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THE MORAIC STRUCTURE OF CLASSICAL TIBETAN*

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0. INTRODUCTION

Although Tibeto-Burman has been reconstructed with a phonemic quantity distinction between vowels, e.g., TB **gar* 'leave, abandon' and **ga:r* 'dance, leap, stride' (Benedict 1972 #15 and #11), which probably indicates moraic light and heavy syllables, respectively, the Tibetan writing system is, at best, ambiguous concerning phonological quantity distinctions, even though the evidence seems to suggest morae in modern Lhasa Tibetan (Chang and Shefts 1965, Goldstein and Nornang 1978, Hari 1979, and Hogan 1994).

On the negative side, transcription of Indic long vowels and Middle Chinese complex nuclei with both an on-line and a subscript (འདོད་གས་ *'dogs*) ཀ *a-chung,* as in ཤཱཀ Written Tibetan *Sh'akya* <shaakya> from Sanskrit *śākya* and ལེ་ *le'i* <le'i> and ལ་ *l'e'i* <lee'i> for Middle Chinese 吏 (K975g) *liei:* indicates that, even though these orthographic means of indicating a phonological quantity distinction between vowels in monosyllables (and monomorphemes in the case of Chinese) were known to early Tibetan scribes, they were not employed for Tibetan. This seems to indicate that a phonological quantity distinction between vowels in Old Tibetan and Classical Tibetan was not perceived.

On the positive side, loan phonology, transcription of foreign words, and Classical Tibetan orthographic practices do seem to indicate a phonological quantity distinction between vowels. Monguor borrowings from Tibetan dialects indicate long vowels arising from coda loss in Tibetan: Mgr *arāwa* ~ *rāwa* 'hair' Written Tibetan རལ་པ *ral-pa* 'long hair', Modern Lhasa *rɛɛ-pa.* Transcription of Middle Chinese triphthongs and diphthongs in closed

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* This is a continuation, to an extent, of the topic of compensatory lengthening in Modern Lhasa Tibetan in Hogan 1994. This article too depends to a great extent on the work of Sprigg (1987) and Hock (1986).

The following abbreviations are used:

CT	Classical Tibetan	L	Modern Lhasa Tibetan
LT	Literary Tibetan	M	Mongolian
MC	Middle Chinese	Mgr	Monguor
MM	Modern Mongolian	OT	Old Tibetan
WM	Written Mongolian = Classical Mongolian	WT	Written Tibetan

syllables seems to indicate a maximum monomorphemic syllable in Old Tibetan orthography: 吏 (K975g) Middle Chinese *liei:* in Li and Coblin 1987:IS.28, 33 is transcribed as both ལེའི་ *le'i* and ལེ̣̣ཡ̣ *l'e'i*, the former with a diphthong, instead of the triphthong in the latter, and 經 (K831c) MC *kieng* in Coblin 1992 (II.413) is transcribed as ཀྱེང་ *kyeng* and ཀྱང་ *kyang*, with the Old Tibetan consonantal glide in the onset replacing the Middle Chinese high vowel of the diphthong in the nucleus, i.e., there were no super-heavy syllables (*VVC) in monomorphemic syllables. Within Tibetan, Classical Tibetan double vowels in རྡེའུ *rde' u* 'little stone > pebble' (< རྡོ *rdo* 'stone' + ཨུ 'u (< བུ *bu*) diminutive) are written without an internal syllable boundary, ཚེད་ *tshed*, as if they were a sequence of two vowels, a heavy syllable with two vowels, i.e. two morae. Furthermore, Old Tibetan forms with the terminative suffix are often ambiguous, e.g., གུ་དུ ~ གུ་ *gu-du* ~ *gudu* 'separately' (Li and Coblin 1987: IX.46 and II.N.49) (= གུད་དུ *gud-du*), from the root གུད *gud* 'separation'. This suggests an alternation between a geminate consonant and a first syllable with unexpected short vowel.

Herein arguments will be presented that Classical Tibetan does have structures and processes that indicate moraic structure.

1. PHONOLOGY OF TIBETAN

1.1 Phonology of Old Tibetan

Old Tibetan (OT) is defined by Li and Coblin (1987:3) as the language of those texts written in the Tibetan language between the development of the script and the spelling reforms during the reign of King ཁྲི་གཙུག་ལྡེ་བཙན་ Khri-gtsug-lde-brtsan, who ruled from 815 to 838 AD. This material includes inscriptions and texts of historical material, medical works, translations from the Buddhist canon, etc.

1.1.1 Orthography

Although the Tibetan script is traditionally believed to have been devised by ཐོན་མི་ཨ་ནུ་རི་བུ་ Thon-mi Anui-bu based on a Kashmiri prototype, Beyer (1992:41) states that an Indian script found on baked bricks from Gopālpur dated to ca. 500 AD is virtually identical to the Tibetan script.[1] Written Tibetan texts (Old Tibetan), some of which have been dated to the seventh century AD, have been discovered in Tunhuang (Dunhuang) 敦煌 in far western China.[2]

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1 Concerning the Gopālpur paleographic model for the Tibetan script, Miller (1976:18) [= Miller 1963:502] fn. 108 refers to Inaba 1954:2.

2 Ref. Coblin 1992 for sources.

There are two general forms of Tibetan script: དཀྱུ་ཅན་ *dbu-can* 'with a head', the horizontal line at the top of the graphs, and དཀྱུ་མེད་ *dbu-med* 'headless', without the horizontal line.[3] Because the དཀྱུ་ཅན་ *dbu-can* form is generally more common in xylographic printing of texts, this form will be the one discussed herein.

All consonant graphemes, other than superscripts and subscripts, indicate an inherent <a> unless another vowel grapheme is explicit: དཀ་ is <daga> interpreted as *dag* due to the ཚེག་ *tshed*, vs. དགའ་ <daga'a> *dga'* with the འ *a-chung* represented by the apostrophe plus vowel. The explicit vowel indicating the syllable nucleus is always a superscript or subscript to the root consonant: བསྐུལ་བ་ <baskula-ba> *bskul-ba* 'to extend (perfective)' (Li and Coblin 1987:XI.9) and བསྐྲུངས་པ་ <baskrungasa> *bskrungs-pa* 'to mix (perfective)' (Li and Coblin 1987:VI.16), and འཁྲུགས་པ་ <'akhrugasa-pa> *'khrugs-pa* 'disorderly' (Li and Coblin 1987:IIS.37). There is obviously a great deal of language-specific knowledge of Tibetan phonotactics and syllable structure inherent in the orthography and orthographic practices.

1.1.2 Segmental phonemes

According to Beyer (1992:55ff), Old Tibetan (OT) had the following phonemes: *p ph b t th d k kh g ʔ, ts tsh dz tš tšh dž, s z š ž h, m n ɲ ŋ, l r, y w, i e a u o* .[4] The symbol *r* is classified as a retroflex in his consonant chart (Table 5). The *a-chen* ཨ is transcribed as the glottal stop plus vowel. To this is added the barred *ɨ* as used in Li and Coblin 1987, which represents ̊, the གི་ གུ་ *"gi-gu* inverse" of Miller, who describes it as "a high open unrounded vowel [I]" (Miller 1976:xcviii). A length distinction between vowels is not mentioned in either work; although Beyer (1992:71) lists complex nuclei *oi*, *ai* and *eu* in open syllables and gives examples of vowel coalescence of two and three vowels in closed syllables resulting from the suffixes འང་ *'ang* 'also' and འམ *'am* 'or': པ་འང་ *-pa'ang* (noun and verb suffix), པོ་འང་ *-po'ang* (noun suffix), and རྟ་འམ་དྲེ་འམ་བེ་འུ་འམ་འབྲི་འམ *rta'am dre'am be'u'am 'bri'am* 'horse or donkey or calf or yak-cow or ...', all being complex words of two or three morphemes without internal ཚེག་ *tshed.*

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3 Ref. Róna-Tas 1985:183ff for a discussion of the Tibetan script, especially pp. 279ff for examples of older forms of the script.

4 Beyer (1992:69f) also discusses the evolution of Proto-Tibetan diphthongs **ua* > OT *o* and **ie* > OT *e/ya.*

1.1.3 Syllable structure

In Old Tibetan, the possible positions for the དབྱངས་ཡིག *dbyangs-yid* vowels (V) and དམལ་བྱེད་ *dsal-byed* consonants (C) are:

$$\begin{array}{c} V \\ C_2 \\ C_1\ C_3\ C_5\ C_6 \\ C_4 \\ (V) \end{array}$$

Traditionally, the central consonant C_3 is known as the radical; the superscript C_2, the pre-radical; the subscript C_4, the post-radical; and the initial consonant C_1, the pre-pre-radical. The final is C_5 and the post-final, C_6. According to Beyer 1992:42ff, the pre-radicals are *r, l,* and *s,* which are historically derivational in nature, and the pre-pre-radicals, *g, d, b, m,* and *'* (i.e. *a-chung*); of these latter, all but *m-* occur as verb inflections in some functions, i.e., they are possibly transparent prefixes throughout OT and, at least for some dialects, Classical and Modern Tibetan. The post-radicals are the glides and the liquids: *y, w, l,* and *r.* The finals are *b, d, g, s, m, n, ŋ, r, l,* and *' a-chung.* The stops written as voiced, <b>, <d>, and <g>, do not contrast with voiceless stops <p>, <t>, <k> as syllable finals.[5] The post-finals are only two: *s* and *d,* again verb inflections in some functions, the latter, according to Beyer 1992:49f fn. 12, being the ད་དྲག་ *da-drag*, an allophone of the former.[6] Thus, the verb སྐྱེ་བ་ *skye-ba* 'to be born' has the perfective སྐྱེས་པ་ *skyes-pa* (Li and Coblin 1987:V.13), སྒྲུང་བ་ *sgrung-pa* 'to mix', the perfective form བསྐྲུངས་པ་ *bskrungs-pa* (Li and Coblin 1987:VI.16), and འགྱུར་བ་ *'gyur-ba* 'to change', the perfectives གྱུར་ *gyur* and གྱུར་ད་ *gyurd* (Li and Coblin 1987:IE.28 and IE.50, respectively). Thus, the monomorphemic syllable was tautosyllabically <V> as in སྐྱེ་བ་ *skye-ba* or <VC> as in སྒྲུང་པ་ *sgrung-pa;* all codas of two consonants were at least bimorphemic as in བསྐྲུངས་པ་ *bskrungs-pa.*

It has been recognized, at least since Laufer 1914:84ff, that OT codas and preradicals were in the process of being lost as early as the ninth century. Middle Chinese transcription of OT names and titles seems to indicate that some codas and preradicals were already lost, at least in the dialect on which

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5 Tibeto-Burman is not reconstructed with final voiced stops. Furthermore, LaPolla (1994) argues for the Old Chinese reconstructions of Baxter 1992 and reconstructed Sino-Tibetan without final voiced stops. In radical underspecification, as discussed in Kiparsky 1995:646, the stops *p, t, k* are not specified for [+/- voice]. A subsequent rule would spread voicing if necessary: [ ] --> [+voice] / [+voice] ___ [+voice]. A default rule would specify [-voice] for those segments not specified as [+voice].

6 Róna-Tas (1985:173f) derives the present tense *-s* and *-d* suffixes from **-d*, with **-s* representing the perfect. Ref. also Wolfenden 1929:56ff.