

## Parallelisms in the Verb Morphology of Sidaba rGyalrong and Lavrung in rGyalrongic

Jackson T.-S. Sun

*Academia Sinica*

An impressive variety of divergent yet closely related forms of Qiangic (Tibeto-Burman) are spoken by the rGyalrong Tibetans in northwestern Sichuan, for which a distinct linguistic group *rGyalrongic* is proposed herein, consisting probably of three major languages: rGyalrong proper, Lavrung, and Horpa-Shangzhai. This paper explores, on the basis of fresh first-hand data, possible close affinities between a particular pair in rGyalrongic: Sidaba rGyalrong (represented by the Caodeng dialect) and Lavrung (represented by the Mu'erzong dialect). Three peculiar parallelisms in inflexional verb morphology between Sidaba rGyalrong and Lavrung are examined: (i) glottality-inversion in past-stem formation, (ii) ablaut, (iii) transitivity marking via vocalic alternation in the orientation prefixes. These striking morphological agreements, whether indicating archaisms or innovations, will be important facts to consider in subgrouping rGyalrongic as well as in reconstructing its proto-morphosyntax.\*

Key words: verb morphology, Sidaba, rGyalrongic

### 1. Introduction

In the upper drainage basins of the Min, Jinchuan, and Yalong rivers, in the traditional territory of the 'fourteen rGyalrong chieftains'<sup>1</sup> in northwestern Sichuan,

---

\* The work reported in this study has been supported in part by the National Science Council (Taiwan, Republic of China) under grant NSC 86-2411-H-001-001-P2. An earlier version of the paper was presented at a colloquium at the Institute of Linguistics (Preparatory Office), Academia Sinica. The helpful comments Jim Matisoff, Kuang Mei, Paul Jen-kuei Li, Dah-an Ho, Jonathan Evans, Chu-ren Huang, Randy LaPolla, and two anonymous *Language and Linguistics* referees shared with me are very much appreciated.

<sup>1</sup> These small chieftaincies are: Wasi (in present-day Wenchuan county), Zagu (in Lixian county), Suomo, Zhuokeji, Songgang, Dangba (in Ma'erkang county), Chuosijia (in Rangtang and Jinchuan counties), Cujin (in Jinchuan county), Zanla, Wori (in Xiaojin county), Muping (in Baoxing county), Badi, Bawang, Dandong-Geshiza (in Danba county). Four other chieftaincies which used to be associated with the traditional rGyalrong country, Mingzheng, Yutong (in Kangding county); Lengbian, and Chenbian (in Daofu county), were later excluded

live about 200,000 rGyalrong Tibetans who speak related yet markedly diverse forms of Qiangic in the Tibeto-Burman family. By the *prima facie* criterion of mutual intelligibility alone, at least six separate languages need to be recognized: Situ, Sidaba, Chabao, Lavrung, Horpa, and Shangzhai. Attempts to subsume them under either a single or two languages have failed hitherto to lead to consensus. In view of the current controversy, a compromise *rGyalrongic* subgroup in Qiangic will be proposed herein, composed of the above six speech forms.<sup>2</sup>

The objectives this paper sets out to achieve are twofold. First, I provide an up-to-date survey of the six major rGyalrongic members in section 1.1, followed by a critical evaluation of two competing views on their subclassification in section 1.2, with an aim to bringing the postulated subgroup rGyalrongic into sharper focus. Second, the interrelations of rGyalrongic are examined afresh in section 2, from the angle of shared aberrant morphology on the basis of new fieldwork data. In particular, three remarkable but previously unnoticed parallelisms in inflectional morphology of the verb between a particular rGyalrongic pair, Sidaba (represented by the Caodeng dialect) and Lavrung (represented by the Mu'ertzong dialect) are presented.<sup>3</sup>

The implications of this study on the internal structure of rGyalrongic are discussed in the concluding section.

## 1.1 rGyalrongic languages

In the following is given an up-to-date survey of the known members under rGyalrongic in terms of geographical distribution, number of speakers, dialects, and current state of research. The information is based on several recent sources (Qu 1990, Lin 1993, Huang 1991c), personal communications from various scholars and native consultants, and my own field experiences in the rGyalrong country.

---

owing to major linguistic differences (Kham Tibetan; Guiqiong in some areas of Yutong) (Ma 1944).

<sup>2</sup> Queyu, another Qiangic language found in the vicinity of the rGyalrong area, is also suspected to bear certain (more tenuous) affinities with rGyalrongic, but this is outside the scope of the present paper.

<sup>3</sup> The Caodeng, Mu'ertzong, and Puxi data used in this paper were gathered in my recent field work conducted in western Sichuan over a span of five years. My principal consultants are: Mr. Shidanluo (Gaquli village, Caodeng township, Ma'erkang county), Ms. Rubi (Si'niao village, Mu'ertzong township, Ma'erkang county), and Ms. Zhongcheng (Jie'erge village, Puxi township, Rangtang county). I feel deeply indebted to them for their warm friendship and thorough assistance. Data transcription is phonemic.

### 1.1.1 Situ

Occupying by far the largest area in the rGyalrong country with more than twice as many speakers (ca. 139,000 according to Lin 1993:411) than all the other rGyalrongic languages put together, Situ (alias *eastern rGyalrong*) is the quintessence of this entire group. The label Situ, referring to the traditional territory of the four chieftaincies Zhuokeji (WT *lCog.rtse*), Suomo (WT *So.mang*), Songgang (WT *rDzong.gag*), and Dangba (WT *Dam.pa*) in the heartland of the rGyalrong country, is adopted since it is now a widely used local label for this language. This is also the rGyalrongic member with the longest research history and best documentation, thanks to an extensive linguistic survey of the rGyalrong area in the fifties<sup>4</sup> in which as many as twenty-four varieties of Situ rGyalrong were recorded, and to major contributions by individual scholars, in particular Qu (1983, 1984, 1990), Nagano (1984), and Lin (1993). Among rGyalrongic languages, Situ appears to be the least prone to lexical influences from Tibetan and Chinese, and is of paramount importance in reconstructing the proto-rGyalrongic vocabulary. Four (sub)dialects of Situ are now recognized, namely Ma'erkang, Lixian, Jinchuan, and Xiaojin; all are presumably intercommunicable (Qu 1990:2, Lin 1993:411).

### 1.1.2 Chabao

The area Chabao (alias *northeastern rGyalrong*) occupies is the northeastern corner of Ma'erkang county, at Long'erjia (WT *gDong.brgyad*), Dazang (WT *Da-tshang*), and Sha'erzong (WT *gSar.rdzong*) townships in Chabao (WT *Ja-phug*) district. The precise number of Chabao speakers is not accessible to us, but Lin's combined population figure of the Sidaba and Chabao districts of 12,197 (Lin 1993:412) gives a rough idea. In Qu Aitang and Lin Xiangrong's view, Chabao bears more affinities with Sidaba, the two forming coordinate subdialects under what is called 'northern dialect' (Qu 1990:2) or 'northwestern dialect' (Lin 1993:411-2) of rGyalrong. This particular alignment accords with some native speakers' intuitive judgments,<sup>5</sup> but should not be hastily embraced without rigorous demonstration. On the other hand, my preliminary historical comparison has turned up suspected commonalities between Chabao and Situ rGyalrong that should be further investigated. Unlike the other principal members in

---

<sup>4</sup> This was part of the national survey of minority languages spoken in China, organized by the Chinese Academy of Sciences.

<sup>5</sup> One of my Caodeng consultants feels that Chabao and Ribu are about equally different from his native language. My Long'erjia (a variety of Chabao) consultant, on the other hand, claims that at first exposure he could understand about half of the Caodeng speech but finds Ribu totally incomprehensible.

rGyalrongic, Chabao is internally fairly uniform. I have gathered some lexical and morphological material on the Long'erjia and Dazang varieties; Lin 1993:468-87 also presents some phonological and lexical data from the Dazang variety.

### 1.1.3 Sidaba

This important rGyalrongic member (alias *northwestern rGyalrong*) also enjoys a wide geographical spread. Most of its speakers live in the three townships Caodeng (WT *Tsho-bdun*), Kangshan (WT *Khang.sar*), and Ribu (WT *rDzong-'bur*) in Sidaba district of Ma'erkang county, hence the language name Sidaba (WT *Stod.pa*). Small outlier communities, however, exist both to the north in certain villages of Kehe and Rong'an townships at the southwestern corner of Aba county and, to the west, along the middle Duke river between Wuyi and Shili townships in Rangtang county, spilling over even to a small area near the confluence of the Seda and Duke rivers in Seda county. Population statistics of Sidaba are not available either, but should run to several thousand. Sidaba contains two major dialects: Caodeng and Ribu, the latter in turn include several quite different local varieties, such as Shili (WT *Si.li*) in Rangtang county, Rong'an (WT *Rong.wam*) in Aba county, Ribu proper and Dawei (WT *Ta-we*) in Ma'erkang county. Two Sidaba varieties, Caodeng and Ribu (proper), were covered in the rGyalrong language survey; portions of these data now appear in Lin Xiangrong's colossal work (Lin 1993). Sidaba rGyalrong has also been a main focus in my recent field research.

### 1.1.4 Lavrung

This language is spoken along the tributaries of the Jinchuan river in the southwestern tip of Ma'erkang county, northwestern Jinchuan county, and southeastern Rangtang county. Following Huang (1999), I adopt herein the language name *Lavrung*, which is the self-appellation widely used in the Lavrung-speaking areas in Jinchuan county. According to Lin's reckoning, the total number of 'western rGyalrong dialect' (i.e. Lavrung plus Horpa and Shangzhai) speakers is about 50,000 (Lin 1993:412). Representative local varieties of Lavrung, some very different, include Xiaoyili (WT *Yu.nas.chung*) and Siyaowu (WT *bSu-yo-grong*) in Rangtang county, Mu'ertzong (WT *'Brong.rdzong*) in Ma'erkang county, Guanyinqiao (WT *Thugs.chen.zam*), Ergali (WT *dGa-gNas*), Taiyanghe (WT *tha'i-dByang-ho*), Ere (WT *o-bZi*), and Yelong (WT *nDzo-rogs*) in Jinchuan county. Lavrung is among the better documented rGyalrongic languages. The Ergali variety was recorded in the rGyalrong linguistic survey, and amply exemplified in Lin 1993:487-9, 526-730. The Guanyinqiao, Yelong, and Ere varieties have been investigated recently by Huang Bufan and her students (Huang,

personal communication), and since the summer of 1995 I have been working extensively on the Mu'erzong variety.

### 1.1.5 Horpa

Horpa speakers inhabit central and eastern Daofu county (in Chengguan district, Wari, Xiajia, and Muru townships of Wari district, and Shazhong township of Bamei district) and central and northwestern Danba county (in Geshiza, Bian'er, and Dandong townships of Dasang district, Donggu township in Chuangu district, Bawang and Jinchuan townships of Jinchuan district) of Ganzi prefecture, an area traditional known as the 'five parts of Horpa territory' (WT *hor.khog.khag.lnga*).<sup>6</sup> Scattered communities are also reported in adjacent Luhuo (in Renda township of Xialatuo district) and Xinlong (in Manqing, Zhuwo, and Duo'zhan townships of Hexi district) counties (Huang 1988:142-3, 1991c:210). This major rGyalrongic language was already discovered in the last century by western explorers of the Sino-Tibetan borderland, whose scanty and poorly transcribed vocabularies were the earliest records of this and other 'Sifan' (i.e. Qiangic) languages (J. T.-S. Sun 1992). Since a uniform autonym is not adopted by all its speakers, early sources gave various names such as Hór-pa (Hodgson 1874), Pawang (Rosthorn 1897), Gešits'a (Laufer 1916), Bawang Rong-Ke (Edgar 1933-4), and Taofu (Migot 1957). Following Hodgson's usage, the label Horpa is adopted for this language in accordance with the traditional Tibetan name of its main area of concentration. Thanks to recent descriptive endeavors (Wang 1970-1, Sun HK 1983, Huang 1990, 1991a, Duo'erji 1993, 1995), vast improvements have been made on the documentation and analysis of Horpa. Little dialectal information, however, is currently available except that two of its major varieties, Daofu and Geshiza, are distinct enough to render direct communication difficult.<sup>7</sup>

### 1.1.6 Shangzhai

By far the least known in all rGyalrongic, the Shangzhai language is located near the confluence of the Duke river and its tributary Zhongke (WT *rTsong-khog*) river in Shili, Zongke, and Puxi (WT *Pho-sul*) townships, Shangzhai (WT *sTod.sde*) district,

---

<sup>6</sup> The five districts are Daofu (WT *rTa.'u*), Luhuo (WT *Brag.'Go*), Zhuwo (WT *Tre.bo*), Ganzi (*dKar.mDzes*), and Donggu (*sTong.sKor*). The Tibetan ethnonym *hor.pa* ordinarily denotes Turkic and Mongolian peoples living amidst the Tibetans of northern Tibet and Qinghai. In the case of *hor.khog.khag.lnga*, the term *hor* refers rather to the ethnic origin of certain local chieftains (Huo'er 1998).

<sup>7</sup> Personal communication from Huang Bufan in 1997, recounting the personal experiences of her student Detai Duo'erji, a native speaker of the Geshiza dialect of Horpa.

southern Rangthang county. Its Dayili (WT *Yu.nas*) variety was included in the rGyalrong language survey (Lin 1993:526). However, barring isolated words and sample paradigms cited in Qu 1990, the language remains almost totally unrepresented in the available literature. Shangzhai, like Horpa, has undergone sweeping influences from Amdo and Khams Tibetan, resulting in the loss of much of the original rGyalrongic structure and vocabulary. My preliminary research on certain Shangzhai dialects<sup>8</sup> suggests that Shangzhai and Horpa may actually stand in a dialectal relationship to each other, so remarkably close are the two in basic vocabulary.<sup>9</sup> Thus, of the sixteen diagnostic Daofu lexical items listed in Huang (1991a:19), I recorded as many as fourteen (88%) perfect cognates in the Puxi dialect of Shangzhai as against only nine (56%) in Mu'erzong and seven (48%) in Caodeng.<sup>10</sup> Shangzhai appears to be rather uniform internally, with more pronounced differences found in its Zongke variety.

## 1.2 rGyalrongic subclassification

There seems to be general agreement that Situ, Sidaba, and Chabao are dialects of a single language: rGyalrong (proper). In deference to this consensus, I will henceforth make their dialectal status explicit by referring to these three as Situ rGyalrong, Sidaba rGyalrong, and Chabao rGyalrong. The classification of Lavrung and Horpa-Shangzhai, on the other hand, is highly controversial. Qu Aitang and Lin Xiangrong, principal investigators in the rGyalrong survey mentioned above, and authors of much important

<sup>8</sup> Since 1995, I have had opportunities to work on the Puxi and, very briefly, the Zongke varieties.

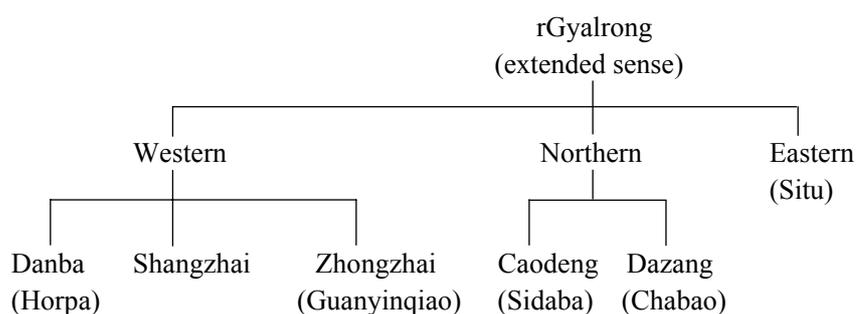
<sup>9</sup> Henceforth the new label Horpa-Shangzhai will be used to temporarily represent this unified language. We hasten to add that with their numerous differences, especially in phonology and morphosyntax, Horpa and Shangzhai are by no means mutually intelligible.

<sup>10</sup> Compare the Puxi and Daofu forms below. Puxi has a system of pitch-accent in combination with a binary contrast of tones, high and low. Low-tone syllables, phonologically distinct from unaccented ones, are marked here with an underline:

Daofu	Puxi		Daofu	Puxi	
<i>ybo</i>	<i>ɿbi</i>	‘sun’	<i>yrə</i>	<i>grə</i>	‘water’
<i>vdzi</i>	<i>vdzi</i>	‘person’	<i>ja</i>	<i>jæ</i>	‘mouth’
<i>zjar</i>	<i>zjæɾ</i>	‘heart’	<i>s<sup>h</sup>i</i>	<i>s<sup>h</sup>ət</i>	‘liver’
<i>bjəŋnoŋ</i>	<i>bjeno</i>	‘meat’	<i>ryi</i>	<i>rɿ</i>	‘horse’
<i>ɣra</i>	<i>pɿkoɣ</i>	‘chicken; fowl’	<i>rnə- rnə</i>	<i>ɿrjə<sup>Y</sup></i>	‘yellow’
<i>sna-sna</i>	<i>snæ</i>	‘bitter’	<i><sup>n</sup>gə</i>	<i>dzə</i>	‘eat’
<i>ŋo</i>	<i>ŋə</i>	‘ill’	<i>rgə</i>	<i>rgə</i>	‘sleep’
<i>ro</i>	<i>reɣ</i>	‘one’	<i>zka</i>	<i>zka</i>	‘ten’

recent literature on rGyalrongic, contend that these languages constitute a ‘western dialect’ of rGyalrong (Qu 1990, Lin 1993:411-414). The internal structure of ‘rGyalrong’ in this extended sense can be depicted in the following stammbaum:<sup>11</sup>

**Diagram 1: rGyalrong stammbaum according to Qu Aitang and Lin Xiangrong**



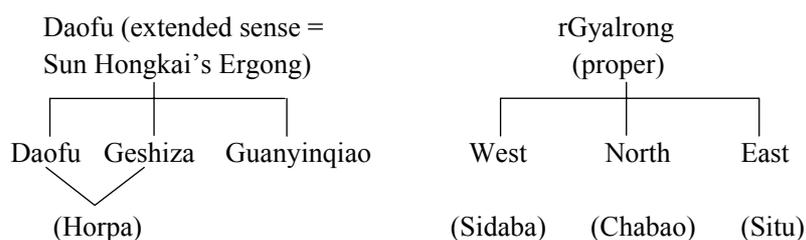
As can be seen from the above, this framework of rGyalrong subrelationships arranges the three rGyalrong ‘dialects’ as equidistant *sisters* to each other. This is quite counter-intuitive, however, as many Situ rGyalrong speakers feel that their speech is recognizably related to Qu and Lin’s northern/northwestern ‘dialect’ (i.e. Sidaba and Chabao rGyalrong) while the strange ‘western dialects’ seem completely different. In a recent lexicostatistic study, moreover, Situ rGyalrong and Horpa are found to share only 13% cognacy among 1,500 sample words (Huang 1991c:355-6), which is lower even than cognate rates between Situ rGyalrong and some other Qiangic languages (Pumi, Zhaba, Queyu, Muya, and Ersu).<sup>12</sup> The sharp linguistic divergence thus revealed is hard to reconcile with the claim that all the rGyalrong speech forms, in particular Situ rGyalrong and Horpa, are mere ‘dialects’ of the same language. This is probably what has motivated the view put forward independently by two leading Chinese Tibeto-Burmanists, Sun Hongkai and Huang Bufan, that Qu and Lin’s ‘western

<sup>11</sup> Where different language/dialect names are adopted in Qu’s classification, the corresponding names in my usage will be given in parentheses. The nomenclature proposed here is based either on more modern toponyms or motivated by more informative geographical coverage (e.g. Qu’s Dazang rGyalrong is distributed in Sha’erzong, Long’erjia, as well as Dazang townships in Chabao district, hence my more inclusive label Chabao).

<sup>12</sup> This low Situ-Horpa cognacy figure is in itself no proof for lack of close genetic relationship between the two languages, considering the ratio of non-core cultural terms in her overly large lexical sample and the fact that the Horpa vocabulary is inundated with loans from Tibetan. However, it does challenge Qu’s contention that they belong to a single language (Qu 1990).

rGyalrong dialect’ should be considered a separate language by the name of ‘Ergong’ (Sun HK 1982) or ‘Daofu’ (Huang 1990, 1991a, 1991c). Given below are the relevant family trees based on Huang’s classification (Huang 1991a):<sup>13</sup>

**Diagram 2: Stammbaums of rGyalrongic languages according to Huang (1991)**



This alternative classification accepts Qu and Lin’s alignment of Lavrung and Horpa-Shangzhai as a coherent cluster, but regards it as a separate Qiangic language on a par with rGyalrong (proper). Notably, Huang further denies any close affinities between rGyalrong proper and Daofu in these unequivocal terms:

The linguistic differences between rGyalrong (proper) and the other ten languages (including ‘Daofu’) in Qiangic surpass the differences among these latter languages themselves. This suggests that rGyalrong may have split from Proto-Qiangic at an earlier date than the other languages (Huang 1991c:214; translation mine).<sup>14</sup>

The foregoing opinion, however, was intended to apply to the particular Situ rGyalrong-Horpa pairing, as the two were the specific targets of Huang’s lexical comparisons (Huang 1991a:15-9, 1999:§2). Unlike Horpa (and Shangzhai, which Huang did not consider), however, Lavrung shows incontestable close affinity with rGyalrong proper (in particular Sidaba rGyalrong), as I wish to demonstrate later in this paper.

<sup>13</sup> Huang (1992) posits three dialects under her ‘Daofu language’: Guanyinqiao, Daofu, and Geshiza. The latter two are actually closely related varieties of the ‘Horpa’ language. Shangzhai, however, is not considered in her classification. Most recently, she considers Guanyinqiao (now called Lavrung) to be a distinct language on lexical and grammatical grounds (Huang 1999). Sun Hongkai, on the other hand, has been vague in his publications concerning dialect ramification in either rGyalrong (proper) or Ergong. Incidentally, the Ergong material in Sun Hongkai’s writings is also from an unidentified variety of Geshiza Horpa.

<sup>14</sup> This more drastic view is not shared by Sun Hongkai, however, as he puts ‘Ergong’ and rGyalrong (proper) on sister nodes in his diagram of Qiangic interrelations (Sun HK 1988: 67).

The controversy in rGyalrongic classification, in summary, centers around two related issues: (i) whether Lavrung and Horpa-Shangzhai fit under the rGyalrongic subgroup in Qiangic, and if so, (ii) whether the assumption is tenable that Lavrung is more closely related to the western rGyalrongic language Horpa-Shangzhai than to rGyalrong proper. Much research remains to be done before completely satisfactory answers to these questions can be forthcoming. This is because methodologically sound subgrouping is possible only after suspected common innovations are painstakingly gathered and evaluated, yet our still meager knowledge about the mesolanguage Proto-rGyalrongic makes it difficult to tell genuine shared innovations apart from common inheritance, drift, or contact-induced similarities.

However, preliminary results from my ongoing lexical and phonological comparisons support maintaining the unity of the rGyalrongic subgroup, at least as a working hypothesis. Furthermore, important morphological evidence will be marshaled in the subsequent sections as partial answers to the above questions with special reference to the Lavrung language. I will return to the issue of rGyalrongic subclassification in the concluding section.

## 2. Parallel verbal morphology between Caodeng and Mu'ertzong

The morphological richness of rGyalrongic languages is unparalleled in Tibeto-Burman, with the exception of perhaps the Kiranti languages of Nepal. In the more conservative languages, Caodeng (a dialect of Sidaba rGyalrong) for example, there is a strong propensity toward prefixation and internal modification. Mu'ertzong (a dialect of Lavrung), on the other hand, has revamped to a considerable degree its earlier prefixal morphology, but compared with the even more drastically innovative language Horpa-Shangzhai, quite a few traces of the old morphology are still evident. I will consider below three instances of verb inflectional morphology, where Caodeng and Mu'ertzong manifest remarkable similarities which cannot be attributed to chance, drift, or borrowing from a common non-rGyalrongic source.

### 2.1 Past-tense marking via glottality inversion

#### 2.1.1 Caodeng

Caodeng rGyalrong has grammaticalized a system of absolute tense; all verbs in this language formally distinguish a non-past and a past stem.<sup>15</sup> The non-past stem,

---

<sup>15</sup> In Caodeng and Mu'ertzong, the past stem can combine with both the perfective and imperfective prefixes, resulting in respectively the *arist/perfect* and the *past imperfect* verb forms. Certain verbs distinguish yet a third stem in some specific grammatical contexts, see §2.1.2 and §2.2.1 below.

occurring for instance in the infinitive, can be considered the verb base. There is also a progressive stem, which is derived regularly from the non-past by making certain systematic phonological adjustments. First, an inherent glottal coda of the verb base is elided, as shown in (1a) below. Penultimate accent (marked with a preposed acute accent), if any, must likewise drop (1b). Furthermore, if the verb base terminates in a checked syllable, the high-level pitch of the final syllable changes predictably to a high falling<sup>16</sup> in the progressive (1c).

(1)	<b>NON-PT</b>	<b>PROG</b>	
a.	<i>roʔ</i>	<i>ro</i>	‘to fetch’
b.	<i>ʔ<sup>h</sup>i</i>	<i>t<sup>h</sup>i</i>	‘to drink’
c.	<i>lē̄t</i>	<i>lēt</i>	‘to release’

The progressive stem need not be regarded as a separate stem, as its form is always predictable given the non-past verb base. The imperative, likewise, utilizes the basic non-past stem, except for the singular imperative forms of certain ablauting verbs, the topic of the next section.

The derivation of the past stem, like the progressive, involves removal of any inherent accent.<sup>17</sup> Accent in the base form is lost, and all past forms bear the default final accent, as in:

(2)	<b>NON-PT</b>	<b>PT</b>	
a.	<i><sup>n</sup>dʒa</i>	<i><sup>n</sup>dʒaʔ</i>	‘to swim’
	<i>ʎɔ</i>	<i>ʎɔʔ</i>	‘to paste’
b.	<i>ʃk<sup>h</sup>i</i>	<i>ʃk<sup>h</sup>i</i>	‘to spread’
	<i>n<sup>d</sup>i</i>	<i>n<sup>d</sup>i</i>	‘to take; to ride’

The data in (2), however, reveal one complication. Synchronically, it is not possible to predict whether the corresponding past stem of a given penultimately accented base form<sup>18</sup> contains a glottal-stop coda (2a) or not (2b).<sup>19</sup> The presence of the glottal coda in verbs like (2a) must therefore be lexically listed.

<sup>16</sup> Level and falling pitches are marked respectively with the macron and the grave accent.

<sup>17</sup> Caodeng rGyalrong has a system of pitch accent of the Tokyo Japanese type, as demonstrated in Sun (to appear).

<sup>18</sup> The contrastive glottal-stop coda is apocopated (neutralized) in Caodeng unaccented syllables.

<sup>19</sup> Comparative evidence holds a key to the history of the forms in question. The glottal-stop coda in Caodeng is often what is left of an earlier \*-k. Consider, for instance, the following rGyalrongic cognates for ‘to swim’: Ribu *ldʒaʎ*, Long’erjia *<sup>n</sup>dʒak*; Mu’erzong *<sup>n</sup>dʒaʎ*.

For the majority of verbs, which are accented on the ultimate, the past stem is formed out of the verb base by dropping the inherent glottal coda (3a) or, with originally unglottalized verbs, inserting a glottal coda (3b):

(3)	<b>NON-PT</b>	<b>PT</b>	
a.	<i>nts<sup>h</sup>aʔ</i>	<i>nts<sup>h</sup>a</i> <sup>20</sup>	‘to set out’
	<i>p<sup>h</sup>jəsʔ</i>	<i>p<sup>h</sup>jəs</i>	‘to wipe’
	<i>səsɿʔ</i>	<i>səsɿ</i>	‘to think’
b.	<i>tsi</i>	<i>tsiʔ</i>	‘to understand’
	<i>sroŋ</i>	<i>sroŋʔ</i>	‘to guard’
	<i>wə-vde</i>	<i>wə-vdeʔ</i>	‘to repair’

The primary tense distinction in the Caodeng verb, then, is conveyed by the highly peculiar process of *glottality inversion*.

### 2.1.2 Mu’erzong

As in Caodeng rGyalrong, Mu’erzong verbs distinguish a number of stems. The fundamental opposition in Mu’erzong stem-formation is also between a non-past and a past. The non-past stem is basic, serving as the citation verb form. A handful of verbs in the language maintain a separate imperative stem. Three-stem verbs are extremely scarce, and may perhaps be exhaustively listed as follows:<sup>21</sup>

(4)	<b>NON-PT</b>	<b>PT</b>	<b>IMP</b>	
	<i>və</i>	<i>fətʔ</i>	<i>fʌtʔ</i>	‘to go’
	<i>tuaʔ</i>	<i>t<sup>h</sup>uaʔ</i>	<i>və</i>	‘to come’
	<i>vʌtʔ</i>	<i>zətʔ</i>	<i>zət</i>	‘to take away’
	<i>t<sup>h</sup>ʌt</i>	<i>t<sup>h</sup>ot</i>	<i>vʌtʔ</i>	‘to bring’

For all other verbs in my corpus, the imperative is identical to the non-past. The jussive verb form in the language in turn derives systematically from the imperative by eliminating the glottal coda, if any. Consider the following illustrations:

<sup>20</sup> Note that Caodeng rGyalrong phonology treats nasal + voiced stop combinations as unitary prenasalized stops (represented here as <sup>h</sup>C), but nasal + voiceless stop combinations as consonant clusters.

<sup>21</sup> Unlike in Caodeng rGyalrong, Mu’erzong glottalized syllables are commonly associated with low (rising) pitch.

- (5) a. *ts<sup>h</sup>ʌgiʔ ʌqeʔ ʌ-giʔ-n*  
 clothes more IMP-put on:IMP-2S/D  
 ‘Put on more clothes!’
- b. *ʌtə-ni-ɣə ts<sup>h</sup>ʌgiʔ ʌqeʔ i-gi*  
 3-D-ERG clothes more JUS-put on:JUS  
 ‘Let the two of them put on more clothes!’

The jussive in Mu’erzong can thus be considered a variant of the non-past, much as the progressive is a variant of the Caodeng non-past.

Most Mu’erzong verbs therefore distinguish only two stems, non-past and past. In the majority of cases, the past is derived from the non-past by inverting stem-final glottality, closely paralleling the situation in Caodeng.<sup>22</sup> Examples are:

- (6)        **NON-PT**        **PT**
- a.    *χts<sup>h</sup> roʔ*        *χts<sup>h</sup> ro*        ‘to understand’  
       *vzjaʔ*        *vzja*        ‘to repair’  
       *χts<sup>h</sup> ə-ts<sup>h</sup> eʔ*        *χts<sup>h</sup> ə-ts<sup>h</sup> e*        ‘to make friends’
- b.    *jo*        *joʔ*        ‘to guard’  
       *lne*        *lneʔ*        ‘to knead’  
       *nq<sup>h</sup> ʌ-rʌeʔ*        *nq<sup>h</sup> ʌ-rʌe*        ‘to joke; to jest’

Unlike in Caodeng, Mu’erzong glottality inversion no longer applies across the board, as there exist irregular verbs exempt from this process (7a). Notably, some strong verbs (see next section) are also exceptional in this respect (7b):

- (7)        **NON-PT**        **PT**
- a.    *rduʔ*        *rduʔ*        ‘to meet’  
       *vɣiʔ*        *vɣiʔ*        ‘to permeate; to seep’
- b.    *sq<sup>h</sup> ʌt*        *sq<sup>h</sup> ʌt*        ‘to take out of (a container)’  
       *fstjʌt*        *fstjit*        ‘to permeate; to seep’

### 2.1.3 Comparison and discussion

Inversion of stem-final glottality as an exponent of basic tense/aspect contrasts is highly peculiar and probably, as far as I know, unique in Tibeto-Burman. At present, this morphological process is found in Sidaba rGyalrong and Lavrung, and it behooves

<sup>22</sup> Certain Mu’erzong verbs also utilize internal vowel change in the formation of the past stem, the topic of the following section.

us to be on the lookout for its traces elsewhere in rGyalrongic.<sup>23</sup> A comparison of Caodeng and Mu'ertzong cognate verbs, as in (8) below, indicates that what the two languages really share is the particular tense *marking strategy*, for there is an about equal chance for their verb bases to agree (8a) or disagree (8b) in glottality:

(8)	Caodeng		Mu'ertzong		
	NON-PT	PT	NON-PT	PT	
a.	<i>χʰfi</i>	<i>χʰfiʔ</i>	<i>rʒə</i>	<i>rʒəʔ</i>	'to wash'
	<i>χtu</i>	<i>χtuʔ</i>	<i>ɣdə</i>	<i>ɣdəʔ</i>	'to buy'
	<i>jts<sup>h</sup>em</i>	<i>jts<sup>h</sup>emʔ</i>	<i>tsəm</i>	<i>tsəmʔ</i>	'to be thin (in diameter)'
	<i>teʔ</i>	<i>te</i>	<i>deʔ</i>	<i>de</i>	'to put; place'
	<i>ʒ<sup>n</sup>briʔ</i>	<i>ʒ<sup>n</sup>bri</i>	<i>zbreʔ</i>	<i>zbre</i>	'to play (e.g. the flute)'
	<i>ntswəʔ</i>	<i>ntswə</i>	<i>nts<sup>h</sup>ɣətʔ</i>	<i>nts<sup>h</sup>ɣət</i>	'to sell'
b.	<i><sup>n</sup>dze</i>	<i><sup>n</sup>dzeʔ</i>	<i>dzeʔ</i>	<i>dzi</i>	'to eat'
	<i>pe</i>	<i>peʔ</i>	<i>veʔ</i>	<i>vi</i>	'to do'
	<i><sup>n</sup>ge</i>	<i><sup>n</sup>geʔ</i>	<i>giʔ</i>	<i>gi</i>	'to wear'
	<i>mtiʔ</i>	<i>mti</i>	<i>vde</i>	<i>vdeʔ</i>	'to see'
	<i>roʔ</i>	<i>ro</i>	<i>ro</i>	<i>roʔ</i>	'to fetch'
	<i>məmʔ</i>	<i>məm</i>	<i>məm</i>	<i>məmʔ</i>	'to be delicious'

At this stage of research, nothing definite can be said concerning the provenance of glottality inversion. Let us, however, venture one tantalizing hypothetical scenario. Suppose the apparent 'flip-flop' operation came about as the end result of a number of sound changes. Suppose further that the original Proto-rGyalrongic past-tense marker was an \*-s suffix,<sup>24</sup> and that this was reflected by a glottal stop in Sidaba and Lavrung,

<sup>23</sup> One complication is that glottalized and non-glottalized syllables are associated with different pitch patterns in rGyalrongic languages, and in some languages these pitch patterns may have taken on an independent life of their own and become true *tonal* contrasts. The Puxi variety of Shangzhai (personal research) appears to be a case in point, where tense/aspect conjugation involves intricate consonantal, tonal, as well as accentual alternations. For example, the imperative, perfective, and progressive forms of the low-toned verb *p<sup>h</sup>jə* 'to recompense' are respectively *nə-p<sup>h</sup>jə-n* (low tone and accent on the stem); *nə-pjə* (accent shifts to the prefix, stem initial deaspirates), and *və-pjə* (accent remains on the stem, stem initial deaspirates, tone changes to high). Lin Xiangrong also mentions tense-marking tonal alternations in the Ergali variety of Lavrung (Lin 1993:749-50) but fails to note similar phenomena in his lengthy descriptions of Mu'ertzong and Caodeng sound systems (Lin 1993:489-509, 526-604).

<sup>24</sup> Cf. the Written Tibetan perfective suffix *-s*. There are vestiges in the modern rGyalrongic languages of a similar suffix. The most direct attestation is the past-tense suffix *-s*, attached to

then all that is needed to produce the observed phenomenon would be a glottal dissimilation rule<sup>25</sup> as in (9):

$$(9) \quad -ʔ + -ʔ > -\emptyset$$

If this could be shown to reflect correct history, then the origin of the apparent glottality inversion would be explained by two much less dramatic phonological innovations shared by Sidaba and Lavrung, namely a coda-weakening rule  $*-s > -ʔ$ , and a dissimilation rule (9). The main difficulty with the above hypothesis, however, is that Proto-rGyalrongic  $*-s$  is ordinarily kept intact in Mu'ertzong (e.g. Mu'ertzong *rtsʌs*, Zhuokeji *kʰ-rtsʰʌs* 'deer'; Mu'ertzong *rtsʰʌsʔ*, Zhuokeji *tʰ-rtsʰʌs* 'lungs'); the situation is more complicated in Caodeng, where  $*-s$  can be preserved (e.g. *tʰ-rtsʰʌs* 'lungs'), turned into a *-t* (e.g. *kʰ-fpʰet*, Zhuokeji *kʰʰ-fpʰʌs* 'marmot'), or elided (e.g. *qʰ-rtse* 'deer'; *kʰ-tsʌ*, Zhuokeji *kʰ-tsʌs* 'to say').<sup>26</sup> On the other hand, the possibility cannot be ruled out that grammatical elements may undergo special phonological reduction, consider for example the Caodeng copula *ŋʌʔ*, cf. Zhuokeji *ŋʌs*. Further investigation is required before this state of affairs and, more generally, the history and developments of glottalized syllables in rGyalrongic languages can be properly understood.

## 2.2 Ablaut

Ablaut, or vowel gradation, is a term borrowed from Indo-European (especially Germanic) linguistics to describe the phenomenon of extensive vocalic alternation in the verbal morphology of certain rGyalrongic languages. In Caodeng and Mu'ertzong, ablaut plays an important role in the conjugation of many common verbs which will be referred to hereafter as *strong verbs*, using another Germanic term. Ablaut is not predictable and must be specified in the individual lexical entries.

---

direct evidential forms of intransitive verbs in the Zhuokeji and Suomo varieties of Situ rGyalrong (Lin 1993:233-4). The high level pitch in past verb forms of Hedong Zhaobei, a variety of the Jinchuan sub-dialect of Situ rGyalrong, may reflect the same proto-suffix, perhaps via the intermediary stage  $*-ʔ$  (Lin 1993:750). For a survey of other possible traces of this element in modern Tibeto-Burman languages, see Huang 1996.

<sup>25</sup> See Matisoff (1970) for detailed presentation of an intriguing case of glottal dissimilation in Lahu, whereby glottalized (and voiceless spirant) initials caused the glottal-stop coda to drop, leaving behind a compensatory high-rising tone.

<sup>26</sup> Note the penultimate accent in these forms, a characteristic compensatory feature for lost segments in this dialect of Sidaba rGyalrong.

### 2.2.1 Caodeng

Verbal ablaut in Caodeng comprises two functional types, labeled here as *ablaut A* and *ablaut B*. In *ablaut A*, alternation in the vocalism of strong verbs goes hand in hand with glottality inversion (10a) and accent reduction (10b) in the formation of the past stem:

(10)	<b>NON-PT</b>	<b>PT</b>	
a.	<i>rp<sup>h</sup>a-ltʃəm</i>	<i>rp<sup>h</sup>a-ltʃemʔ</i>	‘to be in heat (estrus)’
	<i>mdeʔ</i>	<i>mdɛ</i>	‘to be level’
b.	<i>ʃwɛt</i>	<i>jwɛt</i>	‘to retreat’
	<i>ʃp<sup>h</sup>ɛs</i>	<i>ʃp<sup>h</sup>ɛs</i>	‘to patch up’

As can be seen from the above data, the vowels partaking in this particular alternation are nearly always *-e* and *-ɛ*. Exceptional ablaut series are noted for a small number of verbs, such as:

(11)	<b>NON-PT</b>	<b>PT</b>	
	<i>wi</i>	<i>wɛʔ</i>	‘to come’

Ablaut B, on the other hand, designates vowel alternations found in non-first person singular direct (as opposed to inverse) non-past (including the imperative, but not progressive) forms of certain transitive verbs. This type of ablaut, represented henceforth by the singular imperative [IMP:S], seems to function primarily to signal *transitivity* in a tightly constrained set of morphosyntactic contexts.

As a consequence of this second type of ablaut, a third stem is created alongside the non-past and past stems that all verbs already distinguish. In contrast with ablaut A, ablaut B displays a richer patterning of alternating vowels:

(12)	<b>NON-PT</b>	<b>PT</b>	<b>IMP:S</b>	
	<i>nɛʃi</i>	<i>nɛʃi</i>	<i>nɛʃɛ</i>	‘to wait’
	<i>zdu</i>	<i>zduʔ</i>	<i>zde</i>	‘to assemble’
	<i>rqəjeʔ</i>	<i>rqəje</i>	<i>rqəjɛʔ</i>	‘to untie’
	<i>pe</i>	<i>peʔ</i>	<i>pɔ</i>	‘to do; to make’

There remains one subclass of strong verbs which utilize both types of ablaut, resulting in ablated vocalism in two of the three stems in the paradigm.<sup>27</sup> All such

<sup>27</sup> In the Ribu dialect of Sidaba rGyalrong, many verbs that display both A and B ablaut have distinct vocalism in all three stems, as in (the macron and grave accent represent respectively the level and falling tones):

verbs in my present database, moreover, exhibit only one ablaut series (**e-ø-ø**):

(13) <b>NON-PT</b>	<b>PT</b>	<b>IMP:S</b>	
<i>nɔ-zɛv?</i>	<i>nɔ-zøv</i>	<i>nɔ-zøv?</i>	‘to play; to frolic’
<i>sə-βjɛv?</i>	<i>sə-βjøv</i>	<i>sə-βjøv?</i>	‘to hide from view’
<i>fce?</i>	<i>fcø</i>	<i>fcø?</i>	‘to replace’

### 2.2.2 Mu’erzong

Verbal ablaut in Mu’erzong belongs purely to the tense-marking type. As in the functionally identical ablaut A in Caodeng past-stem formation, the past stems of a great many common verbs in Mu’erzong show vocalic alternation, with or without concomitant change in stem-final glottality. In contrast to Caodeng, ablaut patterning in Mu’erzong is much more heterogeneous. The more common alternation series are exemplified below:

(14) <b>ABLAUT SERIES</b>	<b>NON-PT</b>	<b>PT</b>	
<b>e-i</b>	<i>ve?</i>	<i>vi</i>	‘to do; to make’
	<i>βvet?</i>	<i>βvit?</i>	‘to recover; to heal’
	<i>ste?</i>	<i>sti</i>	‘to make (tea)’
<b>æ-i</b>	<i>nrtæ</i>	<i>nrtsi?</i>	‘to rust’
	<i>skæ?</i>	<i>skir</i>	‘to weigh’
	<i>nrc<sup>h</sup>æt?</i>	<i>nrc<sup>h</sup>it?</i>	‘to bite’
<b>æ-e</b>	<i>sæt</i>	<i>set?</i>	‘to kill’
	<i>zβjæ</i>	<i>zβjes?</i>	‘to make (baskets)’
	<i>bæt</i>	<i>bet?</i>	‘to be idle’
<b>ʌ-o</b>	<i>sʌ?</i>	<i>sro</i>	‘to help stand up’
	<i>rʌt?</i>	<i>rʌot</i>	‘to peel off; to skin’
	<i>dzʌv?</i>	<i>dzov</i>	‘to be muddy’
<b>ʌ-e</b>	<i>lʌt?</i>	<i>let</i>	‘to release’
	<i>np<sup>h</sup>ʌs?</i>	<i>np<sup>h</sup>es</i>	‘to vomit’
	<i>spʌr</i>	<i>spɛr?</i>	‘to move v.t.’
<b>ʌ-i</b>	<i>tʃ<sup>h</sup>ʌt</i>	<i>tʃ<sup>h</sup>it</i>	‘to be tired out’
	<i>nq<sup>h</sup>ʌt</i>	<i>nq<sup>h</sup>it</i>	‘to laugh’
	<i>χpjʌt</i>	<i>χpjit?</i>	‘to observe’

---

<b>NON-PAST</b>	<b>PAST</b>	<b>IMP:S</b>	
<i>sōv</i>	<i>sōv</i>	<i>sōv</i>	‘to wring (towels)’
<i><sup>n</sup>dze?</i>	<i><sup>n</sup>dzi?</i>	<i><sup>n</sup>dzʌ?</i>	‘to eat’
<i>rbʌ?</i>	<i>rbi</i>	<i>rbe?</i>	‘to press down’

<b><math>\Delta</math>-<math>\emptyset</math></b>	<i>r<math>\Delta</math>ʔ</i>	<i>r<math>\emptyset</math></i>	‘to say’
	<i>pj<math>\Delta</math>s</i>	<i>pj<math>\emptyset</math>s</i>	‘to wipe’
	<i>l<math>\Delta</math>yʔ</i>	<i>l<math>\emptyset</math>y</i>	‘to break out (as of fire)’
<b><i>au-u</i></b>	<i>ɣ<sup>h</sup>jaʊʔ</i>	<i>ɣ<sup>h</sup>ju</i>	‘to exit’
	<i>ɣp<sup>h</sup>auʔ</i>	<i>ɣp<sup>h</sup>u</i>	‘to fall from height’
	<i>bjaʊʔ</i>	<i>bju</i>	‘to split’

### 2.2.3 Comparison and discussion

Verbal ablaut in contemporary Caodeng and Mu’erzong bears signs of being vestigial morphology. The limited alternations observed today may have descended from a once richer system via considerable paradigm leveling. Thus, Caodeng appears to have lost most of the old tense marking ablaut series still reflected in Mu’erzong. Many Mu’erzong strong verbs have cognates in Caodeng with invariant vocalism:

(15) <b>Caodeng</b>		<b>Mu’erzong</b>		
<b>NON-PT</b>	<b>PT</b>	<b>NON-PT</b>	<b>PT</b>	
<i>ntsr<math>\emptyset</math>vʔ</i>	<i>ntsr<math>\emptyset</math>v</i>	<i><sup>n</sup>dzr<math>\Delta</math>vʔ</i>	<i><sup>n</sup>dzrov</i>	‘to suck’
<i>ʔwet</i>	<i>rwet</i>	<i>r<math>\gamma</math>Atʔ</i>	<i>r<math>\gamma</math><math>\emptyset</math>t</i>	‘to ask; to inquire’
<i>ʔret</i>	<i>ret</i>	<i>rAtʔ</i>	<i>ret</i>	‘to write’

Evidence that it is Caodeng that underwent change is supplied by ablauting cognates in Ribu, its morphologically more conservative sister dialect:

(16) <b>Ribu</b>		
<b>NON-PT</b>	<b>PT</b>	
<i>nts<sup>h</sup>r<math>\emptyset</math>v</i>	<i>nts<sup>h</sup>r<math>\bar{u}</math>v</i>	‘to suck’
<i>rgw<math>\bar{i}</math>t</i>	<i>rgw<math>\bar{a}</math>t</i>	‘to ask; to inquire’
<i>r<math>\bar{e}</math>t</i>	<i>r<math>\bar{i}</math>t</i>	‘to write’

Elsewhere in rGyalrongic, Horpa also shows a kind of ablaut when verbs are inflected for person (Huang 1990, 1991a, Duo’erji 1993),<sup>28</sup> as in the following forms of the verbs *ʔe* ‘to come’ and *zbeɣ* ‘to paste’ in the Daofu dialect (Huang 1991a:28-33):

<sup>28</sup> Imperative forms, which in conservative Qiangic languages take second-person suffixes, undergo the same vowel changes as other second-person forms; the same goes for the other Qiangic languages mentioned below with this kind of ‘ablaut’.

(17)	<i>ʃo-ŋ</i>	‘I come’	<i>zɓjor</i>	‘I paste’
	<i>ʃe-n</i>	‘you come’	<i>zɓjer</i>	‘you paste’
	<i>ʃɛ</i>	‘s/he comes’	<i>zɓjɛr</i>	‘s/he pastes’

Alternations in (17) clearly arose as a result of phonetic conditioning by the first and second person suffixes, respectively *-ŋ* and *-n*, which in the case of intransitive verbs are directly attested. This type of vocalic alternation, occurring in less transparent forms in such other Qiangic languages as Chabao rGyalrong (personal research), Southern Qiang (Sun HK 1981:98-104), Pumi (Lu 1983:42-9), Muya (Huang 1991b:115-7), and Queyu (Wang 1991:58-9), is strictly speaking a kind of *umlaut* rather than ‘ablaut’, the latter label being ordinarily reserved for vowel mutations with unclear phonetic motivation.

Outside of Qiangic, Tibeto-Burman languages with extensive verbal ablaut seem hard to come by. One such language that immediately comes to mind is Tibetan.<sup>29</sup> Ablauting verbs in Written Tibetan display different vocalisms in their verb stems (imperfective, perfective, future, and imperative). At most three different vowel grades are allowed for any given verb, as future and perfective stems always have identical stem vowels. Four common ablaut patterns, each exemplified by a verb, are listed below:

(18)	<b>ABLAUT SERIES</b>	<b>IMPF</b>	<b>PF</b>	<b>FUT</b>	<b>IMP</b>	
a.	<i>a-a-a-o</i>	<i>lta</i>	<i>bltas</i>	<i>blta</i>	<i>ltos</i>	‘to look’
b.	<i>o-a-a-o</i>	<i>zlo</i>	<i>bzlas</i>	<i>bzla</i>	<i>zlos</i>	‘to say’
c.	<i>i-u-u-u</i>	<i>’dzin</i>	<i>bzung</i>	<i>gzung</i>	<i>zungs</i>	‘to seize’
d.	<i>e-a-a-o</i>	<i>sems</i>	<i>bsams</i>	<i>bsam</i>	<i>soms</i>	‘to think’

Given the strong areal and historical ties between speakers of these languages, the fact that rGyalrongic and Tibetan both possess an extremely uncommon type of inflectional morphology is noteworthy, with potentially far-reaching implications on the linguistic position of rGyalrongic. The obvious question to pursue at this juncture is whether verbal ablaut in rGyalrongic is related to that in Tibetan through either common descent or borrowing. There are ample reasons for believing that verbal ablaut originates from independent development in the respective linguistic groups. In fact, the origins of the *i-* and *e-* grades in Written Tibetan have been convincingly attributed to specific

<sup>29</sup> Verbs in certain Kuki-Chin languages also employ fairly extensive ablaut (Jim Matisoff, personal communication). Stem alternation in such Kuki-Chin languages as Mizo and Bawm, however, has to do with tones, vowel length, and syllable codas rather than with distinct vocalisms (Chhangte 1993:84-9).

assimilatory influences of an old imperfective suffix *-d* (with an allomorph *-s* after the codas *-m*, *-b*, *-ng*, and *-g*) preserved in the early texts (Coblin 1976:52-4, Beyer 1992:175-6), whereas no such explanations are currently available for the rGyalrongic vocalic alternation. On the functional plane, Tibetan ablaut is characterized by its distinctive imperative *o*-grade while I have shown in the foregoing sections that rGyalrongic ablaut systems hitherto documented do not designate any specific modal category.<sup>30</sup> Conversely, the peculiar ablaut type B attested in Sidaba rGyalrong, functioning presumably to highlight non-past scenarios involving singular agents, finds no counterpart at all in Tibetan. On the formal side, rGyalrongic verbal ablaut is far more variegated than Tibetan in terms of number of distinct ablaut patterns, as evidenced in the Mu'ertzong and Ribu data in (14)-(16) above. Nor are the vowel grades themselves similar enough between Tibetan and rGyalrongic to make direct borrowing seem likely. In fact, the major ablaut A pattern in Caodeng, namely with *ø* vocalism in the non-past and *e/ɛ* vocalisms in the past stem, is practically the reverse of the basic Tibetan ablaut pattern in (18d). Most important, the majority of strong verbs in rGyalrongic and Tibetan, belonging in both cases to the lexical cores of the respective languages, are simply not cognate. Even where true cognates may be involved, examples exist with ablauting rGyalrongic verbs corresponding to *non-ablauting* cognates in Tibetan:

(19)	<b>Mu'ertzong</b>		<b>Ribu</b>		<b>Written Tibetan</b>		
	<b>NON-PT</b>	<b>PT</b>	<b>NON-PT</b>	<b>PT</b>	<b>IMPF</b>	<b>PF</b>	
	<i>dzeʔ</i>	<i>dzi</i>	<i><sup>n</sup>dzeʔ</i>	<i><sup>n</sup>dziʔ</i>	<i>za</i>	<i>bzas</i>	'to eat'
	<i>ltæv</i>	<i>ltev</i>	<i>ltjēv</i>	<i>ltiv</i>	<i>ltab</i>	<i>bltab</i>	'to fold'
	<i>skæɹ</i>	<i>skir</i>	<i>skor</i>	<i>skwɹ</i>	<i>skar</i>	<i>bskar</i>	'to weigh'

Verbal ablaut of this particular type is not reported in the better known dialects of Situ rGyalrong (e.g. Zhuokeji, see Lin 1993), nor in the Daofu dialect of Horpa (Huang 1990, 1991a). The distribution of this phenomenon elsewhere in rGyalrongic is yet to be ascertained. It thus remains for future research to determine whether we are dealing with an archaism dating back to Proto-rGyalrongic (if not Proto-Qiangic), or a morphological innovation shared among a particular cluster of rGyalrongic members.

<sup>30</sup> It is to be recalled (§2.2.1) that ablaut B, attested in Sidaba rGyalrong, applies to certain transitive verbs in a set of morphosyntactic environments including but not restricted to the (singular) imperative. Furthermore, both negative and positive imperative verb forms in Sidaba rGyalrong can take ablaut B; contrast this with the quirky Tibetan requirement for the negative imperative (prohibitive) to take the *imperfective* stem.

### 2.3 Transitivity marked by vocalic alternation in the orientation prefixes

The category of orientation, or topographically-based spatial deixis, is a salient trait in the grammars of Qiangic languages (Sun HK 1983:107-8, Huang 1991c:297-307). Three distinct subsystems are at work in the Caodeng and Mu'erzong orientation system: solar, river, and vertical, each of which comprises two opposing terms as shown in the table below (cf. J. T.-S. Sun: 1998:§2.2.3.2):<sup>31</sup>

**Table 1: Caodeng and Mu'erzong orientation subsystems**

<b>solar</b>	Eastward (i.e. in the direction of the rising sun)	westward
<b>river</b>	upstream	downstream
<b>vertical</b>	up (uphill; upstairs)	down (downhill; downstairs)

In addition to orientational adverbials and pronouns, Caodeng and Mu'erzong (and rGyalrongic languages in general) have a whole array of verbal orientation prefixes, which are obligatorily present on all perfective and imperative verb forms. With non-motion verbs, selection of collocating orientation prefixes is often conventionalized and arbitrary.<sup>32</sup> What is unusual about the two target languages is that they share a particular transitivity-marking strategy via manipulating the vocalism of the orientation prefixes.

#### 2.3.1 Caodeng

Caodeng grammar distinguishes as many as four sets of orientation prefixes, displayed in Table 2:

<sup>31</sup> The all important solar subsystem, clearly at work in Lavrung, Shangzhai, and all three major dialects of rGyalrong proper, has unfortunately been overlooked in all published analyses of rGyalrongic morphosyntax (e.g. Nagano 1984, Qu 1984, 1990, Huang 1991c, Lin 1993). See also Sun (in preparation) for a more thorough treatment of orientational morphology in Caodeng rGyalrong.

<sup>32</sup> In Caodeng and Mu'erzong, 'to eat' requires the orientation prefix for 'up', whereas 'to drink' requires that for 'down'. Such bleached orientation semantics will not show up in the gloss.

**Table 2: Orientation prefixes in caodeng**

	up	down	upstream	downstream	eastward	westward
<b>Set 1</b>	tə-	nə-	lə-	t <sup>h</sup> ɸ-	kə-	nə-
<b>Set 2</b>	to-	no-	lo-	t <sup>h</sup> o-	ko-	no-
<b>Set 3</b>	te-	<sup>n</sup> ge-	le-	t <sup>h</sup> e-	ke-	ne-
<b>Set 4</b>	te-	ne-	le-	t <sup>h</sup> e-	ke-	ne-

The vowels in Set 1 prefixes are variously *-ɸ* or *-ə*, whereas the vocalism shifts uniformly to *-o* in Set 2 and to *-e* in Sets 3 and 4 (which differ only in the initials of the terms for ‘down’). Set 2 occurs in *inverse* constructions (see for instance (22) below),<sup>33</sup> whereas Set 3 occurs in non-past and non-finite contexts and are of no direct concern to us in this paper. Set 1 prefixes are morphologically basic in that the other sets can largely be derived from them by regular vocalic modification and, further, they are the default set with a wide range of usage, occurring in the imperative (20a), prohibitive (20b), intransitive aorist/perfect (20c-d), as well as transitive aorist/perfect involving a SAP (speech-act participant) subject (20e):

- (20) a. **tə-ni-nə**  
 IMP:UP-drive to pasture-P  
 ‘(You all) drive (cattle, sheep, etc.) upward to pasture!’
- b. **mə-kə-tɕ-wi**  
 NEG-IMP:EASTWARD-2-come  
 ‘Don’t come (eastward)!’
- c. **rɔ-tʃ<sup>h</sup>ɔ**                      **ɸ-xtoʔ**                      **tə-mɲəm**  
 as soon as-plough    1S:POSS-belly              PF-ache:PT  
 ‘As soon as I started ploughing my stomach ached.’
- d. **ʃq<sup>h</sup>ɸʔ-s**                      **ɸjiʔ**                      **nɸ-nprɔɔɔɸ-ɑŋ**  
 a while ago-LOC    1S                      PF:DOWN-stumble and fall:PT-1S  
 ‘I stumbled and fell down a while ago.’
- e. **ɸjiʔ**                      **tɕk<sup>h</sup>u**                      **nə-ʃtʃɸt-ɑŋ**  
 1S                      tobacco                      PF-quit:PT-1S  
 ‘I have quit smoking.’

<sup>33</sup> This pertains to the verbal category of *direction*. Inverse (as opposed to direct, often unmarked) situations are those with an agent argument which is lower on the Empathy Hierarchy (1 > 2 > 3; human > non-human; animate > inanimate) than the patient/recipient argument, and are explicitly marked as such on the verb morphology (DeLancey 1981, Sun 1998:129-31).

Given a transitive verb in the perfective with a non-SAP (third-person) subject, however, an appropriate Set 4 orientation prefix in *-e* must replace the corresponding Set 1 prefix. The contrast is illustrated in the sentence pairs in (21):

- (21) a. *ɕjiʔ*      *tʃeʔ*      *nə/\*ne-t<sup>h</sup>i-aŋ*  
 1S          teaʔ      PF-drink:PT-1S  
 ‘I have drunk tea.’
- b. *sonəm*    *tʃeʔ*      *ne/\*nə-t<sup>h</sup>i-cə*  
 PN          tea      PF:TR-drink:PT-EV  
 ‘Sonam has drunk tea.’
- c. *ʃorʔ*      *ɕjiʔ*      *təmɐ*      *nəʔ*      *nə/\*ne-səyjo-aŋ*  
 yesterday 1S      work      DET      PF-finish:PT-1S  
 ‘I finished the work yesterday.’
- d. *ʃorʔ*              *ts<sup>h</sup>emgon-kə*    *təmɐ*      *nəʔ*      *ne/\*nə-səyjo*  
 yesterday      PN-ERG      work      DET      PF-finish:PT  
 ‘Tshemgon finished the work yesterday.’

Reflexive constructions, on the other hand, are characterized by inverse rather than transitive morphology and must take Set 2 (*Co-*) orientation prefixes instead:

- (22) *oʃiʔ*      *no-nə-ʃɐ-ntʃ<sup>h</sup>eʔ-cə*  
 3S          PF:INV-SPON-REFL-kill:PT-EV  
 ‘S/he killed him/herself.’

Thus, transitivity is overtly indicated in Caodeng perfective sentences with a third-person subject by alternating the vocalism in the obligatory orientation prefixes thus (where C= initial consonant):

- (23) **Cə/ɐ-**      ->    **Intransitive**  
**Ce-**              ->    **Transitive**

### 2.3.2 Mu’erzong

Mu’erzong has greatly reduced the elaborate prefixal morphology found in the closely related rGyalrong (proper) language. As a consequence, the language now distinguishes no more than two sets of orientation prefixes:

**Table 3: Orientation prefixes in Mu’erzong**

	<b>up</b>	<b>down</b>	<b>upstream</b>	<b>downstream</b>	<b>eastward</b>	<b>westward</b>
<b>IMP; SAP PF</b>	ʌ-	nʌ-	lʌ-	və-	kʌ-	nə-
<b>NON-SAP TR PF</b>	ə-	nə-	lə-	və-	kə-	nə-

Remarkably similar to Caodeng Set 1 and Set 4 prefixes, Mu’erzong prefixes contain variously -ʌ or -ə vocalism in Set 1 but a uniform -ə in Set 2, resulting in four out of the six orientation terms (‘up’, ‘down’, ‘upstream’, ‘eastward’) displaying an alternation between  $C_{ʌ-}$  and  $C_{ə-}$ .

As with the Caodeng opposition  $C_{ə/v-} \leftrightarrow C_{e-}$ ,  $C_{ʌ-}$  and  $C_{ə-}$  in Mu’erzong are distributionally skewed, with  $C_{ʌ-}$  occurring in far more morphosyntactic environments than  $C_{ə-}$ . First of all,  $C_{ʌ-}$  is found with all intransitive perfective verbs, as in (24):

- (24) a. *ŋə nʌ-mo-ŋ*  
 1S PF-hungry:PT-1S  
 ‘I have become hungry.’
- b. *niʔ nʌ-fə-mo-n*  
 2S PF-Q-hungry:PT-2S/D  
 ‘Have you become hungry?’
- c. *ʌtə nʌ-mo*  
 3S PF-hungry:PT  
 ‘(I know that) He has become hungry.’

In the transitive perfective, the two sets are in contrast. Much as in Caodeng, one set ( $C_{ʌ-}$ ) is used with a SAP subject (24a-b) while the other ( $C_{ə-}$ ) occurs with a non-SAP subject (25c):

- (25) a. *ŋə smən nʌ/\*nə-fʈs<sup>h</sup>oʔ-ŋ*  
 1S medicine PF-decoct:PT-1S  
 ‘I decocted medicine.’
- b. *xsnəsʔ niʔ smən nʌ/\*nə-fʈs<sup>h</sup>oʔ-n wa*  
 yesterday 2S medicine PF-decoct:PT-2S/D SFP  
 ‘You decocted medicine yesterday, didn’t you?’
- c. *ʌtə ɣə smən nə/\*nʌ-fʈs<sup>h</sup>oʔ*  
 3S-ERG medicine PF-decoct:PT  
 ‘He decocted medicine.’

Mu'erzong reflexives, as their counterparts in Caodeng, are not framed as transitives. Rather, they behave like *intransitives* in respect of the selection of orientation prefixes:

- (26) *ʎamo ʔ-ɣə*      *dʒusmən*      *nə-t<sup>h</sup>e ʔ-sə*      *nʌ-vjʌ-set ʔ-sə*  
 Lhamo-ERG    poison            PF-drink:PT-EV      PF-REFL-kill:PT-EV  
 ‘Lhamo drank poison and killed herself.’

The overlap in function between Caodeng and Mu'erzong vocalic alternation of the foregoing type is nevertheless imperfect, which is not surprising given the overall great divergence between the two languages. An important effect of the gradual breakdown of the once exuberant prefixal morphology in Mu'erzong is the obsolescence of Proto-rGyalrongic direction prefixes which in the more conservative daughter languages explicitly code the principal configurations 1 > 2, 2 > 1, and inverse.<sup>34</sup> It turns out that in Mu'erzong, the alternation between *Cʌ-* and *Cə-* has partially taken over the important function of disambiguating argument relations once served by explicit direction prefixes, now largely defunct.<sup>35</sup> Observe the examples in (27), where *Cʌ-* and *Cə-* turn up respectively in direct (SAP > non-SAP, in 27a-b) and inverse (non-SAP > SAP, in 27c) configurations:

- (27) a. *ʌtə ʒle*      *ʌ/\*ə-nfscərsə-ʃʌ-n*  
 2S    a little      IMP-spook-go-2S/D  
 ‘Go and spook him/her a little!’
- b. *sʌnʌm*      *nʌ/\*nə-mə-vdaj ʔ{vde ʔ-ŋ}*      *dja*      *nʌ-gua ʔ*  
 PN            PF-NEG:PF-see:PF-1S            much      PF-elapse:PT-1S  
 ‘I haven’t seen Sanam for a long time.’
- c. *rʌɣci-ɣə*      *næcətə*      *ə/\*ʌ-rfə ʔ-ŋ*  
 someone-ERG    fortunately    PF:UP-pull:PT-1S  
 ‘Luckily, someone pulled me up.’

<sup>34</sup> Consider the Caodeng direction markers: inverse *wə-/o-*; 1 > 2 *tə-* (from *\*tə-ə*), and 2 > 1 *ko-* (from *\*kə-wə*).

<sup>35</sup> Remnants of the Proto-rGyalrongic inverse prefix *\*wu* can still be found in Mu'erzong in the fused reflexive marker *vjʌ-* (<*\*wə-jʌ-*; cf. Caodeng *o-ʃə-*; Ribu *və-jʌ-*), and in the inverse imperfective negator *mtə-* (<*\*mtə-wə*; cf. the direct imperfective negator *m(ə)tə-*), e.g.

*may ʔ*      *ʌtə-ɣə*      *ŋə*      *mtə-t<sup>h</sup>e ʔ-ŋ*  
 no            3-ERG      1S    NEG:INV-know-1S  
 ‘No, s/he does not know me.’

Sentences like (27) above are actually insufficient for demonstrating that the Mu'erzong prefix alternation has any function over and beyond indicating transitivity in the third person. Thus, the *C<sub>A</sub>*- prefix in (27a-b) is expected because no third-person subjects are involved, while the use of a *C<sub>ə</sub>*- prefix in (27c) seems simply to be triggered by the third-person transitive subject. It is when additional data such as (28) below are taken into account that a case can be made for the direction-marking function of this particular alternation:

- (28) a. *xsnəsʔ*    *ŋə*    *niʔ*    *n<sub>A</sub>/\*nə-ten* {*tel-n*}  
 yesterday    1S    2S    PF-beat:PT-2S/D  
 'I beat you up yesterday.'
- b. *xsnəsʔ*    *niʔ-γə*    *ŋə*    *n<sub>ə</sub>/\*n<sub>A</sub>-taŋ* {*tel-ŋ*}  
 yesterday    2S-ERG    1S    PF-beat:PT-1S  
 'You beat me up yesterday.'
- c. *ŋə*    *kə/\*k<sub>A</sub>-t<sup>h</sup>ə-vzgiʔ-ŋ*  
 1S    IMP-PROH-provoke-1S  
 'Don't provoke me!'

Sentences in (28) reveal a significant generalization about Mu'erzong grammar, namely the speaker and the hearer are not treated as equals in the Mu'erzong person hierarchy. The configuration 1 > 2 (28a) is marked by the same set *C<sub>A</sub>*- as the SAP > non-SAP configurations (27a-b). Conversely, the configuration 2 > 1 (28b-c) receives the marking *C<sub>ə</sub>*- which is appropriate for the opposite alignment non-SAP > SAP (27c). All of these data can be fully accounted for by making the following assumptions:

(i) Mu'erzong shares with Caodeng a characteristic morphological device whereby transitivity in the third person is marked by internal vocalic alternation, in this case:

- (29) *C<sub>A</sub>*-    ->    **Intransitive**  
*C<sub>ə</sub>*-    ->    **Transitive**

(ii) With the collapse of the Proto-rGyalrongic direction system in Mu'erzong *C<sub>ə</sub>*- came to be reanalyzed as denoting *marked agency* in general, hence its use as the new inverse marker in this language.

(iii) Given the speaker > hearer ranking in the Mu'erzong person hierarchy, situations in which the hearer acts on the speaker are construed as inverse, and hence marked by the *C<sub>ə</sub>*- prefixes.<sup>36</sup>

<sup>36</sup> Among rGyalrongic languages, the configuration 2 > 1 is not always unambiguously

### 2.3.3 Comparison and discussion

Transitivity assumes a prominent role in the morphology of the rGyalrongic verb. Transitive and intransitive verbs are distinguished variously by distinct conjugations (as shown in the Horpa partial paradigm in (17)), by specialized affixes,<sup>37</sup> or by stem ablaut (e.g. Caodeng ablaut B, see §2.2.1 above). However, coding (marked) transitivity by means of vocalic alternation in the orientation prefixes is to the best of my knowledge a peculiarity uniquely shared between Sidaba rGyalrong and Lavrung. Again, I fail to find exact parallels to transitivity-sensitive morphology of this type in other branches of Tibeto-Burman.

## 3. Conclusions

In this paper, I have examined three instances of aberrant verbal morphology which Lavrung shares with Sidaba rGyalrong.<sup>38</sup> In all three, the uniqueness of the phenomena should rule out common borrowing from a non-rGyalrongic source (e.g. Tibetan) as a likely explanation. Moreover, since Lavrung and Sidaba rGyalrong are otherwise not particularly close in structure or in vocabulary, and especially since these morphological traits pertain to idiosyncratic yet pervasive patterns of verb inflection, the probabilities of mutual borrowing (contact) or convergent development (drift) also seem remote. Nevertheless I am not yet, at this developing stage of historical-comparative rGyalrongic linguistics, in a position to establish whether the morphological agreements in question are relic features retained from Proto-rGyalrongic or are innovations of some shallower time depth. One way or the other, the facts we have unearthed in this paper will certainly remain an important body of data for future research to take into account while subclassifying rGyalrongic or reconstructing its proto-morphosyntax.

By way of conclusion, let us now briefly touch on the implications of this study on the internal relationships of the rGyalrongic unit. The findings in this paper admittedly

---

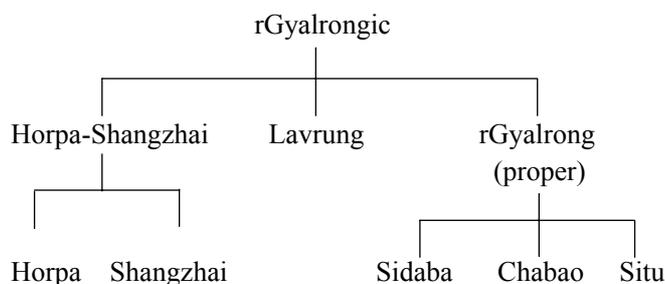
inverse (DeLancey 1981:87). In the Zagunao dialect of Situ, for example, 2 > 1 receives the same inverse marking as 3 > 2 (Qu 1983:47). In Caodeng, the 2 > 1 configuration requires the special direction marker *ko-*, containing a fused inverse (but now opaque) prefix (cf. Suomo *kə-wu*), instead of the ordinary inverse prefix *Co-* (see §2.3.1 above). In Ribu, another important dialect of Sidaba rGyalrong, the 2 > 1 direction marker is simply *kə-*, with no trace of the old inverse prefix (the expected Ribu reflex would be *və-*).

<sup>37</sup> Examples are the prefixes *wə-* (TR) versus *kə-* (INTR) on third-person non-singular verbs in Zhuokeji (Situ rGyalrong), the *-m* and *-j* suffixes or *v-* (TR) versus *n-* (INTR) on third-person singular verbs in Puxi Shangzhai.

<sup>38</sup> From the comparative data provided in Huang 1999, glottality (or tonal) inversion in the past verb stem, ablaut, as well as transitivity marking via vowel change in the orientation prefixes also characterize verb inflection in the Ere, Guanyinqiao, and Yelong varieties of Lavrung.

do not constitute sufficient evidence for assigning Lavrung directly to the same subgroup with Sidaba rGyalrong and, by implication, under rGyalrong proper; however, contrary to the claim that Lavrung is a dialect of a distantly related language in Qiangic (Huang 1991, 1992), they should help consolidate the linguistic position of Lavrung by putting it securely under rGyalrongic.<sup>39</sup> On the other hand, since it is still unclear whether Lavrung is more closely akin to rGyalrong proper or to Horpa-Shangzhai, leaving the three languages temporarily coordinate with one another under rGyalrongic seems more advisable at this moment.<sup>40</sup> I consequently offer as a conservative working hypothesis the following revised rGyalrongic stammbaum, composed of three primary offshoots: rGyalrong proper, Lavrung, Horpa-Shangzhai.<sup>41</sup>

**Diagram 3: Revised tentative rGyalrongic stammbaum**



Needless to say, all rGyalrongic subclassification proposals must be considered indeterminate until they can be buttressed by concrete evidence in terms of exclusively shared innovations in vocabulary, phonology, and grammar relative to a reconstructed rGyalrongic proto-language which, hopefully, will not be too long in the making given the recent upsurge of interest in rGyalrongic and other languages of the Qiangic branch.

<sup>39</sup> This study also corroborates Qu Aitang’s insightful observation (1990:44) concerning the transitional role of Lavrung and Sidaba rGyalrong within a unified rGyalrong(ic).

<sup>40</sup> This is in the spirit of Blust’s sensible methodological principle that in subgrouping a given language (group) the default treatment is to assign it directly to the highest node (i.e. as a primary branch of the language family to which it belongs) unless positive evidence (in terms of exclusively shared innovations) can be found of descent from a subordinate node (Blust 1999:31-3).

<sup>41</sup> A more recent study (Sun forthcoming) will focus specifically on the linguistic position of Horpa-Shangzhai as a legitimate rGyalrongic member.

## Abbreviations

<b>1</b>	first person	<b>2</b>	second person	<b>3</b>	third person
<b>COP</b>	copula	<b>D</b>	dual	<b>DET</b>	determiner
<b>ERG</b>	ergative	<b>EV</b>	evidential	<b>FUT</b>	future
<b>INV</b>	inverse	<b>IMP</b>	imperative	<b>IMPF</b>	imperfective
<b>JUS</b>	jussive	<b>LOC</b>	locative	<b>NEG</b>	negative
<b>NON-PT</b>	non-past	<b>P</b>	plural	<b>PF</b>	perfective
<b>PN</b>	personal name	<b>POSS</b>	possessive	<b>PROH</b>	prohibitive
<b>PROG</b>	progressive	<b>PT</b>	past	<b>Q</b>	interrogative
<b>REFL</b>	reflexive	<b>S</b>	singular	<b>S/D</b>	singular/dual
<b>SAP</b>	speech-act participant	<b>SFP</b>	sentence final particle		
<b>SPON</b>	spontaneous	<b>TR</b>	transitive		

## References

- Beyer, Stephan V. 1992. *The Classical Tibetan Language*. Albany: State University of New York Press.
- Blust, Robert. 1999. Subgrouping, circularity and extinction: Some issues in Austronesian comparative linguistics. *Selected Papers from the Eighth International Conference on Austronesian Linguistics*, ed. by Elizabeth Zeitoun and Paul Jen-Kuei Li, 31-94. Taipei, Taiwan: Institute of Linguistics, Preparatory Office, Academia Sinica.
- Chhange, Lalnunthangi. 1993. *Mizo Syntax*. Eugene, Oregon: University of Oregon dissertation.
- Coblin, W. South. 1976. Notes on Tibetan verbal morphology. *T'oung Pao* 62:45-70.
- DeLancey, Scott. 1981. The category of direction in Tibeto-Burman. *Linguistics of the Tibeto-Burman Area* 6.1:83-101.
- Duo'erji, Detai. 1993. Chuanxi zangqu geshizahua dongci de rencheng han shu fanchou [The categories of person and number in the Geshiza speech in the Tibetan area of western Sichuan]. *Xinan Minzu Xueyuan Xuebao* 3:123-34.
- \_\_\_\_\_. 1995. Chuanxibei zangqu geshizahua yinxi fenxi [An analysis of the sound system of the Geshiza speech in the Tibetan area of northwestern Sichuan]. *Yunnan Minzu Yuwen* 1:34-44.
- Edgar, J. H. 1933-4. The ancient *Yong* and possible survivals in Szechwan. *Journal of West China Research Society* 6:246-251.
- Hodgson, B. H. 1874. Sifán and Hórsók vocabularies. *Journal of the Asiatic Society of*

*Bengal* 22:121-51.

- Huang, Bufan. 1988. Chuanxi zangqu de yuyan guanxi [Linguistic relationships in the Tibetan area of western Sichuan]. *Zhongguo Zangxue [Tibetology in China]* 3:142-50.
- \_\_\_\_\_. 1990. Daofuyu yuyin he dongci bianhua [Phonology and verb conjugation in Daofu]. *Minzu Yuwen* 5:23-30.
- \_\_\_\_\_. 1991a. Daofuyu [The Daofu language]. *Zangmianyu shiwu zhong [Fifteen Tibeto-Burman Languages]* ed. by Dai Qingxia et al., 1-45. Beijing: Yanshan Press.
- \_\_\_\_\_. 1991b. Muyayu [The Muya language]. *Zangmianyu shiwu zhong [Fifteen Tibeto-Burman Languages]* ed. by Dai Qingxia et al., 98-131. Beijing: Yanshan Press.
- \_\_\_\_\_. 1991c. Qiangyuzhi [The Qiangic branch]. *Hanzangyu Gailun [Introduction to Sino-Tibetan Languages]*, ed. by Ma Xueliang, 208-369. Beijing: Beijing University Press.
- \_\_\_\_\_. 1996. Contemporary traces of the verb suffix \*-s of Proto-Tibeto-Burman. *Linguistics of the Tibeto-Burman Area* 19.1:29-42.
- \_\_\_\_\_. 1999. Guanyinqiao hua yushu yanjiu [The linguistic position of the Guanyinqiao speech]. Paper presented at the Workshop on Qiangic Languages and Linguistics, Taipei: Institute of Linguistics (Preparatory Office, Academia Sinica, Taiwan).
- Huo'er, Numu. 1998. Shishi zangwen huo'er (hor) yi ci [On the Tibetan word *hor*]. *Xizang Yanjiu [Tibetan Studies]* 1:69-74.
- Laufer, Berthold. 1916. The Si-hia language, a study in Indo-Chinese philology. *T'oung-pao* 17.2:1-126.
- Lu, Shaozun. 1983. *Pumiyu Jianzhi [A Concise Description of the Pumi Language]*. Beijing: Nationality Press.
- Lin, Xiangrong. 1993. *Jiarongyu yanjiu [A Grammar of rGyalrong]*. Chengdu: Sichuan Nationality Press.
- Ma, Changshou. 1944. Jiarong minzu shehui shi [Ethno-history of the rGyalrong]. *Minzuxue Yanjiu Jikan [Journal of Ethnological Research]* 4:61-78.
- Matisoff, James A. 1970. Glottal dissimilation and the Lahu high-rising tone: A tonogenetic case-study. *Journal of the American Oriental Society* 90.1:13-44.
- Migot, André. 1957. Recherches sur les dialectes tibétains du Si-K'ang (province de Khams). *BEFEO* 48.2:417-562.
- Nagano, Yasuhiko. 1984. *A Historical Study of the rGyalrong Verb System*. Tokyo: Seishido.
- Qu, Aitang. 1983. Jiarongyu dongci de rencheng fanchou [The category of person in the rGyalrong verb]. *Minzu Yuwen* 4:35-48; 60.

- \_\_\_\_\_. 1984. Jiarongyu gaikuang [Outline of the rGyalrong language]. *Minzu Yuwen* 2:67-80.
- \_\_\_\_\_. 1990. Jiarongyu de fangyan: Fangyan huafen he yuyan shibie [rGyalrong dialects: Issues in dialect subclassification and language recognition]. *Minzu Yuwen* 1990.4:1-8, 5:37-44.
- Rosthorn, A von. 1897. Vocabularfragmente Ost-Tibetischer Dialecte. *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 51:524-31.
- Sun, Hongkai. 1981. *Qiangyu Jianzhi [A Concise Description of the Qiang Language]*. Beijing: Nationality Press.
- \_\_\_\_\_. 1983. Liujiang liuyu de minzu yuyan ji qi xishu fenlei [Minority languages of the Six River Region and their genetic classification]. *Minzu Xuebao* 3:99-274.
- \_\_\_\_\_. 1988. Shilun zhongguo jingnei zangmianyu de puxi fenlei [A classification of Tibeto-Burman languages in China]. *Languages and History in East Asia, Festschrift for Tatsuo Nishida on the Occasion of his 60th Birthday*, ed. by Akihiri Sato, 61-73. Kyoto: Shokado.
- Sun, Jackson T.-S. 1992. Review of Zangmianyu yuyin han cohui [Tibeto-Burman phonology and vocabularies]. Beijing: Academy of Social Sciences Press. *Linguistics of the Tibeto-Burman Area* 15.2:73-113.
- \_\_\_\_\_. 1998. Nominal morphology in Caodeng rGyalrong. *Bulletin of the Institute of History and Philology, Academia Sinica* 69.1:103-49.
- \_\_\_\_\_. (to appear). Tonality in Caodeng rGyalrong. In *Languages of the Greater Himalayas*, ed. by George van Driem. Berlin: Mouton de Gruyter.
- \_\_\_\_\_. (forthcoming in 2000). Stem alternations in Puxi verb inflection: Toward validating the rGyalrongic subgroup in Qiangic. *Language and Linguistics* 1.2 (Institute of Linguistics, Preparatory Office, Academia Sinica, Taiwan).
- \_\_\_\_\_. (in preparation). The category of orientation in Caodeng rGyalrong.
- Wang, Stephen S. 1970-1. Consonantal clusters of Tibetan loan-words in Stau. *Monumenta Serica* 29:631-58.

[Received 1 December 1998; accepted 15 October 1999]

Institute of Linguistics, Preparatory Office  
Academia Sinica  
130, Sec. 2, Yen-chiu-yuan Road  
Nankang, Taipei 11529, Taiwan  
hstssun@ccvax.sinica.edu.tw