalrong anticausative.

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

(2) Japhug  prst ‘to cut (vt.)’
   Japhug  mbrst ‘be cut (ANTICAUS, vi.)’
   Japhug  a-prst ‘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 pejH 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 pejH only means ‘to defeat’ (5).

(3) Anticausative 敗 bæjH < B/S *N-p’ra[t]-s
   魚 餓 而 肉 敗， 不 食
   njɔ nwojX ni nuwɔk bæjH pwɔt zik
   fish decay CONJ meat decay NEG to.eat
   ‘He did not eat fish or flesh which has gone bad. (Translation of James Legge).’

(4) Passive 敗 bæjH < B/S *N-p’ra[t]-s
   梁 惠 王 以 土 地 之 故， 糜
   Ljaŋ.ywejH hjwɔŋ jiX t’uXdiŋH tei kuH mje
   King.Hui.of.Liang PREP:because.of territory GEN reason to.tore
   犧 其 民 而 戰 之， 大 敗
   lanH gi mjɔn ni teenH tei tajH bæjH
   to.destroy POSS.3SG people CONJ 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)’

(5) Transitive 敗 pejH < B/S *p’ra[t]-s
   冬， 與 越人 水 戰， 大 敗 越人
   towŋ joX hjwɔtɔnjin swij teenH tajH pejH hjwɔtɔnjin
   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)’

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 pejH 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 貥 pejH is cognate of Brag-bar (Situ) ka-prät ‘to break’, Japhug prṣt ‘to break’, and originally meant ‘destroy, damage’. The form 買 baejH *N-p’rats 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) kv-mbrät ‘to break’, Brag-bar (Situ) ka-mbrät ‘to break’ and Japhug mbrät ‘to break’. The base verb then underwent semantic narrowing to the sense of ‘to defeat’, from which a passive *ŋ-p’rats (merging early with *N-p’rats, and undistinguishable in MC from the anticausative) was derived.

3. On the origin of OC *l-

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):

\[
\begin{array}{ccc}
\text{Pre-OC} & \text{OC} & \text{MC} \\
*\text{sm-}, *\text{sn-}, *\text{sn}- & *\text{m-}, *\text{n-}, *\text{n̩}- & \chi, \theta, \chi \\
*\text{sə.m-}, *\text{sə.n-}, *\text{sa.n}- & *\text{sm-}, *\text{sn-}, *\text{sn̩}- & s
\end{array}
\]

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

\[
\begin{array}{ll}
\text{OC} & \text{Gyalrong} \\
\text{失 sít }< \text{B/S }*\text{i[i]}t \text{ ‘to lose’} & \text{Japhug eluɣ ‘to let sth. fall’} \\
\text{脱 thwat }< \text{B/S }*\text{mɔ-l[ɔ}t \text{ ‘to take off’} & \text{Cogtse (Situ) ka-ʃlak ‘to fall (from hand)’} \\
\text{脱 thwat }< \text{B/S }*\text{mɔ-l[ɔ}t \text{ ‘to take off’} & \text{Brag-bar(Situ) ka-ʃlɛt ‘to fall (from hand)’}
\end{array}
\]

We thus propose *sl[i]t and sl[ɔ]t as pre-OC forms of 失 and 脫.

\[
\begin{array}{ccc}
\text{Pre-OC} & \text{OC} & \text{MC} \\
*\text{sl-} & *\text{l-} & \text{th-, e-} \\
*\text{sə.l-} & *\text{sl-} & s-
\end{array}
\]

Japhug eluɣ ‘to let sth. fall’ is a lexicalized causative of Japhug luɣ ‘to detach’ (the productive causative, expressing a volitional action, is Japhug suyluɣ ‘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):

\[
\begin{array}{ccc}
\text{Pre-OC} & \text{OC} & \text{MC} \\
*\text{rC-} & *\text{Cr-} & \text{th-, e-} \\
*\text{sə.l-} & *\text{sl-} & s-
\end{array}
\]
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Comparative data from Gyalrong languages could shed light at least on two aspects.

First, the comparison of Japhug tɤ-urgeon to 參 B/S *s.urname 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. 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

<table>
<thead>
<tr>
<th>MC</th>
<th>B/S</th>
<th>Amended OC</th>
<th>Gyalrong cognates</th>
</tr>
</thead>
<tbody>
<tr>
<td>冰 piŋ 'ice'</td>
<td>*p.ray</td>
<td>*ryam</td>
<td>Cogtse (Situ) ta-ryam 'ice'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Brag-bar (Situ) ta-ryam 'ice'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Japhug tɤ-jyram 'ice'</td>
</tr>
<tr>
<td>眉 mij 'eyebrow'</td>
<td>*mr[ə][r]</td>
<td>*rmaj</td>
<td>Cogtse (Situ) ta-rmaj 'hair',</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Brag-bar (Situ) ta-rmaj 'hair'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Japhug tɤ-rme 'hair'</td>
</tr>
<tr>
<td>頜 ēan 'face'</td>
<td>*C.ŋ/rar</td>
<td>*rŋ/ən</td>
<td>Japhug tɤ-rŋa 'face'</td>
</tr>
</tbody>
</table>

There are however a number of unexplained exceptions, such as 熬 ēaw < B/S *ŋäw 'to fry, roast' (Cogtse (Situ) ka-rŋë 'to fry', Brag-bar (Situ) ka-rŋë 'to fry', Japhug rŋu 'to fry') or 名 mjien < B/S *C.ŋen 'name' (Cogtse (Situ) ta-rmë 'name', Brag-bar (Situ) ta-rmë 'name', Japhug tɤ-rmë 'name') for which no rhotacization can be reconstructed in OC. Note that Tibetan ming ʥ= 'name' also lacks a medial or preinitial r-.

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4 This hypothesis implies to abandon the reconstruction *r.ŋäd for luX proposed to account for a xieszeng relationship with 魚 ɲjo ‘fish’.
5. Gyalrong cognates

5.1. Open syllable rhymes

5.1.1. 鱼 *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. 竹 pjuX < B/S *p(r)aʔ ‘axe’, Cogtse (Situ) ʃa-rpâ ‘axe’, Brag-bar (Situ) ɕɛ-rpiɛ ‘axe’, Japhug tu-rpa ‘axe’. The first syllable in Situ etyma is the constructed status of the noun Cogtse (Situ) ṣe ‘firewood’, Brag-bar (Situ) ɕe ‘firewood’. In Japhug, the tu- 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 jæH < B/S *mɡraʔ-s ‘to descend’, Cogtse (Situ) kɐ-ŋrôk ‘fall down’, Brag-bar (Situ) ka-ŋriɛ ‘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-kriɛ ‘to cause to fall down’, Japhug kra ‘to cause to fall down’. An alternative etymology would be 落 lak < B/S ƙa.ʁ’ak ‘to fall’.

3. 蘇 su < B/S *ṣʔa ‘to revive’. OC *ṣʔi- became s- in MC (Baxter 1992, 225; Sagart 1999, 65; Schuessler 2007, 482), Cogtse (Situ) ka-ma-snjär ‘to feel cold’, Brag-bar (Situ) kə-ma-snjér ‘to come to oneself’, Japhug sjæ ‘to come to oneself’. The Situ forms have a mə- prefix and a -r coda which remain unexplained.

4. 吾 mu < B/S *ṣʔa ‘I, my’, Tibetan nga ∈ ‘I’ (Schuessler 2007, 518), Cogtse (Situ) ṣa ‘I’, Brag-bar (Situ) ṣa ‘I, Japhug a-ṣo ‘I’. Northern Gyalrong languages have lost the velar nasal initial ṣ of the singular first person pronouns.


6. 五 njuX < B/S *C.ṣʔa ‘five’, Tibetan nga ‘five’ (Schuessler 2007, 519). Cogtse (Situ) komnɔ ‘five’, Brag-bar (Situ) komnə ‘five’, Japhug kʊmŋu ‘five’. The correspondence of the vowel is irregular. In addition, the correspondence between ṣi- in Tibetan and mŋ- in Gyalrong languages is also unexplained (Jacques 2004, 125).

7. 夜 jæH < B/S *c[Al]k-s ‘night’, Tibetan zhag ‘one night’ (Schuessler 2007, 561–62), Brag-bar (Situ) rə-ʃāk ‘one night’, Japhug ts-rzaw ‘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 rə- and Situ j- could respectively originate from *ṛj- and *j-, and OC might be better reconstructed with a primary yod initial.

5.1.2. 支 *e

1. 儿 me < B/S *pe ‘child’. Jacques (2004, 223) relates this word to Japhug ns-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-lŋ̃a ‘infant’ Brag-bar (Situ) tapə-rŋiɛ ‘infant’, however, correspondence between i in Japhug and al/iɛ in Situ seems irregular and needs to be further investigated.

Etymology suggested by Laurent Sagart.
The rhyme 之 *a corresponds to a in Cogtse (Situ), *a > ie in Brag-bar (Situ) and a in Japhug.

1. 富 pjüwH < B/S *pák-s ‘rich’. Sagart (2017) relates this word to Tibetan phag ꞌpigꞌ. If this etymology is accepted, it is also comparable to Cogtse (Situ) pāk ‘pig’, Brag-bar (Situ) piāk ‘pig’, Japhug puʁ ‘pig’. Schuessler (2007, 152) relates the ‘pig’ etymology to 爨 pae < B/S *p’ra instead.

2. ㄦ tsiX < B/S *[ts]ə ‘child’. Schuessler (2007, 633) proposes that this word is the ST root for ‘offspring, child’ and relates it to Tibetan tsha-po ꞌgrandchild; nephew’. It could be comparable to Brag-bar (Situ) ta-tsā ‘father’s sister’s child’, Japhug tuʁ-fisa ‘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 etymology 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)lsa due to changes of its kin terminology. The p- preinitial is preserved in the derived social relation collective Brag-bar (Situ) koŋ-patsa-pō ꞌpaternal 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) ta-tsā ‘boy, son’, Brag-bar (Situ) ta-zie ‘boy, son’. The Brag-bar etymology has undergone the *ts- > z- lenition, as in Brag-bar (Situ) *ta-matsa > ta-mază ‘mother’s sister’s child’.

3. 狗 gjuw < B/S *[g]wə ‘fur garment’, Tibetan gos ꞌclothes’, Cogtse (Situ) ta-ʁe ꞌgarment’, Brag-bar (Situ) ta-njā ꞌgarment’, Japhug nje ꞌto wear’. The w- initial of the Cogtse etymology can be explained by *g- > w- lenition in this dialect. The Tibetan etymology is suffixed by the s nominalizer.


5. 牛 niu < B/S *[n]ə ‘ox’, Cogtse (Situ) nəŋ ꞌcow’, Brag-bar (Situ) nəŋi ꞌcow’, Japhug nuŋa ꞌcow’. The first element in the Gyalrong etymology could be related to the constructed status of the word Cogtse (Situ) ta-nū ꞌudder’, Brag-bar (Situ) ta-nū ꞌudder’, Japhug tuʁ-nʊ ꞌudder’. Although most Gyalrong languages have lost the *-w- medial, evidence can be found in Zbu ɲwe? (Gong 2018, 40).

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

1. 坐 dzwaX < B/S *[dz]oʃʃ ‘to sit’, Japhug t staunch ‘to sit’.

2. 乳 muX < B/S *noʈ ‘milk; nipple’, Tibetan nu-ma ꞌudder’ (Schuessler 2007, 446), Cogtse (Situ) ta-nū ꞌudder’, Brag-bar (Situ) ta-nū ꞌudder’, Japhug tuʁ-nʊ ꞌudder’.

3. 后 yuɔX < B/S *c(ʈ)roʔ ‘sovereign; queen’, Tibetan mo ꞌhead’, Tibetan ’go-pa’ ꞌheadman’ (Schuessler 2007, 279–80), Cogtse (Situ) ta-kō ꞌhead’, Brag-bar (Situ) ta-wō ꞌhead’, Japhug tuʁ-ku ꞌhead’. The initial consonant of the Brag-bar etymology has undergone the *k- > w- lenition.
5. 朢 pjuX < *poʔ ‘internal organs’, Cogtse (Situ) ts-po-ləntʃə ‘intestine’, Brag-bar (Situ) tə-tə-və-ləntʃə ‘intestine’, Japhug tuu-pu ‘intestine’. The initial consonant of the cognate base in Brag-bar has undergone the *p- > v- lenition.
6. 朢 khipu < *k(r)ro ‘body; person’, Tibetan sku ɹ ‘body, statue’ (Schuessler 2007, 435), Cogtse (Situ) ts-skru ‘body’, Brag-bar (Situ) tə-skru ‘body’, Japhug tuu-skhr ‘body’.
7. 朢 kʰuwaH < B/S *[k]i[r]o-s ‘to rob; robber’, Tibetan rkũ-ba ɹ ‘to steal’ (Schuessler 2007, 336), Brag-bar (Situ) ka-marka ‘bandit’, Japhug mərkirm ‘to steal’. The Brag-bar form might be loanword from other Gyalrong languages, since it has an unexpected a vowel.
8. 朢 luwX < B/S *[q](r)oʔ ‘vomit’, Tibetan skyug ɹ ‘vomit’ (Schuessler 2007, 407, 595), Japhug qio ‘vomit’. The final glottal stop *-ʔ possibly corresponds to Tibetan -g and Japhug -u (Schuessler 2007, 31–32).

5.1.5. 朢 you *u

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

1. 朢 pawX < B/S *[p]uʔ ‘to take care of, protect’. In Gyalrong languages we found fixed expressions such as Brag-bar (Situ) u-pu ka-vi ‘to take care of’, Japhug uu-pu ks-pa ‘to take care of’, consisting of a possessive prefixing action nominal and a light verb Brag-bar (Situ) ka-vi ‘to do’, Japhug ks-pa ‘to do’. The inalienably possessed noun u-pu/uu-pu in this collocation can be analyzed as an action nominal, as in other non-ambiguous cases Brag-bar (Situ) ts-emə ka-vi ‘to steal’, consisting of the action nominal Brag-bar (Situ) ts-emə ‘stealing’ whose corresponding verbal form is Brag-bar (Situ) ka-emə ‘to steal’. Such analysis would suggest the existence of the corresponding verbs Brag-bar (Situ) *ka-pu ‘to take care of’ Japhug *ks-pu ‘to take care of’ at an earlier stage. An alternative to this light verb construction is a denominal transitive Brag-bar (Situ) ka-ra-pu ‘to take care of’ (stem I rapa, stem II rapa, stem I’ rapa) (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. 朢 hjaw < B/S *[m.b](r)u ‘float’ could be indirectly related to Brag-bar (Situ) żbrũ ‘boat’ and Japhug żmbru ‘boat’, assuming that these nouns are fossilized sigmatic instrumental nominalizations from a verb *mbru meaning ‘float’.
3. 朢 mawH < B/S *[m]uk-s ‘hat’. Sagart (2017) relates this word to Tibetan rmog ɹ ‘hat, helmet’. The word for ‘mushroom’ shared in all Gyalrong languages could be possible cognate, Cogtse (Situ) te-jmok ‘mushroom’, Brag-bar (Situ) ta-jmok ‘mushroom’, Japhug tsj-mo ‘mushroom’ (Breton tok touseg ‘frog hat’ for ‘mushroom’).
5. 朢 jiwuX < B/S *[t]-kr ‘elbow’, Tibetan gru-mo ɹ ‘elbow’ (Schuessler 2007, 624), Cogtse (Situ) ta-krũ ‘elbow’, Brag-bar (Situ) ta-krũ ‘elbow’, Japhug tuu-zrũ ‘elbow’. The t- preinitial in OC could be related to the indefinite possessive prefix tV- in Gyalrong languages.

7. 汉 kjuwX < B/S *[kl]uʔ ‘nine’, Tibetan dgu ʶg ‘nine’ (Schuessler 2007, 320), Cogtse (Situ) kongǔ ‘nine’, Brag-bar (Situ) kongǔ ‘nine’, Japhug ngut ‘nine’. The final -t in the Japhug etyma is an innovation in Northern Gyalrong languages; probably due to analogy from Japhug kurcat ‘eighty’ (Jacques 2004, 253).

8. 鼬 gjuwX < B/S *[g]ruʔ ‘mother’s brother’, Tibetan a-khu ʶku ‘mother’s brother’ (Schuressler 2007, 321), Brag-bar (Situ) a-kǔ ‘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 གྷ་ ལཱ X < B/S *[N-p]r(a)ʔ and Tibetan pha ʐ ‘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).


(10) a. Brag-bar (Situ) u-pû ka-ʋiʋ ‘to take care of’
na-ta-ka-mbǎ-n to ʋost ʋu-pû re-ʋiʋ-n
1SG PFV-1→2-NMLZ-to.giveII-2SG DET really 3SG.POSS-protection IMP-to.dor-2SG
‘Take care of what I gave to you.’

b. Brag-bar (Situ) ka-ra-ʋuuk ‘to take care of’
na-ta-ka-mbǎ-n to ʋost re-na-ra-ʋuuk-n
1SG PFV-1→2-NMLZ-to.giveII-2SG DET really IMP-AUTO-DENOM-protectionII-2SG
‘Take care of what I gave to you.’

5.2. -k ending rhymes

5.2.1. 復 duo *ak

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

1. 百 pæk < B/S *pɾak ‘hundred’, Tibetan brgja ʰg ‘hundred’, Cogtse (Situ) parjā ‘hundred’, Brag-bar (Situ) parjā ‘hundred’, Japhug ḥur ‘hundred’. In Brag-bar, ie < *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. 聰 phlak < B/S *phlak ‘shoulder blade’, Tibetan phrag ʰk ‘shoulder’ (Schuessler 2007, 170), Cogtse (Situ) ta-rpāk ‘shoulder’, Brag-bar (Situ) ta-rpāk ‘shoulder’. Since Tibetan lacks a *rp- cluster, the comparison between Gyalrong and Tibetan suggest that a metathesis *rp- ʰk *pr- took place in pre-Tibetan in this etymon.

3. 薄 bak < B/S *[b]ak ‘thin’, Cogtse (Situ) kə-mbā ‘to be thin’, Brag-bar (Situ) kə-mbiː ‘to be thin’, Japhug mba ‘to be thin’. 

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4. 莫 *mak < B/S *m'ak ‘there is no X such that X ...’, Brag-bar (Situ) ka-miak ‘not be’, Japhug ma'ak ‘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 *m'ak to be a distributive suffix *-k, and 莫 is derived from 無 *ma > mju ‘not have’. Another example provided by Pulleyblank (2000) is 或 *[g]uŋok > ēwk ‘someone, something’, derived from 有 *[g]uŋok > ēwk ‘have, exist’. Pulleyblank’s hypothesis is not compatible with the presentation compared above.

5. 陌 kak < B/S *[C,q]ˈak ‘armpit’, Tibetan lag ꞽ ‘arm’ (Schuessler 2007, 252), Cogtse (Situ) te-jēk ‘arm’, Brag-bar (Situ) ta-jāk ‘arm’, Japhug tuu-ja ‘arm’. This comparison would be more compatible with a reconstruction such as *kṛāk in OC.

6. 肌 jek < B/S *[C,ʃ]rAk ‘armpit’, Tibetan bzhag.’og གྲ་ བཞག་ ‘armpit’ Japhug tuu-pja-wpa ‘armpit’ (the syllable -pa is a noun meaning ‘down, bottom part’). This comparisons suggest eithet a primary yod or a lateral in OC rather than a uvular.

5.2.2. 鍔 xi *ek

1. 齊 tsjek < B/S *tek ‘single’, Tibetan gcig ᐃ ‘one’ (Schuessler 2007, 614), Cogtse (Situ) ka-tēk ‘one’, Brag-bar (Situ) ka-rīk ‘one’, Japhug tyy ‘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) zja-tēk ‘eleven’.

2. 潟 tek < *tek ‘to drop; drop’, Tibetan thigs-pa སྒྲ་ ’a drop’, Tibetan ’thig-pa སྒྲ་ ’to drop’ (Schuessler 2007, 209), Cogtse (Situ) nthēk ‘drop CLF’, Brag-bar (Situ) ra-ntēhāk ‘drop’.

5.2.3. 職 zhi *ok

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

1. 草 kek < *kərək ‘hide’ could be compared with Cogtse (Situ) ka-klāk ‘peel off’, Brag-bar (Situ) ka-kliik ‘peel off’, under the assumption that the meaning ‘hide’ derives from ‘skin that has been peeled off’.

2. 慾 thok < B/S *yək ‘evil’ Tibetan nag-po ཕས་ ‘black’ (Schuessler 2007, 493), Cogtse (Situ) ka-nēk ‘be black’, Brag-bar (Situ) ka-nāk ‘be black’, Japhug pax ‘be black’. The meaning ‘evil’ is also found in the lexicalized nominal form Japhug u-ɣpax ‘disastrous consequence’, in which the preinitial ŋ- is a lenited form of the velar participle prefix.

3. 徹 tɕik < B/S *tak ‘to weave’, Tibetan btags བཤེགས་ ‘to weave (PST)’ (Schuessler 2007, 615), Brag-bar (Situ) ka-tiak ‘to weave’, Japhug lab ‘to weave’.


5.2.4. *ik

1. 篱 tsset < B/S *tsɨk ‘joint’, Tibetan tshigs བཟིགས་ ‘segment’ (Schuessler 2007, 312), Brag-bar (Situ) ra-ntsɨk ‘a segment’, Japhug tuu-rtsy ‘segment’. The first syllable of the Brag-bar etymon is the numeral. It could also be related to Cogtse (Situ) ka-ra-ntsɨk ‘to cut (into segments), Brag-bar (Situ) ka-ra-ntsɨk ‘to cut (into segments)’ (Stem I ra-ntsɨk, Stem II ra-ntsɨk, Stem I’ ra-ntsɨk, details of stem alternations in Brag-bar see Zhang 2018).

5.2.5. 屋 wu *ok

1. 命 khjowk < B/S *kʰ(r)ok ‘to bend’ and 命 gjowk < B/S *kʰ(r)ok ‘be bent, curved’, Japhug kgy ‘to curve’ and its anticausative Japhug kgy ‘be bent’
2. 咂 trawuk < B/S *m-a-t<er>ok ‘to peck’, Cogtse (Situ) ta-ntōk ‘beak’, Brag-bar (Situ) ta-ntōk ‘beak’. The vowel e in the Brag-bar etymology is due to a *o > e sound change. This noun originates from a verb ‘to peck’ also attested as a fossilized participle in the compound Cogtse (Situ) fi-kō ko-ntōk ‘woodpecker’, Brag-bar (Situ) evwo-kontek ‘woodpecker’, which can be regarded as a lexicalized s/a deverbal noun (Sun and Lin 2007; Jacques 2016c).
4. 角 kæwuk < B/S *C.[k]rok ‘horn’. Schuessler (2007, 309) relates this word to Tibetan rava ར་ ‘horn’ (on the rhyme -wa in this word, see Jacques 2009). Cognates are found in Cogtse (Situ) ta-rū ‘horn’, Brag-bar (Situ) ta-rū ‘horn’, Japhug ta-urui ‘horn’.

5.2.6. 觉 jue *uk, *iuk

1. 鼟 dowk < B/S *[t]uk ‘poison’, Tibetan dug སྦ ‘poison’ (Schuessler 2007, 216), Cogtse (Situ) tōk ‘poison’, Brag-bar (Situ) ta-nōk ‘poison’, Japhug ts-nagy ‘poison’. Cogtse (Situ) tōk ‘poison’ is a loanword, otherwise we would expect a voiced initial. Note that in Japhug, the loanword Japhug tu<y> ‘poison’ (Jacques 2004, 166) coexists with the cognate form Japhug tš-nagy ‘poison’.
5. 怒 tsjuuk < *ts’iuk. The rhyme *iuk is reconstructed for this word given its xiesheng relation 蹦 tshek < B/S *s.t’iuk. A comparison with Japhug sthor ‘to press’ would be possible if the sound change *st- → *ts- is accepted (Bodman 1969).

5.3. -η ending rhymes

Gyalrong languages have lost final *-η in native words, so that cognates with Chinese generally have open syllables corresponding to OC *-η.
5.3.1. 陽 yang *əŋ

The rhyme 陽 *əŋ of OC corresponds to ʔ in Japhug and Situ.


2. 曬 maengH < B/S *ŋ'ran-s ‘eldest, great’ is possibly related to Tibetan mag-pa ꜰBarController ‘son-in-law’, Cogtse (Situ) to-nma ‘son-in-law’, Japhug ts-nma ‘husband’. Another etymology suggested by L. Sagart relates this word with Cogtse (Situ) ka-mbró ‘be tall’, Brag-bar (Situ) ka-mbró ‘be tall’.

3. 撒 jianX < *nəŋ? ‘to oppose; disturb’, Cogtse (Situ) ka-nô ‘to chase’, Brag-bar (Situ) ka-nô ‘to chase’, Japhug no ‘to chase’. 撒 is related to 託 naiH < B/S *nai-s ‘to allow’, and could be possibly related to Tibetan g.nang-ba ꜰBarController ‘to give, allow’.

4. 想 sjianX < B/S *nlaŋ? ‘to think’, Cogtse (Situ) ka-sasô ‘to think’, Brag-bar (Situ) ka-sasô ‘to think’, Japhug su-su to ‘think’. The verbs in modern Gyalrong languages are possible reduplicated forms of *saŋ > *so.

5. 剛 kan < B/S *kəŋ ‘strong, hard’, Cogtse (Situ) ka-rkô ‘be hard’, Japhug rko ‘be hard’, Tibetan mkhrang-po ꜰBarController ‘be hard’. The form 剛 gian < (possible reconstructions would include *gran, *N-kaŋ or *N-kan) possibly reflects a variant of the same root with a *r like the Gyalrong and Tibetan cognates.

6. 羊 jaŋ < *iaŋ B/S *can ‘sheep’, Tibetan g.yang-dkar ꜰBarController ‘sheep’, Cogtse (Situ) ka-jô ‘sheep’, Brag-bar (Situ) ka-jô ‘sheep’, Japhug qa-zo ‘sheep’. The first syllable in Gyalrong date is the prefix designating animals, which could correspond to the g- preinitial in the Tibetan etymon (< PT *Ga-jay, 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, kyo? ~ koŋk, ku? ~ koruk (Prins 2016, 47–48).

7. 痒 jaŋX < B/S *Ca.can? ‘to itch’, Tibetan g.ya’-ba ꜰBarController ‘to itch’ (Schuessler 2007, 559), Cogtse (Situ) ka-rajâk ‘to itch’, Brag-bar (Situ) ka-rejâk ‘to itch’, Japhug râza ‘to itch’. The -r 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 *en

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


2. 鳴 mjiaŋX < B/S *m.reŋ ‘cry’ (of birds or animals), Cogtse (Situ) ka-maré ‘be loud’, Brag-bar (Situ) ka-mbřěj ‘be loud’, Japhug mbri ‘be loud’. The consonant cluster *mr- in Cogtse became two syllables, with the insertion of a, whereas in Brag-bar and Japhug, *mr- > mbř- (Jacques 2004, 137).

3. 繩 ziiŋX < B/S *Ca.m.ron ‘string, cord’, Brag-bar (Situ) ta-mbřé ‘rope’, Japhug tuu-mbři ‘rope’.
5.3.3. 蒸 *anŋ

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


2. 夢 mìwunH < *muŋ H B/S *C.mαŋ-s ‘dream’, Tibetan rmang-lam gə=əb ‘dream’ (Schuessler 2007, 381), Cogtse (Situ) ta-rmó ‘dream’, Brag-bar (Situ) ta-rmók ‘dream’, Japhug tu-jëmp ‘dream’. Like the other velar nasal ending rhymes in OC, the rhyme *unŋ 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 nominal verb ka-va-rmó ‘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 *lmαŋ in Proto-Gyalrong (Jacques 2004, 44).

3. 乃 nojX < B/S *n’s(y)� ‘your’, this word is the possessive form of 汝 nyoX < *naʔ ‘you’ (SC) (Schuessler 2007, 446). It is comparable to Cogtse (Situ) nò ‘you’, Brag-bar (Situ) na-ŋə ‘you’, Japhug n~sə ‘you’. The second element in the Brag-bar and Japhug etyma is the root of the reflexive pronoun təŋ ‘oneself’ in Brag-bar and tu-əŋ ‘oneself’ in Japhug. The cognate pronoun in Brag-bar and Japhug etyma might occur in their constructed status.


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.


2. 新 sin < B/S *s.ʦ[i]n ‘be new’, Cogtse (Situ) ka-ʃik ‘be new’, Brag-bar (Situ) ka-ʃək ‘be new’, Japhug ɤɤ ‘be new’. This series is also a case of a non-checked rhyme *iŋ in OC corresponding to a checked rhyme in Gyalrong languages.


4. 田 den < B/S *фиŋ ‘field’, Tibetan ziŋ-kha gə=ə ‘farmland’ (Schuessler 2007, 496), Japhug tu-ji ‘field’. It is also related to Brag-bar (Situ) tu-jê ‘farming’ and Brag-bar (Situ) ka-jê ‘to plant’, the verb is derived by replacing the nominal prefix tu- by the dynamic infinitive prefix ka-. Backformation from the noun to the verb is also possible, though less likely.

5.3.5. 东 dong *onŋ

5.4. -t ending rhymes

5.4.1. 月 yue *at

1. 般 ςετ < B/S *ς<ρ>ατ ‘to kill’, Tibetan bsad ཇམ ‘to kill’ (Schuessler 2007, 452), Cogtse (Situ) ka-sat ‘to kill’, Brag-bar (Situ) ka-siet ‘to kill’, Japhug sat ‘to kill’. For the correspondence between *ςr- in OC and s- in Gyalrong and Tibetan etyma, see Jacques (2015a).

2. 敷 paʔH < B/S *p’ra[l]s ‘to defeat’, Cogtse (Situ) ke-prêt ‘to break’, Brag-bar (Situ) ka-prät ‘to break’, Japhug prvt ‘to break’. 敷 also has an anticausative form baʔH < *N-p’ra[l]-s*brats ‘suffer defeat’, cognate forms are also found in Gyalrong languages, Cogtse (Situ) ke-mbrêt ‘to break’, Brag-bar (Situ) ka-mbrät ‘to break’, Japhug mbrvt ‘to break’.

5.4.2. 月 yue *et

1. 八 pet < B/S *p’ret ‘eight’, Tibetan brjlad ཡུྱ ‘eight’ (Schuessler 2007, 152), Cogtse (Situ) wurjat ‘eight’, Brag-bar (Situ) korcēt ‘eight’. The Cogtse form suggests (as in the case of ‘hundred’) that *p’ret may have come from an earlier form such as *pV-rjat with primary yod through loss of the vowel in the first syllable and monosyllabization. Among Gyalrong languages, the Brag-bar and Japhug etyma have the irregular onset rc-, for the expected correspondence would be *rj- > rj- and *rj- > rɕ-, as in Zbu vo-rjēt (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 *maʃt ot ‘to take off’, Brag-bar (Situ) ka-ɕlēt ‘to fall (from hand)’ (stem I ɕlēt, stem II ɕlōt).


3. 掘 giut; gjwot < B/S *[glov; *[g])v at ‘to dig out (earth)’, Cogtse (Situ) ka-səkū ‘to bury’, Brag-bar (Situ) ka-səkū ‘to bury’, Japhug skw ‘to bury’, Tibetan rko ʐ ‘to dig’.

5.4.4. 質 zhi *it

1. 踏/.lineTo *lr-it-s* B/S [l-]rlit-s ‘to slip’ (Schuessler 2007, 619), Japhug akdēt ‘slip’. Schuessler (2007, 619) also relates this word to Tibetan ‘dred-pa བོད་ ‘to slip’.

2. 灭 mjiet < B/S *[mi]ljet ‘to destroy’, Cogtse (Situ) ka-rmēk ‘to extinguish’, Brag-bar (Situ) ka-mēk ‘to extinguish’, Japhug mi ‘to extinguish’. The Japhug etymon has lost the final *-k > -γ after the high vowel i Jacques (2004, 224). The correspondence between the final -t in OC and -k in Gyalrong languages is unexplained.


4. 失 cīt < B/S *[l]lt ‘to lose’, Cogtse (Situ) ka-fək ‘to fall (from hand)’, Japhug luuy ‘to fall’, Japhug gũuy ‘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 ndʐurput ‘stiff (IDEO)’⁶. Syllable break of the Japhug etymon is unclear between ndʐur.put and ndʐur.put.

5.5 -n/-r ending rhymes

5.5.1. 兀 yuan *an/r

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

1. 颜 ŋæn < B/S *ŋər ‘face’ could be compared with Japhug tɯ-rŋ ɯ ‘face’, an etymology which would imply an alternative reconstruction *ŋən 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. 兀 *en/r

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

5.5.3. 兀 *on/r

1. 酸 swan < B/S *[s]ˤor ‘sour’, Cogtse (Situ) ka-tɕɔr ‘be sour’, Brag-bar (Situ) ka-tɕɔr ‘be sour’, Japhug tɕur ‘be sour’
2. 晚 mjonX < B/S *m[r]ʔ ‘late’, Cogtse (Situ) tə-mɔr ‘night’, Brag-bar (Situ) tə-mɔr ‘night’ < *tə-mɔr, Brag-bar (Situ) ra-mɔr ‘one night’, Japhug tuw-γmɔr ‘night’. The γ- preinitial in Japhug etymon comes from wrong segmentation from the numeral prefix ‘one’, as is the case in Japhug tuw-xpa ‘one year’ (Jacques 2017b).

5.5.4. 文 wen *an/r


5.5.5. 文 wen *un/r


5.6. -p ending rhymes

5.6.1. 鉁 ji *ap *ip

1. 立 lip < B/S *krap ‘to stand’, Cogtse (Situ) ka-rjap ‘to stand’, Brag-bar (Situ) ka-rjep ‘to stand’.

⁶ Etymology suggested by Gong Xun.
2. 汹 kip < kap ‘to scoop water’, Brag-bar (Situ) ka-kiep ‘to carry water on back’, Japhug kaβ ‘to carry water on back’. Brag-bar (Situ) sa-kâp ‘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 *om *um

1. 明ら yomX < B/S *[o][m]t ‘jaw, chin’, Japhug ta-mcom ‘pliers’.
2. 枕 təmX < B/S *[t.k][ə]/m? ‘pillow’, Brag-bar (Situ) tə-mkəm ‘pillow’, Japhug tv-mkum ‘pillow’. The t- preinitial in OC could be related to the indefinite possessive prefix in Gyalrong languages.
3. 三 sam < *sam B/S *s.rum ‘three’, Tibetan gsum 쐴 ’three’ (Schuessler 2007, 449), Cogtse (Situ) kasâm ‘three’, Brag-bar (Situ) kasəm ‘three’, Japhug ʤəsum ‘three’.
6. 釘 təm < B/S *t.kəm ‘needle’, Cogtse (Situ) ta-kəp ‘needle’, Brag-bar (Situ) ta-wiəp ‘needle’, Japhug ta-qəb ‘needle’, Tibetan khab 会展中心 ‘needle’. The preinitial *t- in OC could be related to the indefinite possessive in Gyalrong languages. The w- initial in Brag-bar etymology is due the *k- > w- lenition.
7. 陰 ṭim < B/S *q(r)um ‘be cloudy, dark’, Brag-bar (Situ) ta-nkəp ‘dark side of the mountain’, Japhug nəjəb ‘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-ifestyles- has been palatalized in Situ Jacques (2004, 309).
8. 熊 jilaw < B/S *C.[l]aw(r)om ‘bear’, Tibetan dom 会展中心 ‘bear’ (Schuessler 2007, 542), Cogtse (Situ) ta-wóm ‘bear’, Brag-bar (Situ) ta-wóm ‘bear’. The Tibetan etymology comes from *dwam, *wa could have been monophthongized to o (Jacques 2009) as in Japhug *fa > ʧa ‘tooth’ and Tibetan *swa > so 会展中心 ‘tooth’.

5.8. -w ending rhymes

Gyalrong languages lack -w coda in native words.

5.8.1. 你 you *iw

The rhyme 会展中心 *iw corresponds to a non-front vowel in Gyalrong languages, ¨ in Cogtse (Situ), 会展中心 in Brag-bar (Situ) and 会展中心 in Japhug.


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5.8.2. 

1. 熟 nant < B/S *n̥aw ‘to fry, roast’, Tibetan runge ʁ ‘to fry’ (Schuessler 2007, 151), Cogtse (Situ) ka-rn̥o ‘to fry’, Brag-bar (Situ) ka-rn̥o ‘to fry’ (Stem I rn̥o, stem II rn̥e, stem II’ rn̥o), Japhug rnu ‘to fry’. The Gyalrong forms could also be loanwords from Tibetan.

2. 号 nant < B/S *[ŋ]n̥aw-s ‘command’, 号 nant < B/S *[ŋ]n̥aw ‘call out’. It is comparable to Cogtse (Situ) ka-n̥a-khô ‘to shout, call’, Brag-bar (Situ) ka-okhô ‘to shout, call’, Japhug akhu ‘to shout, call’.

5.9. -j ending rhymes

5.9.1. 歌 ge *aj


5.9.2. 脂 zhi *ij


2. 米 mejX < *[ŋ]mej? ‘millet or rice grains’, smai-khri ‘小米’ (Huáng and Sūn 2002, 550). The second element of this etymon is the widespread word of ‘rice’ in S itu, Cogtse (S itu) khrî ‘rice’, Brag-bar (S itu) khrî ‘rice’, also found in Japhug khr−u−zwā ‘cooked rice’. This word is related to Tibetan khrê ʁ ‘millet’.


4. 死 sijX < B/S *sij? ‘to die’, Tibetan shí ʁ ‘to die’ (Schuessler 2007, 478), Cogtse (S itu) ka-fi ‘to die’, Brag-bar (S itu) ka-fi ‘to die’, Japhug sî ‘to die’.

5. 色 pijjX < B/S *pij?-s ‘deceased mother’, Schuessler (2007, 162) relates this word to Tibetan phyi-mo ʁ ‘grandmother’, which according to Benedict (1942) is the common Tibeto-Burman root for grandmother. The Gyalrong words Cogtse (S itu) ta-wî ‘grandmother’, Brag-bar (S itu) ta-wî ‘grandmother’, Japhug ts-wî ‘grandmother’ are possible cognates.

6. 畀 pijjH < *pij-s B/S *pi[t]s ‘to give’, Cogtse (S itu) ke-wû ‘to give’, Brag-bar (S itu) ka-mbû ‘to give’, Japhug mbû ‘to give’, Tibetan sbyin ʁ ‘to confer’. The initial consonant of the Cogtse etymon presents *b- > w- lenition.


5.9.3. 微 wei *aj

The rhyme 微 *aj *u̯j corresponds to a high/mid-high vowel in Gyalrong languages, i/e in Cogtse (S itu), i/e/ej in Brag-bar (S itu) and i/e in Japhug.

1. 眉 mij < */mr̥aj B/S *mr̥aj [r̥] ‘eyebrow’ (Schuessler 2007, 377), Cogtse (S itu) ta-r̥e ‘hair’, Brag-bar (S itu) ta-r̥e ‘hair’, Japhug ts-r̥e ‘hair’. This root is also found in compound nouns Brag-bar (S itu) ta-aw-r̥e ‘hair’, Japhug tu-kv-r̥e ‘hair’, the first syllable is the constructed status of Brag-bar (S itu) ta-wô ‘head’, Japhug tu-ku ‘head’.

The rhyme 微 *aj *u̯j corresponds to a high/mid-high vowel in Gyalrong languages, i/e in Cogtse (S itu), i/e/ej in Brag-bar (S itu) and i/e in Japhug.
2. 尾 miiX < B/S *[m]jì ‘tail’, Cogtse (Situ) ta-mi ‘tail’, Brag-bar (Situ) ta-ʃmi ‘tail’, Japhug tʃ-ʃme ‘tail’. The j- (ʃm-) preinitial in the Gyalrong etyma comes from the *l- (*ʃm-) pre-initial before labial initials (Jacques 2004, 271), which has no equivalent in OC.

3. 近 ngeX < B/S *n[a][r]R ‘near’. Schuessler (2007, 226) relates this word to Tibetan ‘nge-ba 阙’ ‘near’ and Tibetan snyen-pa སྲོ། ། ‘to come near’. The verb root itself is not attested in Gyalrong languages, but the noun Japhug tu-γγi ‘friend’ is a possible cognate of Tibetan gnyen རྨ ‘friend, relative’, a noun derived from the verb root by the g-....-n circumflex (Jacques 2018).

4. 火 xaW < *ŋaŋ? (Schuessler 2007, 290–91) B/S *[ŋaŋ]j ? ‘fire’. The phonetic evolution of this word from OC is irregular, as MC -wa normally comes from OC *-aj or *-aj. The word 火 rhymes as *-aj in the Shijing, as in 七月流火, 九月授衣 (« 順風 · 七月 »). Schuessler (2007, 290–91) relates this word to Tibetan me སྲ ‘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 *su-mi, in which su 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 *uʃ


5.10. Wanderwörter

1. 菽 syuos < B/S *s-t(h)uk ‘pulse, beans’, Cogtse (Situ) te-stok ‘broad bean’, Brag-bar (Situ) ta-stök ‘broad bean’, Japhug stʊr ‘broad bean’. The Brag-bar etymon has undergone the *o > v 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. 马 maW < B/S *m’mraʔ ‘horse’, Cogtse (Situ) mbrò ‘horse’, Brag-bar (Situ) mbrò ‘horse’, Japhug mbro ‘horse’. Sagart (1999, 196) suggests that 马 could be an early loanword from TB, after the loss of vowel nasalization of *mraj or *mra (also mentioned in Schuessler 2007, 373).


References


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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