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► **To cite this version:**

Guillaume Jacques. A preliminary study of Tibetan loanwords and cognates in Japhug rGyalrong..
Himalayan languages symposium, Dec 2003, Mysore, India. halshs-00137454

HAL Id: halshs-00137454

<https://shs.hal.science/halshs-00137454>

Submitted on 20 Mar 2007

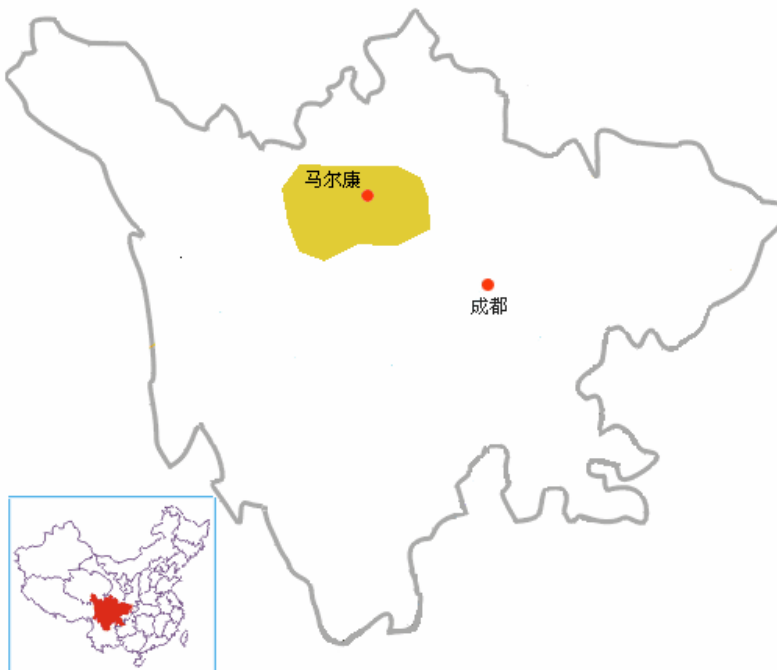
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Himalayan languages symposium, भारतीय भाषा संस्थानCIIL, Manasagangothri
मानसगंगोत्रीMysore मैसूर9-12 of December 2003
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An preliminary study of Tibetan loanwords and cognates in Japhug rGyalrong.

The rGyalrong languages are spoken in the south of rNga-ba 阿坝 county and the north-east of dKar-mdzes 甘孜 county, Sichuan Province, China. Our fieldwork was conducted in 'Bar-khams 马尔康 on the Ja-phug (茶堡) language. The area where these languages are spoken shown on Map 1



Map 1: Area of repartition of rGyalrong languages.

The relationship between rGyalrong and Tibetan is quite complex. As members of the same family, rGyalrong and Tibetan share cognates inherited from a common ancestor. However rGyalrong has been in contact with Tibetan since the time of emperor Khri-srong Ide-btsan (*reignavit 755-797*), and has continuously loaned words from various stages of Tibetan from this time up to now.

The pioneers of rGyalrong studies, Hodgson, Conrady and Wolfenden, believed these languages to be dialects of Tibetan. This misconception is entertained even today by many Tibetan scholars in China. However, the proportion of rGyalrong words related to Tibetan is largely overestimated. In the Japhug language for example, only 21 % of the

words are related to Tibetan (cognates and loanwords included).

In order to clarify the situation, it is necessary to develop a technique to distinguish loanwords from cognates, and to analyse the stratification of the loanwords. Li (1995) was a first attempt to study this problem in the Cog-tse dialect of Eastern rGyalrong. In this paper, we shall analyse the loanwords in the Japhug language.

1 Basic Methodology

We based our method of investigation on Sagart and Xu (2001)'s study of Chinese loanwords in Hani. This Lolo-burmese language has been under continuous Chinese influence for more than a millennium, and loanwords have been borrowed at different periods so that they do not obey to the same patterns of correspondance. Their method to analyse the stratification relies on what they call the Principle of Coherence (cited from Sagart and Xu 2001: 15):

The initial, rhyme and tone correspondences on a borrowed syllabic morpheme obey the same set of correspondance.

In order to analyse the correspondance sets, one can therefore use doublets: two Hani words coming for the same Chinese syllable borrowed at different periods. The principle of coherence can also be generalized to polysyllables (but only when the meaning is not deductible from the syllables – otherwise it could be an independent formation in Hani). This is the Extended Principle of Coherence (cited from Sagart and Xu 2001: 16):

The initial, rhyme and tone correspondences on all syllables of one borrowed polysyllabic morpheme obey the same set of correspondances, provided the morpheme is semantically noncompositional.

Their method is then to start analysing the set of correspondances of the most recent layers (where disyllables are more numerous) and then one by one up to the most ancient loanwords and the cognates between Hani and Chinese. The same method can be applied to Tibetan and rGyalrong, with some emendations.

Firstly, rGyalrong and Hani are typologically very different. There were no tones in Old Tibetan and Japhug has lost the pitch accent found in other rGyalrong languages, so we cannot use this as an element in our analysis. On the other hand, we have to study carefully consonant clusters, including the correspondances for preinitials, initials and medials.

Secondly, while Mandarin and Hani underwent tremendous changes from Middle Chinese and Proto-Lolo-Burmese respectively, Amdo dialects are closer to Old Tibetan than most Tibetan dialects – especially, they did not lose preinitial consonants – and Japhug consonantism was remarkably stable from the time the earliest loanwords were borrowed. This is reflected in the set of correspondances: the stops, in particular, have

almost the same correspondences throughout all layers. This makes it very difficult to distinguish between layers.

Thirdly, unlike Old Chinese, Old Tibetan, the ancestor of all Tibetan dialects, is a fully attested language. On the basis of the work started by Li Fang-kuei (1933), we have an internal reconstruction of proto-Tibetan, that represents the language spoken in central Tibet before the seventh century. Since the contact between Tibetan and rGyalrong, as we know from historical sources, started only in mid-eighth century, it is impossible that any loan in rGyalrong comes from proto-Tibetan. Therefore, we have a very good criterium to tell apart loanwords from cognates: words that do not present the phonetic innovations from proto-Tibetan to Old Tibetan must be cognates and not loanwords. On the other hand, we cannot date for sure the earliest contact between Hani (or Lolo-burmese as a whole) and Chinese.

Fourthly, as we will see, the phonetic evolution of syllables is sometimes different in the first and the second syllable of a disyllable. This makes the Extended Principle of Coherence more difficult to apply to the rGyalrong data.

Fifthly, since Old and Classical Tibetan have a verbal inflexions, it is necessary to take these into account while studying phonetic correspondences. These inflexions can be another criterium to distinguish layers.

Within the scope of this paper, we cannot give a comprehensive account of the stratification of loanwords and of the study of cognates. Therefore, we will restrict our discuss to two issues:

Firstly, we will illustrate our method by analysing the sets of correspondences for the initial stops, and then use these correspondences to distinguish between cognate and loanwords.

Secondly, we will show how the verbal inflexions in Tibetan loanwords can be analysed and what information they give us for the stratification.

2 Initial stops: Correspondences

The correspondances for initial stops between Tibetan and Japhug are only moderately complex. We will first give a comprehensive account of each correspondence, then give an analysis for some of them. There are three series of initials in Classical Tibetan: plain unvoiced, aspirated and voiced (however in proto-Tibetan there were only two: voiced and unvoiced), and four in Japhug: unvoiced, aspirated, voiced and prenasalized.

As a general rule, the unvoiced stops in Tibetan correspond to unvoiced stops in Japhug. We find only two set of exceptions:

Firstly, Tibetan p- correspond to b- in Japhug when the suffixes -pa or -po are preceded by nasal initials: so Tibetan *khram-pa* « trickster » yields *ky-ru-k'ramba* « to

deceive » in Japhug. The other correspondence p- :: w- is only found in one exemple: *vbad-pa* « effort » :: *mbxl-wa* « the salary of a lama »

Secondly, Tibetan k- corresponds to the aspirated stops k^h- and q^h- in four examples suivants: *sbal-skogs* « tortoise shell » :: *bxl-q^hob* « tortoise », *sku* « body » :: *tu-sk^hru* « body », *rko-ba* « to dig, to carve » :: *kx-rk^he* « to carve », *klu* « naga » :: *q^hlu* « naga ».

As for Tibetan aspirated stops, they correspond either to aspirated stops, or plain unvoiced stops in Japhug.

The correspondences between Tibetan aspirated and Japhug plain unvoiced are less common than the correspondences between aspirated in the two languages. They are mostly limited to syllables that occupy the second position in disyllables, as for exemple Tibetan *ljang-khu* « green » corresponds to Japhug *ldzan-ku*. The proportion of examples of Tibetan aspirated initials corresponding to Japhug plain unvoiced or aspirated in the second position of disyllables can be seen in Table 1:

	kh-	ch-	th-	ph-	tsh-
Plain unvoiced	3	4	2	0	2
Aspirated	5	9	3	2	4

Table 1: Number of examples of syllables in Japhug corresponding to Tibetan syllables with aspirated initial in the second position of disyllables according to the place of articulation of initial.

However, in the first position of disyllables, we found not a single example of such a correspondance. In this position, aspirated stops in Tibetan always correspond to aspirated stops in Japhug.

In monosyllables (words that may have prefixes or suffixes in Japhug or Tibetan but who share only one syllabe), though, we found nine examples of words with unaspirated in Japhug corresponding to aspirated in Tibetan. The status of these will be discussed later in the text.

Japhug	Meaning in Japhug	Tibetan	Meaning in Tibetan
<i>ta-qaw</i>	needle	<i>khab</i>	id.
<i>kx-tuy</i>	meet	<i>thug-pa</i>	id.
<i>kx-tab</i>	weave	<i>vthag-pa, btags</i>	id.
<i>paɣ</i>	pig	<i>phag</i>	id.
<i>tu-pu</i>	intestine	<i>pho-ba</i>	stomac
<i>tu-rpaɣ</i>	shoulder	<i>phrag</i>	id.
<i>tu-tsi</i>	life	<i>tshe</i>	id.
<i>tu-ftsa</i>	nephew	<i>tsha-bo</i>	id.
<i>tu-ru-rtsɣ</i>	articulation	<i>tshigs</i>	id.

Table 2: Monosyllables (not including prefixes) in Japhug with plain unvoiced initial

corresponding to an aspirated initial in Tibetan.

The correspondences are most complex with Tibetan voiced initials. The general tendency is the following: Tibetan voiced initials with nasal preinitials correspond to voiced stops (or prenasalized stops) in Japhug, and Tibetan voiced stops without preinitials correspond to plain unvoiced in Japhug. The exceptions to this tendency are exhaustively treated here.

Tibetan g- without preinitial corresponds to a unvoiced stop in Japhug (k-, c- or tʂ- according to the medial consonant), except for three examples: *gung* :: *k'u* « tiger », *gru* :: *zmburu* « boat » et *gral* « order, row » :: *w-gryl* « right (in “to be right” 有道理) », and the group gl- that regularly corresponds to ɣl-. Tibetan g- with any preinitial corresponds to Japhug g- with four exceptions: *sgril-ba* :: *kɣ-tʂul* « to roll », *mgo* :: *tu-ku* « head », *brgyad* :: *kw-rcaɬ* « eight », *brgya* :: *ɣurza* « hundred ».

Tibetan j- without a preinitial always corresponds to Japhug unvoiced tɕ-, and to Japhug dz- when preceded by a preinitial. There are only three exceptions with Tibetan preinitials l- or r--: *rjes* :: *tɣ-tɕys* « trace », *ljid-po* :: *kw-rzi* « loud », *rdo-rje* :: *ɣdɣ-rzi* « vajra ».

Tibetan d- without preinitial corresponds to Japhug t- with one exception: *dal-mo* « slow » :: *dal-tsw-tsa* « slowly ». Tibetan d- with preinitial always correspond to Japhug d-.

The correspondences of Tibetan b- in Japhug are more complex. Without a preinitial, b- corresponds either to Japhug p-, or to Japhug w-: p- in the beginning of a word (*bon-po* :: *puun-pu* « Bon-po ») and in the second position of a disyllables (*nor-bu* :: *nɣr-wu* « trésor »). The presence of a medial consonant in the second syllable does not prevent b- from becoming w-: so *rma-bya* « peacock » is *rma-wja* in Japhug not *rma-pja, and *pho-brang* « palace » is *p'o-wranɣ*. We found only four exceptions to these rules: *bum-ba* :: *tu-p'oŋ* « bouteille », *bla* :: *tu-rla* « âme », *byi-ba* :: *wzu* « souris », et *brang* :: *tu-ro*.

With a nasal preinitial, b- forms the groups vb- and vbr- that regularly correspond to Japhug mb- and mbr-, with only two exceptions: *vbri-ba* :: *kɣ-ryt* « écrire », *vbo* :: *po* « boisseau ».. With other preinitials the correspondences are too complex to be described here in detail.

Tibetan dz- is always preceded by a preinitial in our corpus. It corresponds to Japhug dz- except in one example: *rdzas* « thing » :: *rzys* « luggage ».

The general correspondences can be summarized in Table 2:

	Without preinitial			With nasal preinitial
	Monosyllables	First Syllable	Second Syllable	
k-	k-	k-	k-	
c-			tɕ-	
t-	t-	t-	t-	
p-	p-	p-	p-, b- (preceded with a nasal)	
ts-	ts-	ts-	ts-	
kh-	k ^h -, q-	k ^h -	k ^h -, k-	k ^h -
ch-	tɕ ^h -	tɕ ^h -	tɕ ^h -, tɕ-	tɕ ^h -
th-	t ^h -, t-	t ^h -	t ^h -, t-	t ^h -
ph-	p ^h -, p-	p ^h -	p ^h -	p ^h -
tsh-	ts ^h -, ts-	ts ^h -	ts ^h -, ts-	ts ^h -
g-	k-	k-	k-	g-
j-	tɕ-	tɕ-	tɕ-	dz̥-
d-	t-	t-	t-	d-
b-	p-	p-	w-	b-
dz-				dz-

Table 3: Correspondances of stops between Japhug and Tibetan

The groups r- + voiced affricate in Tibetan rj- and rdz- regularly change to r + voiced fricative in Japhug rj- > r̥z- and rdz- > rz-. There are two words with initial rdz- in Japhug, but they are expressive words probably recently created: *rdza-rdza* « who doesn't accept to be criticized (a child) », *rdzu-rdzi* « full of spines (plant) ».

Now that the general correspondances have been described, we can use these to distinguish between cognates and loanword.

3 Initial stops: Tibetan cognates and loanwords

As we have said, it is somehow easier to distinguish between cognates and loanwords between Tibetan and rGyalrong, because we know the date of contact and the phonetic evolutions between proto-Tibetan and Tibetan.

In Classical Tibetan, aspirates and plain stops almost stand in complementary distribution: the non-aspirate appear after non-nasal preinitials, while aspirates appear after nasal preinitial or in syllables without preinitials. There are, though, some cases of words without preinitial with a non-aspirated initial, but these are clitic words in general.

In proto-Tibetan, there were only two sets of stops: unvoiced and voiced. The unvoiced stops later changed into aspirated and plain unvoiced in the contexts we have described. In Old Tibetan texts, the orthography is still fluctuating: for example « one » is

usually written *gchig* in these texts, instead of *gcig* in Classical Tibetan: at that time, the unvoiced and the aspirated were not yet distinct phonemes. However, this does not mean that the discrepancies in aspiration in Old Tibetan indicates that the pronunciation was really unstable: aspirated and non-aspirated were already in complementary distribution, but because they were still distinct phonemes, the speakers could not always manage to represent this sub-phonemic distinction in the script consistently.

We have seen that the aspirated stops classical Tibetan correspond to aspirated stops in Japhug except in two cases.

Firstly, in the monosyllables in Table 2. When we look at the meaning of the words in this Table, it is striking that all these words belong to the basic vocabulary. They have preinitials that have not equivalent in the Tibetan words, and one of them has even metathesis of -r-: *phrag* :: *tu-rpaʁ* « shoulder ». Most of the words in this list have Sino-tibetan etymologies. This correspondance is probably typical of the layer of cognates: the aspiration is an innovation of Tibetan, and naturally, the cognates words in related languages do not share the innovation.

Secondly, in the second position of disyllables. These words cannot be cognates, because it is impossible that words of two syllables be inherited from Proto-Tibeto-burman. In these cases, we have rather a phonetic change in the donor Tibetan dialect: loss of distinction of aspiration except at the beginning of a word. It is not clear which particular dialect it might be, but in any case the words that have aspirated and those that have non-aspirated consonants should be treated as belonging to two different layers based on this criteria.

If more correspondences are taken into account, we can describe the phonological properties of the layers in more details using the Extended Principle of Coherence. For example, we know that Tibetan -od corresponds to both -ot and -xt in Japhug (-xt is the oldest layer constituted of words loaned before the change *-ot -> -xt in Japhug). We can find doublets, such as the syllable *rgod* « wild »:

mɲu-rgɣt « yeti » (Tibetan *mi-rgod*)
pʰaʁ-rgot « boar » (Tibetan *phag-rgod*)

Among the syllables with a aspirated initial in the second syllable, we find the following examples:

stɣ-ton « coat in lether » (Tibetan *stod-thung*)
mtɕʰɣt-kʰo « place in the house where juniper branches are burnt » (Tibetan *mchod-khang*)

The treatment of the Tibetan aspirated stop is different in the two disyllables: in the first case, it becomes a non-aspirated in Japhug, and in the second case it remains aspirated. The two words belong therefore to two different layers. However, they both have the same correspondance -od :: -xt showing they were loaned before the change *-ot --> -xt in Japhug. Without more examples, we cannot conclusively assert which correspondance

aspirated stops should have in disyllables containing a syllable with the correspondance: -od :: -ot. On the mere basis of these two features (correspondance of -od and aspiration in second syllable) we know that we have at least three layers of loanwords:

	-od	aspiration in non-first syllable of a compound
Layer 1	-ɣt	Aspirated
Layer 2	-ɣt	Non-aspirated
Layer 3	-ot	?

Table 4: Layers of loanwords in Japhug based on two groups of correspondences with Tibetan.

4 Verbal Morphology

In the study of Tibetan loanwords, we must take verbal morphology into account. In Tibetan, the verbs (*bya tshig*) distinguish up to four forms when they are transitive (*tha dad pa*), and two forms when intransitive (*tha mi dad pa*). These forms are generally called present (*da lta ba*), past (*vdas pa*), future (*ma vongs pa*) and imperative (*skul tshig*). Intransitive verbs have only one form for past and imperative, and one form for present and future. Non-volitive verbs have do not have any imperative.

The presence of typical Tibetan morphology in a Japhug etymon proves that the word must be a loanword and cannot be a cognate. In particular, the conjugation prefixes b- and d- / g- do not seem to be ancient (no trace of these are found in any other Tibeto-burman language) and therefore cannot go back to the common ancestor of rGyalrong and Tibetan.

Of course, we will limit our investigation to verbs with more than one unambiguous form in Tibetan (that is the difference between the two forms can be detected in Japhug).

There are 4 verbs in Japhug whose form is unambiguously borrowed from the present tense:

Japhug	Meaning	Tibetan	Meaning
kɣ mu rku	to steal	rku brkus brku rkus	id.
kɣ rɲu	to parch	rngo brngos brngo rngos	id.
kɣ rtsi	to count	rtsi brtsis brtsi rtsis	id.
kɣ ndun	to read aloud	vdon bton gdon thon	id.

Table 5: Japhug verbs unambiguously borrowed from the Tibetan present stem.

There are 8 verbs borrowed either from the present of the future tense:

Japhug	Meaning	Tibetan	Meaning
kʸ wzu	to do	bzo bzos	id.
kʸ sci	to be born	skye skyes	id.
kʸ ŋgru	to be accomplished	vgrub grub	id.
kw mphrɣt	to be adequate	vphrad phrad	to meet
kʸ ndzuɣ	to be destroyed	vjig zhig	id.
kʸ χsu	to raise	gso gsos	id.
kʸ mpɕa	to scold	vphya vphyas vphya vphyas	id.
kʸ ɛzɣw	careful	gzab bzabs gzab bzobs	id.

Table 6: Japhug verbs borrowed from the Tibetan present stem or from the future stem.

There are 6 verbs whose present or imperative stem is identical in Tibetan, or for which the difference between the two forms in Tibetan cannot be reflected in Japhug.

Japhug	Meaning	Tibetan	Meaning
kʸ zgruɩ	to roll between the fingers counterclockwise	sgril bsgril bsgril sgril	id.
kʸ tɕuɩ	to roll	sgril bsgril bsgril sgril	id.
kʸ rtsuɣ	to pile up	rtsig brtsigs brtsig rtsigs	id.
kʸ zdɣw	to fold	sdeb bsdebs bsdeb sdebs	id.
kʸ zgroɕ	to attach	sgrog bsgrogs bsrog sgrogs	id.
kʸ zgruww	to achieve as best as one can	sgrub bsgrubs bsgrub sgrubs	to achieve

Table 7: Japhug verbs borrowed from the Tibetan present stem or from the imperative stem.

There are 8 verbs unambiguously coming from the Tibetan past tense stem:

Japhug	Meaning	Tibetan	Meaning
kʸ ftɕɣt	to stop doing something	gcod bcad gcad chod	to cut
kʸ wgos	to prepare (necessary products)	bgod bgos bgo bgos	to distribute
kʸ ftsuɣ	to establish (an organisation)	vdzugs btsugs gzugs tshugs	id.
kʸ ftuɩ	to tame	vdul btul gdul thul	id.
kʸ wzur	to move	vdzur bzur gzur zur	id.
kʸ wzjos	to learn	sbyong sbyangs sbyang sbyongs	id.
kʸ fkot	to establish	vgod bkod dgod khod	id.
kʸ ɕw ftɕɛ	to remember	vdogs btags gdags thogs	to tie

Table 8: Japhug verbs unambiguously borrowed from the Tibetan past stem.

There 8 verbs whose past tense and future tense are identical in Tibetan:

Japhug	Meaning	Tibetan	Meaning
kʸ wɹɹur	to transform	sgyur bsgyur bsgyur sgyur	id.
kʸ fɔɹt	to tell	vchad bshad bshad shod	id.
kʸ fɔaɹ	to confess	vchags bshags bshag bshogs	id.
kʸ fsroŋ	to protect	srung bsrungs bsrung srungs	id.
kʸ fskʸr	to go around	skor bskor bskor skor	id.
kʸ fstuun	to respect	stun bstun bstun stun	id.

Table 9: Japhug verbs borrowed from the Tibetan past stem or from the future stem.

There are 6 verbs whose past stem and imperative stem are identical (however, some of these are non-volitional, so they do not have a proper imperative):

Japhug	Meaning	Tibetan	Meaning
kʸ pjɹl	to go around	vbyol byol	fuir
kw na ɣsos	fresh	gso gsos	id.
kʸ tshos	complete	tshang tshangs	id.
kʸ nu khur	to	vkhur khur	to bear on the back
kʸ phul	to offer	vbul phul dbul phul	id.
kʸ pɔws	to wipe off	vbyid phyis dbyi phyis	id.

Table 10: Japhug verbs borrowed from the Tibetan present stem or from the imperative stem.

Most of the unambiguous forms come from either the Tibetan present tense or past tense. There are only two cases where the Japhug form seems to come from the future stem or the imperative stem:

Japhug	Meaning	Tibetan	Meaning
kʸ wzdu	ramasser	sdud bsdus bsdu sdus	id.
kʸ rkʸs	graver, sculpter	rko brkos brko rkos	id.

Table 11: Other cases of borrowing.

However, even in these two cases it is possible to argue that these forms might come from the past stem. The correspondance –us :: -u is attested by one other example in our corpus: *sha-rus* « meat and bones » :: *ɔɹ-ru* « bone ». Therefore, we cannot entirely exclude the possibility that *kʸ-wzdu* is loanword from the past stem *bsdus* instead of the future *bsdu*. Besides, our interpretation of *kʸ-rkʸs* as borrowing from *rkos* is based on the idea that the Tibetan group brk- would correspond to *frk- in Japhug, as Tibetan bsk- corresponds to fsk- (*bskor* :: *kʸ-fskʸr* « to go around ») et brt- à frt- (*brtan* :: *ku-frtʸn* « stable »). Since the Tibetan group brk- is not attested anywhere else in our corpus, we cannot claim with certainty that the form is borrowing from the imperative rather than from

the past tense.

Therefore, we may assume that all the Japhug verbs borrowed from Tibetan come either from the present stem or the past stem. The reason for this difference might be due to layering of loanwords: the loanwords from the present and from the past stem would have been loaned from different periods. This can be used as one more feature to stratify the loanwords in Japhug.

5 Conclusion

Our method to stratify Tibetan loanwords and cognates in Japhug based on the same premises as that of Sagart and Xu (2001). However, we had to adapt to the specificities of both Tibetan and rGyalrong:

Firstly, it is easier to distinguish between cognates and loanwords between Tibetan and rGyalrong than between Chinese and Hani.

Secondly, the phonetic correspondances vary in the first syllable and the second syllable of a loaned compound.

Third, Tibetan verbal morphology can serve as a criterion to distinguish layers of loanwords in rGyalrong.

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