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# The Personal agreement system of Zbu rGyalrong (Ngyaltsu variety)

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In this paper, the personal agreement system of the Ngyaltsu variety of Zbu rGyalrong is described, the first such description for this rarely documented Sino-Tibetan language. The agreement pattern is characterized by a direct-inverse system, analysed in detail using the conceptual apparatus from . The system is then compared with those of three neighbouring rGyalrong languages: Eastern rGyalrong, Japhug and Tshobdun, where it is suggested, especially from the behaviour of closed-syllable stems in Eastern rGyalrong, that the person suffixes across rGyalrong are internally structured, the 1SG suffix having a particularly close relationship with the stem.

## 1. Context

### 1.1 Zbu rGyalrong

Zbu rGyalrong is one of the four rGyalrong languages (dialects of rGyalrong according to some): Eastern rGyalrong (also Situ), Japhug (Chabao), Tshobdun (Caodeng) and Zbu (Ribü, Showü). The rGyalrong languages, along with the closely related Lavrung and Horpa (Daofu, rTa'u), make up the rGyalrongic group, spoken by people self-identifying and identified as ethnic Tibetans. rGyalrongic belongs to the Qiangic branch of Sino-Tibetan, a group of languages mostly spoken in the western part of China's Sichuan Province. With the exception of geographically widespread Eastern rGyalrong, all the other rGyalrong languages are primarily spread in 'Barkhams (马尔康 mā'ěrkāng)<sup>1</sup> County, rNgaba (阿坝 ābà) Tibetan and Qiang Autonomous Prefecture in Sichuan. Zbu rGyalrong, in particular, is mostly spoken in the townships of Zbu (*zbu*<sup>2</sup>, WT rdzong·'bur, 日部 rìbù) and Khanggsar (康山 khāngshān, locally

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1 Proper names are given in Pinyin if originally Chinese, Wylie if Tibetan, and an ad hoc romanization from rGyalrong if without apparent etymology in one of the two superstrate languages, with Chinese/Written Tibetan (WT) forms in parentheses.

2 Transcription of rGyalrong follows IPA. rGyalrong languages, with the exception of Japhug, are tonal: there is a meaningful tonal distinction on the stressed syllable: either a flat tone noted as *a*<sup>˘</sup>(*?*), often accompanied by a glottal stop, or a falling tone noted as *a*<sup>ˆ</sup>. Stress mark is omitted as redundant, because the tone-bearing syllable is always stressed. Compare *nɛstɐ*<sup>˘</sup>*?* 'Press (it)!' and *kɛstɐ*<sup>ˆ</sup> '(I want) to press'.

called *tewî*, 达维 *dáwéi*). See Sun (2004) for the precise geographical inventory of Zbu rGyalrong.

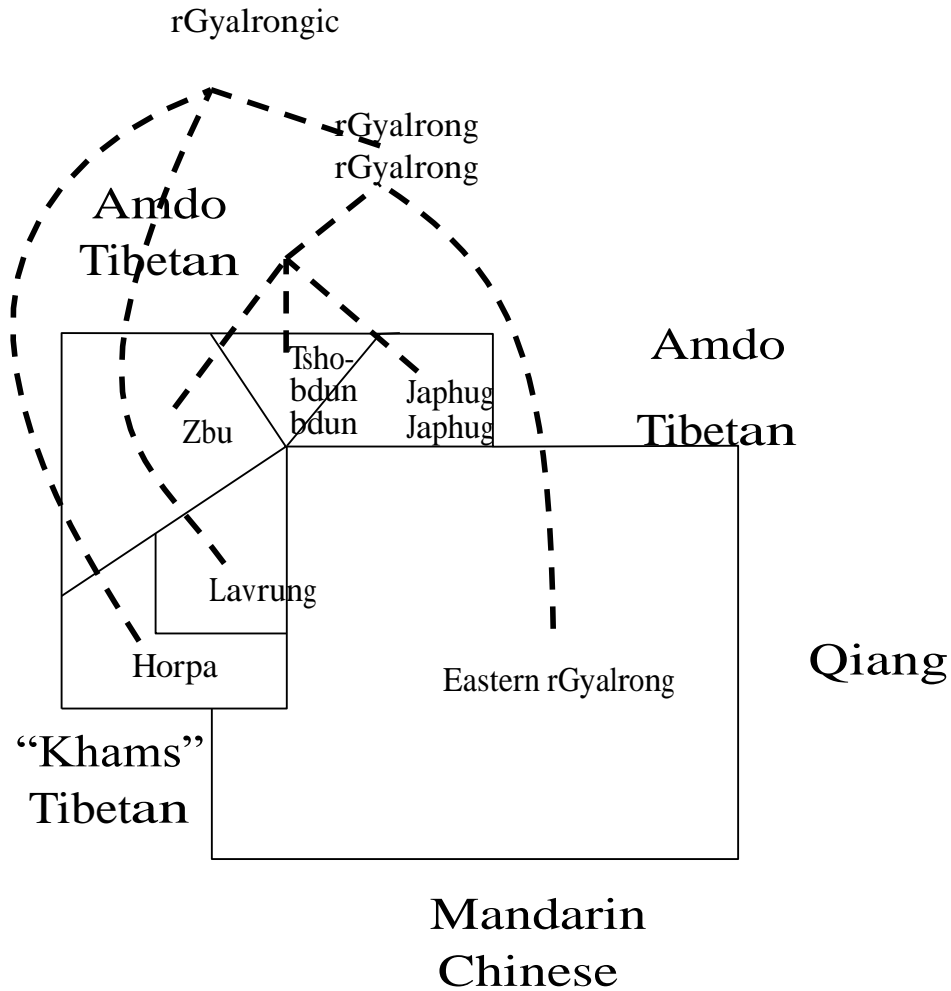


Figure 1: rGyalrongic: geographical distribution, internal classification and major contact languages

No consensus has been reached concerning the internal classification of rGyalrong. For the purpose of this paper, the three non-Eastern languages of Japhug, Tshobdun and Zbu are tentatively considered a group, as they share important phonological, lexical and grammatical isoglosses, some of which will be made clear in this paper. The question is left open whether the commonalities include non-trivial shared innovations.

Zbu rGyalrong, whose number of speakers can be estimated from population census data at

around 5 000, is poorly transmitted to the younger generation, ceding place to Sichuan Mandarin. Phenomena characteristic of language attrition and death are already visible from younger speakers.

The data I use in this paper come from the variety spoken in the village of Ngyaltsu (<sup>n</sup>*dzɛltsu?*, Tibetan name under investigation, 雅尔珠 yǎ'ěrzhū or 牙尔珠 yá'ěrzhū) in Khanggsar. This variety seems to be uniform in the village, and quite similar to that of neighbouring villages, but distinct from the Zhongre dialect documented in Sun (2004).

My principal language consultant is mTshori (Tib., in Zbu *mtsʰurî*, 措锐 cuòruì), a high-school student from First Group (组 zǔ) of Ngyaltsu. During my two field stays (respectively two months and one week in length), and in later telephone sessions, stories, procedural texts and natural conversations are recorded. Limited by the preliminary nature of my research, however, the data in this paper comes mainly from direct elicitation. Further work is expected to be based on analyses of natural speech, especially that of older speakers.

## 1.2 Previous research

Rigorous description of rGyalrong languages starts among Chinese linguists in the 1940s with Jin Peng (Kin 1949). A large-scale linguistic survey of rGyalrongic was conducted in the 1950s, and some of the results are published in Lin Xiangrong's *magnum opus* Lin (1993), along with his own research. More recently, important work was done by Jackson T.-S. Sun, his student Lin You-jing, and Guillaume Jacques, with his book (Jacques 2008) on all the rGyalrong group, concentrating on the Japhug of gDongbrgyad.

Zbu rGyalrong is the least documented language in the group. No text has been published in this language. Lin (1993) recorded the vocabulary of the dialect of the village of Zhongre. Jackson T.-S. Sun has worked on the same dialect for over ten years, and published a paper about stem variation in this language (Sun 2004). Guillaume Jacques worked on another dialect, recording vocabulary and verbal morphology; some of his results appear in Jacques (2008).

The unique verbal system of the rGyalrong languages has long kindled interest in students of rGyalrongic and general linguists alike. Of special concern to this paper are full descriptions of the Eastern rGyalrong verbal system (Lin 1993) and that of Japhug (Jacques 2004, 2008), where the verbal person marking is well described. DeLancey (1981a) gives an analysis of Eastern rGyalrong person agreement in terms of direction, which is followed by Sun & Shi (2002), an in-depth description of hierarchical alignment in Tshobdun morphology and syntax alike, and Jacques (2010), a detailed study of the inverse prefix in Japhug.

## 2. The personal agreement system

Zbu rGyalrong, like other rGyalrong languages, retains a robust distinction between intransitive and transitive verbs. Nevertheless, the transitive paradigm resembles the intransitive paradigm to the extent that the former can be seen as based on the latter. Notably, the same set of markers is used by both.

Person marking is the innermost inflection of a finite verb: it provides the only verbal suffixes in

the language, and no inflectional prefix may intervene between the personal prefixes and the stem.

## 2.1 Intransitive

The simpler intransitive paradigm is presented first, with the verb  $k\bar{v}-v^n t\acute{e}r$  ‘to fall down’ in the aorist (perfective past) taken as the example. Portions relevant to the person of the verb are in bold face.  $n\bar{v}-$  is a TAM marker for aorist.<sup>3</sup> Besides  $n\bar{v}-$ , tense is also indicated by the choice of Stem 2  $v^n t\acute{\theta} \hat{r}$  of the verb. For intransitive verbs, person marking is consistent throughout different TAM configurations.

|   | SG   | DU   | PL   |
|---|--|--|--|
| 1 | $n\bar{v}-v^n t\acute{\theta} \hat{r}-a\eta$   | $n\bar{v}-v^n t\acute{\theta} \hat{r}-t\zeta\theta$            | $n\bar{v}-v^n t\acute{\theta} r-j\theta$         |
| 2 | $n\bar{v}-t\theta-v^n t\acute{\theta} \hat{r}$ | $n\bar{v}-t\theta-v^n t\acute{\theta} \hat{r}-^n d\zeta\theta$ | $n\bar{v}-t\theta-v^n t\acute{\theta} r-j\theta$ |
| 3 | $n\bar{v}-v^n t\acute{\theta} \hat{r}$         | $n\bar{v}-v^n t\acute{\theta} \hat{r}-^n d\zeta\theta$         | $n\bar{v}-v^n t\acute{\theta} r-j\theta$         |

Table 1: Aorist paradigm of  $k\bar{v}-v^n t\acute{e}r$  ‘to fall down’

Remarks:

- 1SG might originally have been a suffix  $-v$ , as is synchronically the case in the Zhongre variety of Zbu rGyalrong (Sun 2004). In Ngyaltsu, the forms are respectively:<sup>4</sup>
  - $/a\eta/$  if the stem ends with a closed syllable.  $s\acute{e}z-a\eta < s\acute{e}z$  ‘I know’,  $n\bar{v}-t\acute{c}h\acute{o}v-a\eta < t\acute{c}h\acute{o}v$  ‘I have broken’. However, if the stem ends in a stop /t/ (the only possible stop coda), the latter is nasalized to  $/n/$ :  $t\acute{\theta}-thin-a\eta < \acute{t}hit$  ‘I said’.
  - $/v/$  with possible vowel change for open-syllable stems: a round vowel gives  $/-o\eta/$ , a front one gives  $/-ja\eta/$ , the rest give  $/-a\eta/$ :  $fs\acute{o}\eta < fs\acute{o}$  ‘I can’,  $rgja\acute{\eta} < rg\acute{e}$  ‘I like’.

The underlying form, to the extent that we can talk about one, seems to be  $/-a\eta/$  in Ngyaltsu Zbu.

There is at least one verb with an irregular first-person formation. The verb  $k\bar{v}-x\acute{s}\acute{o}$  ‘to hit’ has as stem forms  $x\acute{s}\acute{o}$ ,  $x\acute{s}\acute{\theta} \hat{v}$ ,  $x\acute{s}\acute{\theta} v$ . When appended with the 1SG suffix, they

3 Indicated with one of at least five *directional prefixes*, glossed as AOR, that correspond to spatial direction in motion verbs:  $t\theta-$  (up),  $n\bar{v}-$  (down, downstream, centrifugal),  $\acute{c}v-$  (upstream, centripetal),  $r\theta-$  (east) and  $n\theta-$  (west). Non-motion verbs occur with lexicalized directional prefixes, mostly  $t\theta-$ ,  $n\bar{v}-$  and  $n\theta-$ .

4 The examples below include transitive and intransitive verbs indiscriminately, since, as we will soon see, transitive verbs also take this suffix in several contexts with a 1SG core argument.

become respectively  $xsa \hat{\eta}$ ,  $xsa \hat{\eta}$  and  $xsa \hat{\eta}$ . (Regularly, we would expect  $xs\hat{o}\eta$ ,  $xs\hat{\theta} \hat{v}-a\eta$ ,  $xs\hat{\theta}v-a\eta$ .) This suggests that the 1SG suffixed forms may be separate stems on their own (a point that I elaborate in section 4.2).

- In third-person contexts, number marking depends on the animacy of the subject. With an inanimate 3DU or 3PL subject, the verb cannot take the number marker  $-^ndz\theta$  or  $-j\theta$ . Compare the following cases, involving the verb  $k\theta-\theta^n t\acute{e}r$  ‘to fall down’:

(1)  $t\acute{a}p\hat{u} \ n\hat{i} \ n\theta-\theta^n t\hat{\theta} \ r^{-n} dz\theta$   
*child DU AOR-fall.down.STEM2-DU*  
 ‘The two children fell down.’<sup>5</sup>

(2)  $skuts\acute{e}?\ n\hat{i} \ n\theta-\theta^n t\hat{\theta} \ r(*-^n dz\theta)$   
*stone DU AOR-fall.down.STEM2*  
 ‘The two stones fell down.’

The second person is marked by the prefix  $t\theta-$ , in contrast to other suffixal markers. Disregarding this prefix, the paradigm is exactly as the third person, whence we can infer that the third person is not overtly marked. First person, on the contrary, is indicated by its own set of suffixes that express both person and number.

## 2.2 Transitive

The transitive paradigm, in Table 2, is shown with the verb  $k\theta-x\hat{s}\hat{o}$  ‘to hit’ in the aorist.<sup>6</sup> As the form varies according to both the agent and the patient of the clause, a two-dimensional conjugation table is needed, with the rows indicating the agent, and the columns the patient. For example, the entry at row A2 PL, column O3 SG reads ‘You<sub>PL</sub> hit him/her (yesterday)’. Note that there are two different prefixes  $t\theta-$  in this example, the person marker  $t\theta-$  seen in second-person forms, and a TAM prefix  $t\theta-$ , in non-bold face in the table, which indicates the aorist tense: the two  $t\theta-$ ’s coexist in  $t\theta_{PL}-t\theta_2-w\theta-x\hat{s}\hat{o} \hat{\eta}$  ‘You hit me’.

|              | O1 |  | O2   |  | O3   |          | <i>intr.</i>             |
|--------------|----|--|--|--|--|----------|--------------------------|
|              | SG | PL   | SG   | PL   | SG   | PL       |                          |
| A1           | SG |  | $t\theta-t\theta-x\hat{s}\hat{o} \hat{v}$                | $t\theta-t\theta-x\hat{s}\hat{o} \hat{v}-j\theta$                | $t\theta-x\hat{s}\hat{o} \hat{\eta}$               |          | $\Sigma-a\eta$           |
|              | PL |  |  |  | $t\theta-x\hat{s}\hat{\theta} \ v-j\theta$         |          | $\Sigma-j\theta$         |
| A2           | SG | $t\theta-t\theta-w\theta-x\hat{s}\hat{o} \hat{\eta}$ |  |  | $t\theta-t\theta-x\hat{s}\hat{\theta} \ v$         |          | $t\theta-\Sigma$         |
|              | PL | $t\theta-t\theta-w\theta-$                           |  |  | $t\theta-t\theta-x\hat{s}\hat{\theta} \ v-j\theta$ |          | $t\theta-\Sigma-j\theta$ |
| A3           | SG | $t\theta-w\theta-x\hat{s}\hat{o} \hat{\eta}$         | $t\theta-t\theta-w\theta-$                               | $t\theta-t\theta-w\theta-$                                       | $t\theta-\theta-x\hat{s}\hat{\theta} \ v$          |          | $\Sigma$                 |
|              | PL | $t\theta-w\theta-x\hat{s}\hat{o} \hat{\eta}-j\theta$ | $t\theta-t\theta-w\theta-x\hat{s}\hat{\theta} \ \hat{v}$ | $t\theta-t\theta-w\theta-x\hat{s}\hat{\theta} \ \hat{v}-j\theta$ | $t\theta-\theta-x\hat{s}\hat{\theta} \ v-j\theta$  |          | $\Sigma-j\theta$         |
| <i>intr.</i> |    | $\Sigma-a\eta$                                       | $\Sigma-j\theta$   | $t\theta-\Sigma$   | $t\theta-\Sigma-j\theta$                           | $\Sigma$ | $\Sigma-j\theta$         |

Table 2: Aorist paradigm of  $k\theta-x\hat{s}\hat{o}$  ‘to hit’

5 Glosses follow their usual interpretation. The following glosses do not appear in *Leipzig Glossing Rules*: AOR=aorist, DIR=direct, INV=inverse, NVIS=non-visual (evidentiality).

6 As the dual is analogous to the plural (only the suffix is different), it is omitted from the table which shows the correspondence between the transitive paradigm and the intransitive paradigm. A complete table is also given as Table 11.

Remarks:

- The form of the prefix *wə-* varies with context: *f-/v-* when it is phonotactically possible to be part of the next syllable, *wə-* when impossible. Compare *ətə-v-nəfsjaŋ* ‘Do you know me?’ and *nətə-f-sa ʹqho* ‘He cured you’ with *tətə-wə-xsa ʹŋ* ‘You hit me’ (\**fxsaŋ* is not a valid Zbu syllable).
- For situations where both the agent and the patient are third person (abbreviated as 3→3), two possibilities exist: one with the prefix *wə-* and where the number marking corresponds to the patient, the other without *wə-*, the number corresponding to the agent. Their usage is discussed in section 3.
- A prefix *v-* appears in 3→3 forms without *wə-*. This prefix occurs only in the aorist. It does not occur in other tenses. For example, in the prospective tense (roughly ‘is going to do’, marked by *jə-*), 2SG→3SG is as *jə-tə-xśəv*, but 3SG→3SG is *jə-xśəv* not \**jə-v-xśəv*.
- Except for this 3→3 suffix *v-*, there is no difference between the usage of personal affixes in the various tenses of transitive verbs. In non-past tenses, however, there is a split in stem usage within the paradigm which correlates with person. Namely, a special stem (labeled Stem 3 following the usage in rGyalrong linguistics) occurs in 1/2/3SG→3 forms without *wə-*. Again taking the prospective tense as an example, 2SG→3SG uses Stem 3 *xśəv*: *jə-tə-xśəv*, while 3SG→2SG uses the infinitive stem *xśō*: *jə-tə-wə-xśō*. The scope of this paper is limited to the affixes, and so a detailed analysis and inter-rGyalrong comparison of stem variation is deferred to another study.

### 3. Analysis

#### 3.1 Inverse marking and the empathy hierarchy

The data above clearly show the sign of a language with inverse marking. A DIRECTION (or direct-inverse) system works on the empathy hierarchy (henceforth EH, term from DeLancey 1981b), a concept pioneered in Silverstein (1986) when he discovered that some split-ergativity patterns depend on the relative position of argument noun phrases on a hierarchy preferring SAPs (i.e. first and second person) to the third person. An elaborated hierarchy, such as that which is attested in rGyalrong languages, makes distinctions inside both SAP and third-person: 1SG > 1DU/PL > 2 > animate 3 > non-animate 3.

In Zbu rGyalrong, as in Tshobdun (Sun & Shi 2002) and Japhug (Jacques 2010), the empathy hierarchy governs verb marking. This can be seen in Table 2, with the relevant examples elaborated below:

- (3) *rəçór vəjé? kələ nəjé? tə-tə-wə-xśə ʹv*  
*yesterday (s)he once you AOR-2-INV-hit.STEM2*

‘(S)he hit you once yesterday.’ (Do you want to hit him/her back?)

- (4)     $\eta\acute{e}?$      $k\theta$      $\acute{e}k\acute{u}?$      $t\theta-xsa\hat{\eta}$   
      I    ERG    that    AOR-hit.STEM2.ISG  
      ‘I hit him/her<sup>7</sup> yesterday.’ (Do you want to hit him/her back?)

In the DIRECT configuration, exemplified by (4), where the agent of a transitive verb (SAP) is higher than its patient (3) on the EH, the verb is unmarked for direction. On the other hand, when the agent is lower than the patient on the EH, as in (3), where agent is 3 and the patient is SAP, this INVERSE configuration is marked with the prefix  $w\theta-$ .

Alignment can be defined as patterns of behavioural similarity between core arguments in a transitive clause (A, O) and the sole core argument of an intransitive clause (S). Thus, accusative alignment is  $O \neq S = A$  and ergative alignment is  $O = S \neq A$ . To determine the alignment in Zbu rGyalrong verbal morphology, we can compare the markers in a finite transitive verb and the markers in an intransitive verb. As can be seen from Table 2, where the corresponding intransitive forms are given for ease of comparison, the personal affixes in the transitive paradigm heavily resemble those in the intransitive one. Discounting  $\nu-$ , the paradigm with a third-person patient ( $\_ \rightarrow 3$ ) is exactly that of an intransitive verb, with the agent behaving as the subject. The paradigm with a third-person agent ( $3 \rightarrow \_$ ) corresponds to the intransitive verb, too, with the patient as the subject. The language thus exhibits a HIERARCHICAL ALIGNMENT, where the person and number markers of the higher-ranked argument (SAP, or one of the 3) appear where analogous markers appear in the intransitive paradigm.

The analysis in this essay will refer to the conceptual apparatus of Zúñiga (2006), the first monograph-sized comprehensive treatment of the typology of direction systems. According to him, although both of them are reflections of the EH, direction – the marking of the *relative* ranking of transitive core arguments on the EH – should be theoretically distinguished from hierarchical alignment – access to marking slots determined by the hierarchy. He proposes an analytical framework of inverse constructions, based on three parameters: LOCUS OF MARKING, DIRECTION DOMAIN and FOCALITY. Three direction domains are distinguished, following the tradition in Algonquian linguistics: MIXED (SAP $\leftrightarrow$ 3), NON-LOCAL (3 $\leftrightarrow$ 3) and LOCAL (SAP $\leftrightarrow$ SAP). Focality refers to the degree of specificity of direction markers in person, number and other properties of both arguments.

In the next subsection, the Zbu system is analysed by discussing the person-marking behaviour for each direction domain. For each domain, I discuss two aspects of the person marking: alignment, mainly the presence and form of the personal affixes, as we have seen in the intransitive forms; and direction, as reflected by the inverse prefix  $w\theta-$  and other affixes that can have directional interpretations.

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7 In Zbu rGyalrong, the demonstrative pronoun  $\acute{e}k\acute{u}?$  may function as the third-person pronoun, apart from  $\nu\acute{e}j\acute{e}?$ , formally a pronoun and specializing in that function.

### 3.2 Zbu personal marking by direction domain

#### Mixed: 1/2→3, 3→1/2

The forms are recapitulated in Table 3, along with the corresponding intransitive forms, for ease of comparison.

| SAP→3          |  | SAP←3          |  | Intransitive |  |
|----------------|--|----------------|--|--------------|--|
| 1SG→3<br>1PL→3 | $\Sigma$ - <i>aŋ</i> (-<br><i>ŋə</i> )                   | 1SG←3<br>1PL←3 | <i>wə</i> - $\Sigma$ - <i>aŋ</i> (-<br><i>ŋə</i> )                               | 1SG<br>1PL   | $\Sigma$ - <i>aŋ</i><br>$\Sigma$ - <i>jə</i>   |
| 2SG→3<br>2PL→3 | <i>tə</i> - $\Sigma$<br><i>tə</i> - $\Sigma$ - <i>ŋə</i> | 2SG←3<br>2PL←3 | <i>tə</i> - <i>wə</i> - $\Sigma$<br><i>tə</i> - <i>wə</i> - $\Sigma$ - <i>ŋə</i> | 2SG<br>2PL   | <i>tə</i> - $\Sigma$<br><i>tə</i> - $\Sigma$ - |

Table 3: Zbu transitive paradigm, mixed domain

The hierarchy in the mixed domain is the universal SAP→3. Hence, transitive verbs take the inverse prefix *wə*- when the agent is 3. No prefix is taken when the agent is SAP. The person marking shows hierarchical alignment based on the same hierarchy: only SAP marking appears on the verb, irrespective of whether the configuration is direct or inverse.

In the forms involving 1SG, a second number marker showing the number of the other argument could be present. This is discussed in section 4.4, along with related forms in other rGyalrong languages.

#### Local: 1→2, 2→1

|                |  | Intransitive |  |
|----------------|--|--------------|--|
| 1→2SG<br>1→2PL | <i>tə</i> - $\Sigma$<br><i>tə</i> - $\Sigma$ - <i>ŋə</i>       | 2SG<br>2PL   | <i>tə</i> - $\Sigma$<br><i>tə</i> - $\Sigma$ - |
| 2→1SG<br>2→1PL | <i>tə</i> - <i>wə</i> - $\Sigma$ - <i>aŋ</i> (-<br><i>ŋə</i> ) | 1SG<br>1PL   | $\Sigma$ - <i>aŋ</i><br>$\Sigma$ - <i>jə</i>   |

Table 4: Zbu transitive paradigm, local domain

The forms are given in Table 4. Most conspicuously, 1→2 does not have *wə*-, while 2→1 does, whence we can infer the local hierarchy 1 > 2.

Based on the mixed domain, we predict that marking of the higher-ranked first person would always be present on the verb. However, the picture is not as clearly hierarchical. 1→2 forms show a prefix *tə*-, analysable as *tə*-*v*-, and the number of the second person-patient ( $\emptyset$  for 2SG, *-ŋə* for 2PL, etc). 2→1 forms show the second-person prefix *tə*- and first-person person/number marking (*-aŋ*, *-ŋə*); when the patient is singular, the second number marker (see section 4.4) appears showing the number of the agent.



We can see that the main person/number marking is always that of the patient: the local-scenario person marking shows an ergative alignment, consistent with the optional and context-governed ergative marking on argument NPs. The additional complexity still exists, that the second-person  $tə-$  is still present on  $1 \rightarrow 2$  forms. Access to inflectional slots is governed by a hierarchy, and in some languages – Algonquian for example – conflicting local hierarchies can coexist in different parts of the morphosyntax (Zúñiga 2006). A point can be made that the appearance of  $tə-$  is governed by another local hierarchy  $2 > 1$ . However, such an implication is mistaken (Jacques p.c.), as the prefixal slot is in fact monopolized by  $tə-$ : claiming that  $tə-$  competes with  $\emptyset$  for first or third person would be tortuous. It should be better regarded as an invariant indication of a second-person core argument, and as such does not directly constitute a hierarchy in the language.

The  $v-$  part in  $1 \rightarrow 2$   $təv-$  can be regarded as a local direct prefix, parallel to the  $3 \rightarrow 3$  aorist direct  $v-$  (Delancey 1981b; Jacques 2010).

In conclusion, the local domain shows a direct/inverse system with a  $1 > 2$  hierarchy. In terms of alignment, on the other hand, the system is ergative, not hierarchical.

### Non-local: $3 \rightarrow 3$

Like elsewhere, the non-local domain shows a direct-inverse pattern, with the inverse  $wə-$  on some conjugated verbs, and direct  $\emptyset$  ( $v-$  in the aorist) on other verbs. The hierarchy that determines the direct/inverse configuration is primarily based on animacy:

(5)  $tʂəɕi \quad kə \quad skutséʔnə-v-təhóv \quad ki$   
*bkra·shis ERG stone AOR-DIR-smash.STEM2 NVIS*  
 ‘bKrashis smashed a stone.’

(6)  $tʂəɕi \quad skutséʔkə \quad tə-wə-xsə^v \quad ki$   
*bkra·shis stone ERG AOR-INV-hit.STEM2 NVIS*  
 ‘A stone hit bKrashis.’ (The stone falls from the mountain, for example)

In (5) bKrashis is human, hence animate, while the stone is not, so bKrashis is higher than the stone on the EH. The clause is therefore in the direct configuration. In (6) the agent (stone) is lower than the patient (bKrashis) in animacy, hence in the EH, the clause is in the inverse configuration, necessitating the inverse prefix  $wə-$ . Saying (6) the other way round would imply a violation of the implicational link between animacy and volition, as is shown in (7):

(7)  $*skutséʔ \quad kə \quad tʂəɕi \quad tə-v-xsə^v \quad ki$   
*stone ERG bkra·shis AOR-DIR-hit.STEM2 NVIS*  
*intended meaning: ‘A stone hit bKrashis.’ (The speaker remarks that this form would imply that the stone hit bKrashis on its own accord.)*

Within the classes of animates and inanimates, however, the relative position of the two arguments is influenced by topicality, as can be seen from the following examples:

- (8) kuzéʔ kə tʂəɕi tə-vʼ-ndzi ki  
*dog ERG bkra-shis AOR-DIR-bite.STEM2 NVIS*  
 ‘A dog bit bKrashis.’
- (9) tʂəɕi kuzéʔ kə tə-wə-ndzi ki  
*bkra-shis dog ERG AOR-DIR-bite.STEM2 NVIS*  
 ‘bKrashis was bitten by a dog.’

The more topical argument assumed a higher rank on the EH, a phenomenon reminiscent of the Algonquian proximate/obviative distinction. There seems also to be agency at work: in elicitation with two animates or two inanimates, the speaker would always remark that the direct version is more usual. Further study in this respect should be conducted on longer, connected texts to determine the precise factors, along the lines of work (Jacques 2010) on the related Japhug.

Formally, only the argument higher on the EH shows itself on the verb by number markers akin to the intransitive. In direct forms (without the inverse prefix *wə-*), the verb agrees in number with the A, while in inverse forms it agrees with the O. The appearance of the inverse marker is governed by the same hierarchy that decides whose number determines the verbal number marking. Thus, it is confirmed that for every transitive clause, a ranking always exists between the two core arguments, if this ranking is not always predictable by syntactic and semantic properties of these argument NPs themselves. This is summarized in Table 5.

| Higher arg. →3 |      | Higher arg. ←3 |         | Intransitive |      |
|----------------|------|----------------|---------|--------------|------|
| 3SG →3         | Σ    | 3SG ←3         | wə-Σ    | 3SG          | Σ    |
| 3PL →3         | Σ-ʃə | 3PL ←3         | wə-Σ-ʃə | 3PL          | Σ-ʃə |

Table 5: Zbu transitive paradigm, non-local domain

In short, the non-local domain shows an inverse system and hierarchical alignment. Both the direct/inverse configuration and the hierarchical alignment are government by a hierarchy determined by animacy of the arguments. The ranking of arguments is always consistent in a verbal phrase.

## Conclusion

The EH occupies a central position in the paradigm of the Zbu rGyalrong verb. All the direction domains show effects of a consistent hierarchy, in the direct-inverse marking and in the hierarchical alignment of person markers.

The inverse marking is what Zúñiga (2006) labels GLOBAL DIRECTION, where direction is marked in all direction domains. The alignment, in contrast, is hierarchical in the mixed and non-local domains, but ergative in the local domain.

The inverse configuration is consistently marked in all three domains by *wə-*, a direction marker which is LOW-FOCAL, one that specifies only the relative ranking between agent and patient. Two

direct markers, both formally  $\nu$ - and maybe connected, occur in limited contexts: one in the local domain (1→2) and one in the aorist and in the mixed domain (SAP→3). The first is high-focal: the arguments are precisely specified as 1 A, 2 O. The second is low-focal.

## 4. Comparison with other rGyalrong languages

Three rGyalrong varieties have documented personal agreement systems: Eastern rGyalrong (Lin 1993,<sup>8</sup> cf. DeLancey 1981a), Tshobdun (Sun & Shi 2002; Sun 2003), Japhug (Jacques 2004, 2008).

In this section I attempt a detailed comparison between the systems of person agreement of the rGyalrong languages. The three non-Eastern languages being more similar, the difference between them as a group and Eastern rGyalrong would be discussed first, then followed by a discussion of the differences between the three non-Eastern languages. Notably, in section 4.2 I argue for a special status of the 1SG suffix across rGyalrong languages, since it is closer to the stem.

### 4.1 Intransitive paradigm

|   |    | Eastern                  | Zbu                            | Japhug                   | Tshobdun                       |
|---|----|--------------------------|--------------------------------|--------------------------|--------------------------------|
| 1 | SG | $\Sigma - \nu$           | $\Sigma - a\nu$                | $\Sigma - a$             | $\Sigma - a\nu$                |
|   | DU | $\Sigma - t\nu^n$        | $\Sigma - t\theta\theta$       | $\Sigma - t\theta i$     | $\Sigma - t\nu\theta$          |
|   | PL | $\Sigma - j$             | $\Sigma - j\theta$             | $\Sigma - ji$            | $\Sigma - j\theta$             |
| 2 | SG | $t\theta - \Sigma - n$   | $t\theta - \Sigma$             | $t\nu - \Sigma$          | $t\theta - \Sigma$             |
|   | DU | $t\theta - \Sigma -$     | $t\theta - \Sigma -$           | $t\nu - \Sigma -$        | $t\theta - \Sigma -$           |
|   | PL | $t\theta - \Sigma - \nu$ | $t\theta - \Sigma - \nu\theta$ | $t\nu - \Sigma - \nu\nu$ | $t\theta - \Sigma - \nu\theta$ |
| 3 | SG | $\Sigma$                 | $\Sigma$                       | $\Sigma$                 | $\Sigma$                       |
|   | DU | $\Sigma - n t\nu^n$      | $\Sigma - {}^n d\nu\theta$     | $\Sigma - n d\nu i$      | $\Sigma - {}^n d\nu\theta$     |
|   | PL | $\Sigma - \nu$           | $\Sigma - \nu\theta$           | $\Sigma - \nu\nu$        | $\Sigma - \nu\theta$           |

Table 6: Intransitive paradigm across rGyalrong languages

We start with intransitive forms as before, which are listed in Table 6. As is clear from the table, the systems are identical, except for Eastern rGyalrong, where the 2SG form shows the suffix  $-n$ .

8 In order to enable comparison with other varieties, Lin Xiangrong's description of the system requires some interpretation. In his discussion of the person markers, he distinguishes between 'verbs with only subjects', where paradigms are given translated as (the Chinese equivalent of) 'I'm going to eat', etc., and 'verbs with only objects', where paradigms vary with A and O, 'They will chase me', etc. Comparison between the paradigms makes clear that the 'verbs with only subjects' category means the verb usages where the object is indicated by an overt NP, hence third person: '[I'm going to eat] the apple', which permits the combination of the paradigm and the 3O paradigm. Also, while I have refrained from tampering with the transcriptions of other sources, I feel obliged to change Lin's coda /i/ and /u/ to the corresponding semivowels, both from structural considerations and a reinterpretation of the phonetic details noted thanks to Lin's meticulous attention.

This suffix is semantically redundant and introduces an important asymmetry: the 2DU/PL suffixes only mark number, while the 2SG  $-n$  indicates both number and person. It should be regarded as the earlier form, by the critical dictum to prefer the *lectio difficilior*: a simple proportional analogy ( $tə-Σ-n.Σ-n = tə-Σ:Σ$ ) eliminating the  $-n$ , moreover motivated by this paradigmatic imbalance, would turn the situation in Eastern rGyalrong into that found in other rGyalrong languages.

Jacques (2008: 206) observes that the person suffixes in rGyalrong languages do not correspond to each other regularly. No content word shows intra-rGyalrong correspondence between alveolars and palatals (transcribed with the /ʃ/ or /ç/ series), yet Zbu  $-nə$  corresponds to Japhug  $-nu$ , Japhug  $-tɕi$  to Tshobdun  $-tsə$ , and so on. Moreover, the palatal/alveolar status of the personal suffix coincides with that of the possessive prefix on nouns: compare Japhug  $nu-kur$  ‘their mouths’ /  $-nu$  ‘3PL’ with Zbu  $nə-k^h wɛˈnaŋ$  ‘their family’ /  $-nə$  ‘3PL’. Jacques concludes that contemporarily to the sporadic changes that produced these irregular correspondences, ‘the pronouns, the possessive prefix and the personal suffix were one and the same morpheme, in the Sprachgefühl of rGyalrong speakers.’ (Jacques 2008: 206, my translation)<sup>9</sup>

In Tshobdun rGyalrong (Sun & Shi 2002: 82), as has been mentioned before for Zbu rGyalrong, intransitive clauses with dual or plural inanimate subjects obligatorily take null agreement. In Japhug (Jacques 2008: 214), however, such clauses show the corresponding number markers, as is the case for human subjects.

## 4.2 Internal structure of rGyalrong suffixes

In this subsection, an examination of Eastern rGyalrong morphophonology will bring to light the internal structure of the person suffixes. Most importantly, the 1SG suffix will be shown to have a particularly close relationship to the stem.

In Eastern rGyalrong, interaction with the coda of closed-syllable stems allows the suffixes to be grouped into three classes: concatenative (the plural markers  $-tʃ^h$ ,  $-j$ ,  $-ntʃ^h$  and  $-n$ ), fusional (1SG  $-ɲ$ ) and disappearing ( $-n$  and  $-w$ , the latter of which appears only in transitive clauses and is discussed in section 4.3).<sup>10</sup> For the root  $k^h ɛs$  ‘to get angry’, for example, syllable-coda constraints of descending sonority should make / $k^h ɛs-n$ / ‘they get angry’, / $k^h ɛs-ɲ$ / ‘I get angry’ and / $tə-k^h ɛs-n$ / ‘you<sub>SG</sub> get angry’ sound equally bad. In fact, we witness three different outcomes for the different suffixes: the markedness not being repaired for the ‘concatenative’  $-n$  giving [ $k^h ɛsn$ ]; nasal-sibilant metathesis for the ‘fusional’  $-ɲ$  giving [ $k^h ɛɲs$ ]; deletion of the ‘disappearing’  $-n$  giving [ $tək^h ɛs$ ]. Similarly, a stop-coda root like  $rjɛp$  ‘to stand up’ shows a trivial assimilation in nasality and voice for a concatenative suffix ([ $rjɛmp$ ]), a feature fusion for the fusional  $-ɲ$  ([ $rjɛm$ ]), and deletion of the disappearing  $-n$  ([ $tɛrjɛp$ ]).

9 In rGyalrong, pronouns are usually bimorphemic with the possessive prefix and a nominal root probably meaning ‘self’,  $jɛʔ$  in Zbu.

10 The idea of examining surface forms of ending of closed-syllable stems comes from Jacques (2012). The Eastern rGyalrong data is taken from Lin (1993: 207 – 211).

Now, what does this difference in markedness-reducing strategies (or lack thereof) tell us? On the one hand, the fusional and disappearing suffixes share the property of sensitiveness to phonological coda constraints, while the concatenative suffixes apparently disregard them. This observation can be connected to the choice that the authors of the descriptions of the other languages make to transcribe these suffixes as syllabic, giving the consonant the default epenthetic vowel in the respective languages ( $/ə/$  for Tshobdun and Zbu,  $/ʷ \sim i/$  in Japhug). In Japhug, allophonically, the vowel can be very weak and devoiced, so a *-ndzi* can be acoustically not unlike Lin's  $[-ntʃ^h]$ . For the concatenative suffixes, hence, I propose that they are in fact syllabic, possibly with a consonantal, even voiceless nucleus, but still preserving its syllable boundary with the last syllable of the stem.

On the other hand, the disappearing suffixes share the property with the concatenative suffixes of not 'meddling with the internal affairs' of the stem, in other words, that the repair strategies respect the morpheme boundary between the stem and the suffix. The fusional  $/-ŋ/$ , however, defies underlying-surface linearity  $/sŋ/ \rightarrow [ŋs]$  and merges two phonemes into one  $/pŋ/ \rightarrow [m]$ , both across the boundary. To explain this phenomenon, I propose that the fusional  $/-ŋ/$  suffix in fact belongs to the stem side of the boundary, as a stem-level derivation of suffixal character.

I conclude that the three classes of suffix differ with respect to the degree of their remoteness from the stem, which I summarize in Figure 2: 1SG  $-ŋ$  is the nearest, within the morphological limit of the stem to make an enlarged stem. The disappearing  $-n$  and  $-w$  exist outside the stem, but belong to the last syllable of the stem. The other suffixes are the farthest away, belonging neither to the stem nor to its last syllable.

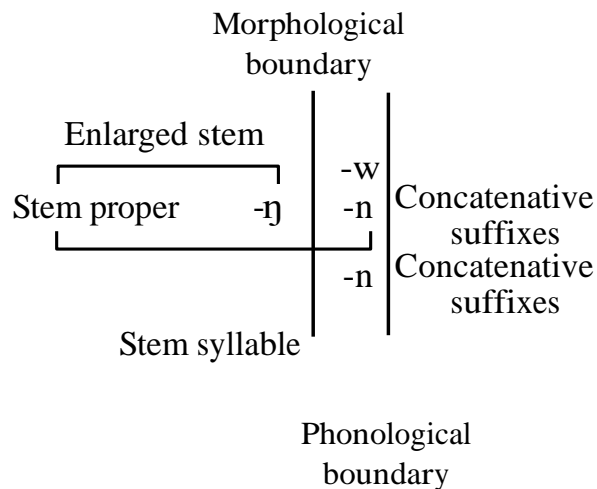


Figure 2: Three-tier internal structure of Eastern rGyalrong personal suffixes (assuming a

monosyllabic stem)

In the non-Eastern rGyalrong languages, the 1SG suffix is syllabic ( $-a\eta$ ,  $-a$ ) just like other suffixes, and the disappearing suffixes have disappeared for good. However, the reasoning on Eastern rGyalrong is still partially applicable for these languages.

First, as in Eastern rGyalrong, the 1SG suffix constitutes a different morphological slot from the rest of the suffixes. This can be proved with the phenomenon of double agreement (section 4.4), where both the 1SG suffix and the number suffix indicating another participant are overt on the verb. No pair from the other suffixes can sequentially coexist.

Second, there are evidences pointing to an even closer relationship between the stem and the 1SG suffix. The case is strongest for Zbu, where there are irregular 1SG forms for  $k\theta-x\delta$ . So the 1SG forms in Zbu do have a certain sort of stem status, even if marginal, for any morphological theory that denies unpredictability outside the stem. Additionally, and for the other languages, the 1SG suffix entails modifications on the stem irreducible to mere boundary-local markedness reduction (like  $/p\eta/ \rightarrow [m\eta]$ ):

- In Japhug, the 1SG  $-a$ , if preceded by a stem with nucleus  $/r/$ , lowers it to  $/a/$  in a vowel harmony that is uniquely compulsory<sup>11</sup> in the language;
- In Tshobdun and Zbu, the 1SG suffix  $-a\eta$  causes a stem-final  $/t/$  to become  $/n/$ , a change which is synchronically opaque.

### 4.3 Transitive paradigm

As usual, I decompose the transitive paradigms according to the three direction domains for this subsection, omitting, for the sake of concision, the easily deducible dual forms.

#### Mixed: 1/2 → 3, 3 → 1/2

|         | Eastern                   | Zbu                             | Japhug                    | Tshobdun                     |
|---------|---------------------------|---------------------------------|---------------------------|------------------------------|
| 1SG → 3 | $\Sigma - \eta$           | $\Sigma - \eta$                 | $\Sigma - a$              | $\Sigma - a\eta$             |
| ← 3     | $w\theta - \Sigma - \eta$ | $w\theta - \Sigma - \eta$       | $wy\omega' - \Sigma - a$  | $o - \Sigma - a\eta$         |
| 1PL → 3 | $\Sigma - j$              | $\Sigma - j\theta$              | $\Sigma - ji$             | $\Sigma - j\theta$           |
| ← 3     | $w\theta - \Sigma - j$    | $w\theta - \Sigma - j\theta$    | $wy\omega' - \Sigma - ji$ | $o - \Sigma - j\theta$       |
| 2SG → 3 | $t\theta - \Sigma - w$    | $t\theta - \Sigma$              | $tw - \Sigma$             | $t\theta - \Sigma$           |
| ← 3     | $t\theta - w - \Sigma -$  | $t\theta - w\theta - \Sigma$    | $tw' - wy - \Sigma$       | $t\theta - o - \Sigma$       |
| 2PL → 3 | $t\theta - \Sigma - \eta$ | $t\theta - \Sigma - \eta\theta$ | $tw - \Sigma - nw$        | $t\theta - \Sigma - n\theta$ |
| ← 3     | $t\theta - w - \Sigma -$  | $t\theta - w\theta - \Sigma -$  | $tw' - wy - \Sigma - nw$  | $t\theta - o - \Sigma -$     |

<sup>11</sup> That is to say, most related phenomena of height harmony  $r > a$  causes free variation  $r \sim a$ , but this one, if underapplied, will provoke correction from the speaker (Jacques p.c.).

Table 7: Transitive paradigm across rGyalrong languages, mixed domain

As can be seen from Table 7, the mixed domain works in the same way for all rGyalrong languages, as an unambiguous direct-inverse system. The inverse prefix is  $wə- \sim w-$  in Eastern rGyalrong,  $wɣw' \sim wɣ-$  in Japhug, and  $o-$  in Tshobdun.

The Eastern rGyalrong system, however, merits more attention. Inferring from the intransitive paradigm, where the 2SG form has the suffix 2SG  $-n$ , we would expect the 2SG $\rightarrow$ 3 form to be  $*tə-\Sigma-n$ ; the actual form  $tə-\Sigma-w$  displays a suffix  $-w$  instead. This suffix also occurs in 3SG $\rightarrow$ 3 forms, as we see below. Phonetically with respect to closed-syllable stems, this suffix belongs to the disappearing class, the same as 2SG  $-n$ . Two usual interpretations exist for this suffix: either as a third person (object) suffix or as a direct marker (DeLancey 1981a). From the view that access to an inflectional slot is governed by hierarchy, the second interpretation is preferable. The third-person interpretation would imply a hierarchy 3 > 2SG, which is incompatible with the cross-linguistic observation that the SAP > 3 hierarchy is absolute.

This suffix  $-w$  appears in 2SG $\rightarrow$ 3 and 3SG $\rightarrow$ 3, but not 1SG $\rightarrow$ 3. This fact demonstrates that a disappearing suffix is outside the 1SG  $-ŋ$  in Eastern rGyalrong. For an open-syllable stem  $V$ , the 1SG  $-ŋ$  turns it into  $Vŋ$ , and  $-w$  disappears, as a disappearing suffix would, after the closed syllable. Hence, the underlying form of 1SG $\rightarrow$ 3 can be safely postulated as  $\Sigma-ŋ-w$ , making  $-w$  a high-focal direct suffix that specifies the patient person (3) and the agent number (SG).<sup>12</sup>

### Local: 1 $\rightarrow$ 2, 2 $\rightarrow$ 1

|                     | Eastern                           | Zbu                                 | Japhug                           | Tshobdun   |
|---------------------|-----------------------------------|-------------------------------------|----------------------------------|--|
| 1 $\rightarrow$ 2SG | <b>ta-<math>\Sigma</math>-n</b>   | <b>tɛ-<math>\Sigma</math></b>       | <b>ta-<math>\Sigma</math></b>    | <b>tɛ-<math>\Sigma</math></b>                                    |
| 1 $\rightarrow$ 2PL | <b>ta-<math>\Sigma</math>-ɲ</b>   | <b>tɛ-<math>\Sigma</math>-ɲə</b>    | <b>ta-<math>\Sigma</math>-nu</b> | <b>tɛ-<math>\Sigma</math>-nə</b>                                 |
| 2 $\rightarrow$ 1SG | <b>kə-w-<math>\Sigma</math>-ŋ</b> | <b>tə-wə-<math>\Sigma</math>-ŋ</b>  | <b>ku-<math>\Sigma</math>-a</b>  | <b>kə-o-<math>\Sigma</math>-aŋ ~ tə-o-<math>\Sigma</math>-aŋ</b> |
| 2 $\rightarrow$ 1PL | <b>kə-w-<math>\Sigma</math>-j</b> | <b>tə-wə-<math>\Sigma</math>-jə</b> | <b>ku-<math>\Sigma</math>-ji</b> | <b>kə-o-<math>\Sigma</math>-jə ~ tə-o-<math>\Sigma</math>-jə</b> |

Table 8: Transitive paradigm across rGyalrong languages, local domain

1 $\rightarrow$ 2 forms are identical throughout (except, of course, for the Eastern 2SG  $-n$ , which illustrates the ergative alignment more clearly than in the other languages). 2 $\rightarrow$ 1 forms, however, show a greater diversity, with no two languages exhibiting exactly the same set of forms up to historical correspondence. The rest of the section will be devoted to their examination.

<sup>12</sup> The alternative analysis, that  $-w$  is underlyingly applied even in forms with a dual or plural agent, is unattractive, as now one must posit two classes of disappearing suffixes, one before the concatenative suffixes ( $-n$ ), and one after them ( $-w$ ). Even after this complication, one still needs to explain why a disappearing suffix disappears after a syllabic concatenative suffix.

All languages except for Zbu show in these forms a velar prefix  $kə-$  ( $kw-$  in Japhug), different from the Zbu  $tə-$  identical with the intransitive second-person prefix. In Tshobdun, though, the velar prefix is ‘interchangeable with  $tə-$ ’ (Sun 2003: 496). This prefix, occupying the same position as  $tə-$ , is analyzed as a  $2 \rightarrow 1$  prefix by DeLancey (1981a). This is what a hierarchical theory of slot access leads us to expect: if  $1 > 2/3$  on the EH, a  $2 \rightarrow 1$  prefix can prevent the usual second-person  $tə-$  from appearing.

The system of  $kə-/tə-$  alternation, typologically expected as it is, is nevertheless simplified to the one found today in Zbu. The fluctuation in Tshobdun shows that the same analogical change is in progress in this language. It is interesting to note that in the related Kiranti group, Bantawa (Rai 1985 via Ebert 2003) shows a pattern similar to the Zbu one, as presented in Table 9 (only singular forms are included).

|    | O1             | O2          | O3             | <i>Intransitive</i> |
|----|----------------|-------------|----------------|---------------------|
| A1 |                | $\Sigma-na$ | $\Sigma-u\eta$ | $\Sigma-qa$         |
| A2 | $ti-\Sigma-qa$ |             | $ti-\Sigma-u$  | $ti-\Sigma$         |
| A3 | $i-\Sigma-qa$  | $ti-\Sigma$ | $\Sigma-u$     | $\Sigma$            |

Table 9: Singular transitive paradigm of Bantawa

Similarly to Zbu, the same second-person marker  $ti-$  occurs both in  $2 \rightarrow 1$  and mixed domain forms (but not in  $1 \rightarrow 2$  with its characteristic  $-na$ ). This ongoing change within rGyalrong could be illuminating for the reconstruction of ancestral Kiranti forms.

Another difference between these languages comes from the fact that Japhug does not have the inverse prefix on  $2 \rightarrow 1$  forms:  $kw-\Sigma-a$  where we will expect  $*kw-w\gamma-\Sigma-a$  on the basis of other languages. Hence the pattern in Japhug displays a lesser degree of hierarchy than other languages. Most importantly, it becomes less sure if Japhug really has the hierarchy  $1 > 2$  in the local domain, as Japhug  $ta-$  is not as unambiguously a direction marker as  $w\gamma w' -$  is. Diachronically speaking, there are two possibilities. The original state of affairs could have been like in Japhug, whence the other languages extended the direct-inverse system of other domains to the local domain. Alternatively, the original situation could have been like that attested in the other languages; Japhug subsequently lost the inverse marker as this direction domain is less hierarchical than other domains. The alignment for the other affixes is not hierarchical but ergative.

### Non-local: $3 \rightarrow 3$

|                        | Eastern     | Zbu         | Japhug               | Tshobdun   |
|------------------------|-------------|-------------|----------------------|------------|
| 3SG $\rightarrow$ 3    | $\Sigma-w$  | $\Sigma$    | $\Sigma$             | $\Sigma$   |
| 3SG $\leftarrow$ 3 INV | $wə-\Sigma$ | $wə-\Sigma$ | $w\gamma w' -\Sigma$ | $o-\Sigma$ |



|           |              |                         |                          |                        |
|-----------|--------------|-------------------------|--------------------------|------------------------|
| 3PL→3     | Σ- <i>ɲ</i>  | Σ- <i>ɲə</i>            | Σ- <i>nɯ</i>             | Σ- <i>nə</i>           |
| 3PL←3 INV | <i>wə</i> -Σ | <i>wə</i> -Σ- <i>ɲə</i> | <i>ɣɯ</i> ˆ-Σ- <i>nɯ</i> | <i>o</i> -Σ- <i>nə</i> |

The pattern in Eastern rGyalrong again presents important differences with the other languages. First, as seen in section 4.3, a direct suffix *-w* appears in 3SG→3 forms. Second, the inverse form does not display any number marker.

The precise usage in Eastern rGyalrong is too insufficiently documented to be presented here. In the other languages, the appearance of inverse-marked verbs are governed by semantic and pragmatic factors.

In Tshobdun, Sun & Shi (2002) discovered that humans are higher than non-animates on the hierarchy that governs inverse marking, with animals occupying an ambiguous position. This is confirmed for Japhug in Jacques (2010), where he made a comprehensive study of the use of inverse in non-local domain.

The pragmatic factors work only when the animacy is not different enough to determine the direction. Sun & Shi (2002), quoting DeLancey (1981b), analyse the direction marking in Tshobdun as constrained by the attention flow, which depends in turn on pragmatic factors. For Japhug, Jacques (2010) counted direct and inverses in connected texts, and found that ‘the O of inverse clauses and the A of direct ones have a clear tendency to appear again in the text, which confirms the fact that these arguments are more topical.’

The situation in Zbu, as documented in section 3.2, seems to be identical with Japhug and Tshobdun. However, a detailed study of connected texts is still needed to make sure of the details in the pragmatic dimension, so often lost in mere elicitation.

In Japhug and Tshobdun as in Zbu, the aorist tense shows a special prefix in 3→3 direct configurations. As is the case in Zbu, the Japhug prefix is *a-*, formally identical as the additional morphological element in 1→2. (Both are *v-* in Zbu.) In Tshobdun, however, the 3→3 direct prefix is *e-*, while the 1→2 prefix is *v-*. This fact presents a difficulty for the purported connection between these two prefixes: either they were originally two different prefixes, and Tshobdun retains an older situation; or they drifted apart later in Tshobdun, which indicates that they were synchronically two prefixes for speakers of pre-Tshobdun, like the case with *have to* in English.

#### 4.4 Double marking of number

Transitive verbs in all rGyalrong languages except Eastern rGyalrong exhibit double number marking when the verbal ending is 1SG *-aŋ* / *-a*. In Zbu for example, to say ‘you<sub>PL</sub> hit me’, a second *-ɲə*, standing for the plural agent, appears after the 1SG *-aŋ*: *tə-tə-wə-xsa ɰ-ɲə*.<sup>13</sup> Languages differ in the scope of this phenomenon. In Japhug, such double number marking is

<sup>13</sup> Note that the first *tə-* is a TAM prefix unrelated to personal marking.

obligatory. In Tshobdun, it is only possible when 1SG is the patient (2→1SG or 3→1SG). Moreover, it is optional and pragmatically marked: it confers the focus on the agent indicated by the marker. For Zbu, my elicitation materials indicate that the double marking is obligatory in 1SGpatient contexts and optional in 1SG→3 contexts, where it is said to ‘put a special emphasis’ on the patient number.

Two possible explanations exist for the origin of double marking. Sun & Shi (2002) and Jacques (2010) hold that it indicates a privileged treatment of the speaker compared with other SAPs (1DU, 1PL and 2). As the hierarchy is correlated with slot accessibility, an additional slot created by the 1SGsuffix indicates that 1SGis higher on the Empathy Hierarchy than other SAPs.

This hypothesis is problematic in that a high-ranked element on the hierarchy is not expected to *create* new slots. The hierarchical alignment of the conjugation merely gives it a greater ability to occupy existing inflectional slots. In this paper, as is argued in section 4.2, I propose that the 1SG suffix in fact belongs to another, inner morphological slot. That two suffixes belonging to different inflectional slots occur together should surprise nobody.

Why is there a difference between the 1SG agent and the 1SG patient contexts in Tshobdun and Zbu? It may have to do with analogy with the direct third-person patient forms. In the minds of the speakers, forms like  $t\theta-w\theta-\Sigma-aj-\eta\theta$  ‘2-INV- $\Sigma$ -1SG-PL’ can be seen as parallel to the third-person patient  $t\theta-\Sigma-\eta\theta$ , albeit with  $\Sigma$  replaced by  $w\theta-\Sigma-aj$ . The 1→3 forms, like  $\Sigma-aj-\eta\theta$  ‘ $\Sigma$ -1SG-PL’, however, can only be compared with  $w\theta-\Sigma-\eta\theta$ . An additional  $w\theta-$  may fit in a ‘stem variable’ without intrinsic  $w\theta-$ , but the reverse would require a difficult deletion.

## Conclusion

From the description and comparisons above, we can see that the Ngyaltsu variety of Zbu rGyalrong is close to that of other rGyalrong languages, especially that of Tshobdun and Japhug. The variation between Zbu, Tshobdun and Japhug, up to (albeit irregular) phonological correspondence, is limited to the second-person  $k\theta-/t\theta-$  distinction and different uses of the double marking of number.

The alignment of the Zbu rGyalrong verb is essentially of a hierarchical character, with ergative alignment in the local domain. The system shows global direction, with clear direct/inverse marking in every direction domain.

The Ngyaltsu variety of Zbu rGyalrong shows a case where the pan-rGyalrong 2→1 suffix  $k\theta-$  is replaced by the general second-person  $t\theta-$ . From a wider Sino-Tibetan perspective, this could offer an explanation of the disparity between the rGyalrong languages with this  $k\theta-/t\theta-$  distinction and other Sino-Tibetan languages, like Kiranti, where this distinction does not exist.

From the behaviour of closed-syllable stems in Eastern rGyalrong, it is shown that the 1SG suffix has a particularly close relationship with the stem across rGyalrong. I hypothesize that for many morphophonological processes, the suffix can be considered part of an enlarged stem. This hypothesis can be regarded as proven for Zbu, where the 1SG suffix merges with the stem, to the point that the form of the enlarged stem is no longer predictable. For any morphological theory

where the surface word-form comes from regular derivation from stems, such unpredictability suffices to confirm that 1SGsuffixed forms are indeed separate stems.

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[Table omitted, see the appended picture files]

Table 11: The complete verbal paradigm of *kəxsō* in the aorist

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