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EXTRAORDINARY SOUND DEVELOPMENT OF *S AND *Z IN MBALHAG TIBETAN (SHANGRI-LA, YUNNAN)*

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Abstract: This paper analyses two sound correspondences between Written Tibetan and mBalhag Tibetan spoken in Bala Village, Shangri-La (Xianggelila) County, Diqing Prefecture, Yunnan. Written Tibetan s and z correspond with mBalhag Tibetan /ɬ/ and /ɮ/, which include various conditional allophones, e.g. /ɬ/ as [l̪], [l̪x], [t] (dental edge plosive) etc. The two phonemes /ɬ, ɮ/ contrast with /s/, /sh/, /t/, /ts/, /l̥/ and their voiced counterparts. It is also evident that *s* has not become aspirated without a preinitial. This type of sound development is definitely idiosyncratic in Tibetan diachronic linguistics.

Keywords: Khams Tibetan, dental lateral fricative, sound change, phonetics

1. INTRODUCTION

This short paper discusses two sound correspondences between Written Tibetan (henceforth WrT) and mBalhag Tibetan: WrT *s* and *z*,[1] which represent hypothetical sound values *s and *z respectively, corresponding with two main initials in mBalhag Tibetan. This paper also presents a phonological analysis of the relative sounds in their synchronic state.

mBalhag Tibetan is a Khams Tibetan dialect spoken in Bala 巴拉 [’Ba’-lhag][2] Hamlet of Nixi 尼西 [Nyi-shar] Village, Xianggelila 香格里拉 [Sems kyi Nyi-zla] (Shangri-La) County, Diqing 迪庆 [bDe-chen] Tibetan Autonomous Prefecture, Yunnan 云南 Province, China. Bala Hamlet is a small isolated settlement located in a deep valley named Shangri-La Gorge, however, the recent development of Balagezong[3] 巴拉格宗 [’Ba’-lhag sKal-’dzom] for tourism has made this hamlet well-known. I came to know of the Bala Hamlet thanks to the development of tourism.[4] According to local tradition, the ancestors of Tibetans in Bala Hamlet came from today’s Batang 巴塘 [’Ba’-thang] County about 1000

* This work was accomplished with the cooperation and help of a friend of mine, Tshe-ring Lha-mo, a native speaker of mBalhag Tibetan as well as sKedshod Tibetan, who was working in Makye Ame Shangri-La Tibetan Palace in Kunming at the time. I also thank Shiro Yabu and Atsuhiko Kato for comments that helped improve this paper, as well as Jesse Gates for polishing my English and contributing insightful comments.

[1] Except for the capitalisation rule for proper names, the transliteration of WrT follows the Wylie system.

[2] Tibetan names are added in square brackets after Chinese names.

[3] The official homepage of Balagezong is: http://www.balagezong.com.

[4] My first interest in mBalhag Tibetan began with a tourist leaflet on Balagezong found in Balagezong Tourist Centre in Shangri-La Old Town in 2009.

years ago. They have lived in Bala Hamlet in isolation from people in other neighbouring villages. According to Wu (2009:332), the number of inhabitants in Bala Village is 112. Based on the information from my Tibetan friends of Bala (2012), however, Tibetans from Bala live separately in Bala Hamlet (14 families, ca. 80 persons)[5] and Jiantang 建塘 [rGyal-thang] Town (19 families, ca. 100 persons) at the moment. Therefore, the approximate number of mBalhag Tibetan speakers is probably closer to 200. In Balagezong, research in geology, ethnology and anthropology has been conducted, but nothing has been done in the field of linguistics. Therefore, no linguistic information about mBalhag Tibetan can be obtained from any previous sources, even Suzuki 2009a, which dealt with a general classification of Tibetan dialects spoken in Diqing Prefecture. Until now, I have presented three works on mBalhag: Suzuki 2011, 2012b, 2012c.

Based on a brief analysis of the dialectal characteristics, the Tibetan dialect spoken in Bala Hamlet (called "mBalhag dialect" hereinafter) belongs to Khams Tibetan and is a member of the sDerong-nJol group, which is mainly distributed in Deqin [bDe-chen; 'Jol] and Deirong [sDe-rong] counties (Suzuki 2012a, 2012b, 2012c). The mBalhag dialect has various interesting phonetic and phonological features, among which the sounds corresponding to WrT *s* and *z* as main initials are the most remarkable. I will first describe phonetic aspects concerning the mBalhag reflexes of WrT *s* and *z* and then present a phonological analysis of these mBalhag reflexes.[6]

2. PHONETIC DESCRIPTION

This section presents examples and a phonetic description of WrT *s* and *z* sound correspondences in the mBalhag dialect.[7]

There are three main sounds corresponding to WrT *s*:

- voiceless unaspirated dental (or dental edge) lateral fricative [l̪̊];[8]

[5] All of these 14 families have recently migrated from Bala Hamlet to the riverside of the valley of Shangri-La Gorge, where they have settled in two hamlets named Shuizhuang 水庄 [sPre'u-'jug] and Nalang 那浪 [gNam-blang]; for this reason, the original hamlet of Bala has not been inhabited. But in this paper, based on the attitudes and the identity of the Tibetans from Bala, I continue to use the name Bala. Because the migration is a recent event, the linguistic difference between the two new hamlets is not significant.

[6] The field research was conducted in Jiantang Town. The main collaborators are Tshe-ring Lha-mtsho (in her fifties) and her daughter sKal-bzang Chos-sgron (in her twenties). Both of them are from Bala Village and live in Jiantang Town.

[7] The phonetic description includes the IPA symbols and necessary non-IPA symbols defined in Zhu (2010). The tone is described as a word-tone system, which is transcribed with the following signs:

¯ : high level ´ : rising ˆ : rising-falling/low level ` : falling

[8] Many Chinese scholars claim that /ɬ/ exists in various Tibetan dialects, which generally corresponds to WrT *lh* and *sl*. This description does not reflect a general phonetic realisation as a voiceless denti-alveolar lateral [l̪̊]. The symbol /ɬ/ can be regarded as a convenient symbol to represent this sound without the use of diacritics. Cf. Zhang (2009:278-282).

- voiceless unaspirated dental (or dental edge) lateral fricative with a velarisation or a voiceless unaspirated dental lateral-velar fricative [ɬ̪ˠ, ɬ̪͡x] (basically interchangeable); and
- voiceless non-aspirated dental edge plosive [ᴛ].[9]

Each sound is almost always articulated with the apical position of the tongue, which is visually observed when the sound is followed by a non-rounded vowel. I was able to verify this articulatory manner through elicitation. One allophone is sometimes pronounced as a voiceless unaspirated interdental fricative [θ], especially in the word-medial position. All the fricative sounds mentioned here have relatively weak friction and cannot be produced with (post-)aspiration in regular speech, but in emphatic pronunciation as in elicitation, aspiration can be heard. [ɬ̪, ɬ̪ˠ] can have voiceless preaspiration.

The following are examples of the phonetic[10] sound correspondences in the mBalhag dialect to WrT *s*:

mBalhag form	WrT	meaning
[`ɬa]	*sa*	'land, earth'
[¯ɬɛ̃ː]	*sa bon*	'seed'
[`ɬə pʰɵʔ]	*sang phod*	'the year after next'
[´da θɔ̃]	*kha sang*[11]	'yesterday'
[`ɬˠʉ̟ː]	*sil*	'fruit'

[9] This "dental edge plosive" sound is typologically rare, but a similar sound is attested as an independent phoneme in Burmese and some Karenic languages like Pwo-Karen and Geba; however, until quite recently, neither a new phonetic symbol has been proposed, nor has a detailed phonetic description been presented. Various scholars have used a number of different symbols for the voiceless dental edge apical (or sometimes laminal) plosive such as [θ] (Bernot 2011:1051), [t̪] (Yabu 1992), [t̪] (Kato 1998, 2008, 2009), [tθ] (Wang 2008), etc. Even Zhu (2010) does not include any phonetic definition or a specific phonetic symbol for the voiceless dental edge apical (or laminal) plosive. Just recently, Cooper et al. (2012) show with palatography that this obstruent in Yangon Burmese is an **apical or laminal dental plosive**; in addition, they propose a specific sound symbol for it. In this paper, I cannot avoid using an *ad hoc* symbol [ᴛ], as used in Suzuki 2011, 2012b, 2012c, with a clear definition of the articulatory phonetics—**voiceless dental edge apical plosive**—because no other authorised font can substitute for it. Of course, an experimental analysis on mBalhag is needed for the voiceless dental edge apical plosive if one wants to propose it as a new symbol for language description, but this topic is beyond the scope of the present paper. As for the phonetic quality, I believe that the tension of the tongue when articulating [ᴛ] in the mBalhag dialect is basically weaker than that in Burmese (based on my personal research on the Myitkyina and Mandalay dialects). I infer the reason from the difference of the contact area of the articulatory organs, as the sound [ᴛ] in the mBalhag dialect is always produced at the apical dental edge position and sometimes alternates with a voiceless dental edge lateral fricative [ɬ̪].

[10] For a facile presentation, the diacritic [̪] representing a dental articulation of [ɬ] is uniformly omitted in the following examples. This treatment, unfortunately, is due to poor font design. As mentioned in Footnote 9, I believe that the phonetic symbol [ᴛ] should be rigorously used, and the use of phonetic symbols should exclude ambiguity. As for a description of vowels, I use simplified symbols without any diacritics which can specify the detailed position of the tongue.

[11] The orthodox spelling in WrT is *kha rtsang*.

[¯sᶿɯ, ¯ɬɯ]	*su*	‘who’
[ˆsᶿɔ̃ tɕɯ]	*sum cu*	‘thirty’
[`ɕʰĩ gi, `sʰẽ ge]	*seng ge*	‘lion’
[´ɬʸjõː]	*sen mo*	‘nail’
[`ɬʸjɑ̃][12]	*sems*	‘consciousness, heart’
[`ɬʸɵː tɕɑʔ]	*ser sna*	‘stingy’
[¯‿ɬxɵ ‿ɬxɵː]	*ser ser*	‘yellow’
[ˆɬə tɕɑʔ]	*ser ba*	‘hail’
[`su, `θu]	*so*	‘tooth’
[´pa θu]	*ba so*	‘ivory’
[¯sõː, ¯ɬõː]	*so mang*	‘comb’
[¯ɬʸi biː]	*sog le*	‘saw’
[`sõ, `ɬõ]	*song*	‘go away’
[¯ɬʸeː ja]	*sol ba*	‘coal’
[`ɬa kõ]	*sra bo*	‘hard’
[`sᶿɔ̃]	*srang*	‘*liang* (unit of weight)’
[`ɬɛː mə]	*sran ma*	‘pea’
[`ɬɑ̃]	*sram*	‘otter’
[`ɬʸjɔwʔ]	*srab*	‘horse’s bit’
[ˆtʰuʔ ɬɑː]	*thog srab*	‘(hair) thin’
[´ɬə ɬɔʔ]	*srab srab*	‘thin’
[`ɬʸi wũ]	*sring mo*	‘younger sister’
[`ɬʸɵ̃ ɳbiː]	*srin bal*	‘cotton’
[`suː pʰa]	*srubs ka*	‘crack’
[`ɬʸiː, `‿ɬxiː]	*sre*	‘dilute’
[`suʔ, `θowʔ]	*srog*	‘life’
[`ʰɬɔ̃]	*bsangs*	‘incense’
[`ʰɬʸiʔ]	*bsad*	‘kill’
[`ʰɬɯ]	*bsu*	‘welcome’
[`ʰɬɔ̃]	*bsrung*	‘protect’
[`ʰ‿ɬxiː wa]	*gsal ba*	‘bright’
[`ʰɬɛː wu]	*gsar pa*	‘new’
[`ʰɬõ]	*gsum*	‘three’
[`ʰɬʸɵː]	*gser*	‘gold’
[`ʰɬu]	*gso*	‘raise’
[`ʰɬuː]	*gsog*	‘accumulate’
[`pʰo ɬʸɵː]	*phug gsor*	‘auger’

The forms corresponding to WrT *z* have a voiced counterpart [ɮ], dental (or dental edge) lateral apical fricative, in addition to the three pronunciations explained above. The friction of [ɮ] is often weakened to the extent that one can hear a similar sound to a dental voiced lateral liquid [l]. Neither a voiced counterpart of velarised type [ɮˠ] nor that of the dental edge plosive has been

[12] One might wonder about the origin of the glide [j] if this word originates from WrT *sems*. But we can note that the word ‘heart (mind)’ is pronounced as /¯ɕɑ̃/ in the rGyalthang dialect.

attested. The voicing is determined according to the existence of the WrT preinitial *z*. [ʒ] can take voiced preaspiration.

Below are examples which correspond to WrT *z*:

mBalhag form	WrT	meaning
[ˊɬa]	*za*	'eat'
[ˊzɔ̃ ɬa]	*jug za*	'widow'
[ˊt͡ɬxẽ]	*zan*	'food'
[ˊᴛᶿɔ̃]	*zangs*	'copper'
[ˊᴛuː pə]	*zil pa*	'dew'
[ˊɬʸe ja]	*ze*	'horse's mane'
[ˊɬʸe tɕuʔ]	*ze kyog*	'cockscomb'
[ˊɳə ʒa]	*nyi gza'*	'day (as in Sunday, Monday, etc.)'
[ˋʱʒẽ]	*gzan*	'monk's cloth'
[ˊʒə]	*gzi*	'agate'
[ˋʱʒiʔ]	*gzig*	'leopard'
[ˊʰkeː ʒɔ̃]	*skal bzang*	'sKal-bzang (personal name)'[13]
[ˊt͡ɬxẽ ʒu]	*zan bzo*	'cook'
[ˆʒuː]	*bzo bo*	'carpenter'
[ˋʱʒõ]	*gzong*	'chisel'

Based on the phonetic presentation above, we can see that these voiceless sounds are allophonic variants determined by the quality of the following vowel, which can be stated as:

[ɬ]	/ _ a, ɔ, o, ɛ, ə, ɯ
[ɬʸ, t͡ɬx][14]	/ _ i, e, ʉ, ɵ; j
[ᴛ]	/ _ u, o, ɔ, ɯ

The following observations can be made, based on the above distributions. [ᴛ] can be the typical phonetic output of /ɬ/ when preceding [o] or [ɯ], which has the variant [ɬ]. An allophonic realisation preceding [ɔ] is often with preaspiration [ʰɬ]. [ᴛ] never co-occurs with preaspiration in my data; only the combination [ʰɬɔ] is possible when preaspiration exists. Fundamentally, this observation allows us to establish a single phoneme /ɬ/ for these various sounds. The voiced counterpart can be described as /ʒ/ without a complicated process of analysis, because it basically has no variant realisations in addition to [ʒ].

Almost all examples with WrT *s* and *z* as a main initial correspond to /ɬ/ or /ʒ/. One exception, 'lion' [ˋɕʰĩ gi] or [ˋsʰẽ ge], which preserves an alveolar fricative [sʰ] or has a prepalatal fricative [ɕʰ], might not be a native form of the mBalhag dialect but a loanword from other dialects such as rGyalthang. Additionally, this

[13] This personal name is a part of the name of my collaborator. It is noteworthy that her name in Chinese characters is written as 格兰 *ge lan*. Besides this example, I have never seen the sound *lan* used as a transliteration for WrT *bzang*.

[14] It is noteworthy that the initial consonant of the examples with [ɬʸ, t͡ɬx] or with a vowel [ɯ] in rapid speech can be realised as a non-aspirated voiceless velar fricative [x], and that this tendency is more frequently attested in the younger generation.

type of sound correspondence can be attested in some loanwords from Chinese, of which the initial is /s/: [ˋɪũ dzəj] ‘grandson’ < Chinese 孙子 *sunzi*. As for the voicing rule, the voiced sound /ɮ/ corresponds to WrT *z* with a preinitial, which is the parallel process of voicing to the case of WrT *zh*. For example, /ˊʂĩ/ ‘field’ WrT *zhing*; /ˆʱz̥ə/ ‘four’ WrT *bzhi*.

In the following section, the lateral fricative phoneme will confirmed through a presentation of relevant phonological contrasts.

3. PHONOLOGICAL CONTRAST

In the previous section, I analysed the various sounds corresponding to WrT *s* and *z* as two phonemes /ɬ/ and /ɮ/. This section provides the validity of this analysis through a brief presentation of the two phonemes /ɬ, ɮ/ in contrast with /s/ (voiceless alveolar fricative), /sʰ/ (voiceless aspirated alveolar fricative), /t/ (voiceless alveolar plosive), /ts/ (voiceless dento-alveolar affricate), /l̥/ (voiceless alveolar lateral), /z/ (voiced alveolar fricative), /d/ (voiced alveolar plosive), /dz/ (voiced denti-alveolar affricate) and /l/ (voiced alveolar lateral).

The following are examples of phonological contrast. Because minimal pairs rarely appear, I mainly provide near minimal pairs, noting the similarity of the rhyme. The WrT origin is presented below in *italics*.

/ɬ/, which contrasts with alveolar fricatives:

/ɬ/ - /s/	/ˋɬa/	[ˋɬa]	‘land’	/ˊsa/	‘cock’	*bya*
	/ˋʰɬʸɵː/	[ˋʰɬʸɵː]	‘gold’	/ˊsʉ̵ː/	‘bird’	*bye’u*
/ɬ/ - /sʰ/	/ˊɬa/	[ˊɬa]	‘eat’	/ˊsʰaː/	‘Tibetan robe’	*phrug pa*
	/ˋɬiː/	[ˋɬʸiː]	‘dilute’	/ˋsʰiː/	‘open’	*phye*
	/ˊɬõː/	[ˊɪõː]	‘nail’	/ˋsʰoʔ/	‘direction’	*phyogs*

/ɬ/, which contrasts with alveolar plosives and affricates:

/ɬ/ - /t/	/ˋɬa/	[ˋɬa]	‘land’	/ˋʰta/	‘horse’	*rta*
	/ˉɬi biː/	[ˉɬʸi biː]	‘saw’	/ˉʰti ja/	‘navel’	*lte ba*
	/ˊɬɔ̃/	[ˊɪᶿɔ̃]	‘copper’	/ˊtɔ̃ mə/	‘first’	*dang bo*
/ɬ/ - /ts/	/ˋɬə wõ/	[ˋɬə wõ]	‘younger sister’	/ˋʰtsə wa/	‘grass’	*rtswa*
	/ˊɬɔ̃/	[ˊɪᶿɔ̃]	‘copper’	/ˊtsɔ̃/	‘wall’	*gyang*

/ɬ/, which contrasts with a voiceless lateral:

/ɬ/ - /l̥/	/ˋʰɬɔ̃/	[ˋʰɬɔ̃]	‘incense’	/ˋʰl̥ɔ̃/	‘wind’	*rlung*

/ɮ/, which contrasts with an alveolar fricative, plosive, affricate and lateral:

/ɮ/ - /z/	/ˆɮuː/	‘carpenter’	/ˊʱzuː/	‘herd’	*rdzi bo*
/ɮ/ - /d/	/ˆɮuː/	‘carpenter’	/ˆʱdu/	‘stone’	*rdo*
/ɮ/ - /dz/	/ˆɮuː/	‘carpenter’	/ˊʱdzuː/	‘finish’	*sgrub*
/ɮ/ - /l/	/ˊɮə/	‘agate’	/ˆʱlɯ/	‘peel off’	*?*

A comparison of the examples above demonstrates that the phonemes /ɬ/ and /ʓ/ definitely have a contrastive phonological status originating from WrT *s* and *z*.[15] This phenomenon means the archaic alveolar (or denti-alveolar) fricative sounds changed into dental or denti-alveolar lateral fricatives including a dental edge plosive as a conditional variant. In addition, we can note that the WrT initial *s* without a preinitial did not develop into an aspirated sound (i.e. /ɬʰ/), although aspiration is contrastive in other fricatives such as /sʰ, ʂʰ, ɕʰ/.[16] This type of sound development is idiosyncratic to the mBalhag dialect and similar sound changes are not attested in other Tibetan language varieties (see Jiang 2002; Tournadre 2005; Zhang 2009:259-357; etc.).

4. NOTES ON THE TYPOLOGY OF *S > /ɬ/ AND *Z > /ʓ/

In order to place this study in a wider typological context, this section lists some language varieties spoken in East and Southeast Asia which have similar sound changes to those discussed in this paper.[17] The reader is encouraged to consult the references found in this section, since no discussion will be given.

*s > /ɬ/

- Xinyi 信宜 dialect of Yue 粵 (Cantonese), in Zhu (2010:163);
- Several dialects of Min 闽, such as Dikou 迪口 and Zhenqian 镇前 discussed in Akitani (2008);
- Several dialects of Sinitic languages, such as Pinghua 平话, Yue 粵 (Cantonese), Kejia 客家 (Hakka) and Min 闽, as well as Zhuang dialects spoken in Guangxi 广西 Region, in Guanxi Zhuangzu Zizhiqu Shaoshu Minzu Yuyan Wenzi Gongzuo Weiyuanhui ed. (2008) and Zheng (2009); also see the distribution data compiled by Endo (2012) as a linguistic map;
- Longzhou 龙州 dialect of Zhuang, in Li (1977).

*s > /θ/

- Rongxian 容县 dialect of Yue 粵 (Cantonese), in Zhu (2010:185);

[15] There are some words in the mBalhag dialect where WrT *dz* corresponds to /ʓ/, e.g. /ˋⁿʓi wɑ̃/ ‘eyelash’ *rdzi ma*. But because the word ‘eyelash’ has the /z/ initial in several dialects spoken in Diqing Prefecture (see Suzuki & rTa-mgrin Chos-mtsho 2012), the form of the mBalhag dialect might be a loanword or may be the result of the sound change *dz > /z/, which is a common areal sound change.

[16] The mBalhag dialect has seven articulatory positions for fricatives, of which alveolar, retroflex, prepalatal and velar fricatives have an aspirated voiceless type: /sʰ, ʂʰ, ɕʰ, xʰ/. The other three fricatives, i.e. dental lateral, palatal and glottal, lack the aspirated counterpart. /sʰ, ʂʰ, ɕʰ/ basically correspond to WrT *phr*, *sh*, *phy* respectively. As for the aspirated feature of a lateral fricative, there are a few Tibeto-Burman languages such as Nyagrong-Minyag and sTau (rGyalrongic languages), in which an aspirated voiceless lateral fricative /ɬʰ/ forms a contrast with an unaspirated counterpart /ɬ/. See Huang (1991) and Suzuki (2009b).

[17] Other than the types shown below, there is another type *s > /tθ/, an interdental affricate, attested in Yanqi Zhuang (Wei et al. 2011).

- Several dialects of Yue 粵 (Cantonese) and Kejia 客家 (Hakka), in Zheng (2009); distribution data compiled by Endo (2012) as a linguistic map.[18]

*s > /ʈ/ (described with a different phonetic symbol)

- Yangon-Mandalay dialect of Burmese, in Yabu (1992);
- Yangon dialect of Burmese, in Cooper et al. (2012);
- Geba, in Kato (2008);
- Htoklibang, Hpa-an and Kyonbyaw dialects of Pwo Karen, in Kato (2009).

Note that there are no reports on the existence of the sound change *z > /ʒ/, which may be idiosyncratic to the mBalhag dialect.

5. CONCLUSION

This paper has presented the sound correspondences and historical developments of WrT *s* and *z* as initial consonants in the mBalhag dialect. It is clear that /ɬ/ and /ʒ/ correspond with WrT *s* and *z* respectively in the mBalhag dialect. In addition, in this paper /ɬ/ and /ʒ/ have been demonstrated to be distinct phonemes in the mBalhag dialect separate from alveolar fricatives, plosives, affricates and lateral liquids.

To place this study in a wider context, the sound change from a fricative [s] into a plosive [ʈ] that we observe in the mBalhag dialect has only been attested in Burmese. The sound [ʈ] itself exists only in Burmese and some Karenic languages. I do not attempt to interpret this sound change pattern in the typological framework of the world's languages here, but it can be said that the sound change pattern attested in the mBalhag dialect as described in this paper is unique among Tibetan language varieties.

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[18] As a result of his geolinguistic analysis on Zhuang languages spoken in Guangxi, Endo (2012) claims that the order of sound change among /s/, /ɬ/ and /θ/ is /s/ > /ɬ/ > /θ/.

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