

CENTRAL KHAM TIBETAN: A PHONEMIC SURVEY

Robert F. Olson
University of Hawaii

1.1 The following is a brief descriptive survey of salient taxonomic phonological features of one variety of Tibetan from the /*ṭayap*/"Trayap" (OT *brag-g'yab*) area of central Kham. Trayap speech, hereafter referred to as Central Kham Tibetan (CKT), provides an example of what can be called, following Róna-Tas, a transitional dialect of Hsi-k'ang; i.e. one preserving the nasal but not the oral preradicals of archaic Tibetan.¹ Among the distinctive phonological features of the present variety of CKT are: (1) nasal onsets to both voiceless and voiced initials; (2) a set of nasal initials with voiceless onset; (3) a set of medio-palatal stops and sibilants in contrast with a set of front-palatal affricates and sibilants (/c . . . Nj, x Y/ and /tš . . . Ndž, š ž/); (4) contrast between lower and higher front vowels (/i e ü ö/ and /i. e. ü. ö./); (5) two phonemic pitch-levels and falling pitch-contour² accompanying all single syllables in isolation.

1.2 My primary informant for the present study is Nyima Dorje Ranup (ND), 37, from the village of Ranup (OT *ra-gnubs*), a day or two by horse SW of the monastery town of /*šāNdün*/ (OT *byams-mdun*), which is eight days or more SE of Chamdo. At about age 16 ND went to Lhasa and entered the *Ṇag-re* section (OT *khañ-tshan*), reserved for monks from Trayap, of the *Ra-stod* branch of Drepung monastery, some miles outside of Lhasa, where he remained until 1959. ND is well-educated in Tibetan, literate in Hindi, and is fairly fluent in English. Secondary informants from the Trayap area are Losang Tshulthim, 36, from the village of /*Ndākthu*/ (OT 'dag-thu), north of /*žēNdo*/ (OT *sgye-mdo*), which is about four days' ride NW of Byams-mdun; Ngawang Namgyal, 49, from the village of Le in the vicinity of Byams-mdun; and Aten (OT *a-brten*), 48, from the village of /*ñīNkha*/ (OT *rñiñ-kha*), a day's ride SW of Sgye-mdo. ND's ordinary speech, like that of the other informants, none of whom remained in Trayap beyond their

¹A. Róna-Tas, *Tibeto-Mongolica* (The Hague: Mouton, 1966) pp. 21-31. Oral preradicals are partially maintained, however: /hm hn hñ hn/ and to some extent /hl/ show partial retention of preradical s- (*sm- sn- sñ- sñ- sl-*).

The following abbreviations are used in this description: CKT Central Kham Tibetan as represented primarily in the speech of Nyima Dorje; CT Central Tibetan (/ṭ.keq/ OT *dbus-skad*); LT Lhasa Tibetan; OT Orthographic Tibetan; ND Nyima Dorje; Hon Honorific. It is noteworthy that my Trayap informants consistently refer to the language of central Tibet, primarily the area in and about Lhasa, as /ṭ.keq/ and often as /pṭkeq/ (OT *bod-skad*), in contrast to both /khañkeq/, the varieties of Kham speech, and /tsāñkeq/, the speech of Gtsang.

²In contrast to information available to me on other (non-archaic) Kham dialects. Punya Sloka Ray describes a falling and a rising syllabic contour in his study of Batang speech: "Kham Phonology" *JAOS* 85.336-42 (1965); while André Migot ("Recherches sur les dialectes tibétains du Si-K'ang [Province de Kham]" *BEFEO* 48.417-562 [1956]) finds three contours: "haut montant, moyen égal, et bas descendant. . ." (pp. 471f.). Neither of these studies, however, discusses the dialects of Trayap.

early 20's, is an amalgam of CT and CKT, with CT morphology and vocabulary and CKT phonological patterns predominating.

2. Segmental Phonemes. As here analyzed³ CKT shows 7 basic vowels and 57 consonant phonemes.⁴

2.1. Syllabic Nuclei. CKT has a set of seven vowels, six of which may be followed by /·/, a cowowel indicating raising, to produce a set of modified vowels:

i	ü	u	i·	ü·	u·
e	ö	o	e·	ö·	o·
a					

2.1.1. /i/ varies widely as a final, depending upon environment and stress, between centralized lower-high front [$\text{ɪ}^\text{ʔ}$], lower-high central [ɪ] (the norm), higher-mid central [$\text{e}^\text{̂}$], and mid central [$\text{ə}^\text{̂}$]; it is fronted to [$\text{ɪ}^\text{̆}$] before /-l/; fronted and raised to [$\text{ɪ}^\text{̈}$] before /-p -b -q/; raised to [$\text{i}^\text{̄}$] before /-k -g/. /i·/ is a high front [i]. Contrast: /t̄i/ "knife" /t̄i·/ "writes"; /ri/ "mountain" /ri·/ "furrow."

2.1.2. /e/: raised lower mid [$\text{e}^\text{̂}$].⁵ /e·/: higher mid [e]. Contrast /Ndè/ "spirit" /Ndè·/ "rice"; /lèba/ "person from Le" /lè·ba/ "worker"; /nèq/ "disease" /nè·/ "barley."

2.1.3. /a/: low central [a]; raised to [$\text{a}^\text{̂}$] before /-p/ if this is fully realized; backed to [$\text{a}^\text{̈}$] before /-q/ when this is realized as [ʔ], otherwise

³The phonological word, consisting of from one to three morphemes, is the basis of analysis, although the basic syllabic pattern (C)V(C) is essential to the analysis of words. In general, the description is of a rather low level of abstraction from phonetic data. A systematic treatment would entail, among other things, (a) the grouping of /·/ preceded by /o u/, /q/ preceded by /a o u/, and all syllable-final /g/ under the /k/ phoneme, while many cases of /a/ followed by a consonant initial would become /ak/; (b) the inclusion of final /b/ under the /p/ phoneme, with many cases of /V/ followed by consonant initials becoming /Vp/.

⁴The use here of the word "phoneme" is quite broad; at least 20 of these 57 would ordinarily be treated as clusters. See footnote 9 below.

⁵After the first citation symbols in subsequent phonetic renderings will be simplified; i.e., in all following sections [ɛ], [ɔ], [o], [ö], and [$\text{ö}^\text{̂}$] represent [$\text{e}^\text{̂}$], [$\text{ɔ}^\text{̂}$], [$\text{o}^\text{̂}$], [$\text{ö}^\text{̈}$], and [$\text{ö}^\text{̄}$], respectively. In general, phonetic and phonemic renderings are based on the conventions of K. L. Pike, Phonemics (Ann Arbor: Univ. of Michigan Press, 1947). Additional or modified symbols include [$\text{e}^\text{̂}$] a centralized variety of [e]; [$\text{ɔ}^\text{̂}$] a centralized variety of [ɔ]; [c] a fronted (post-alveolar) palatal voiceless stop; [j] the voiced equivalent of [c]; and [ɟ] a voiced retroflexed alveolar fricative. /N/ represents a nasal archiphoneme homorganic to a following consonant, with nasalization of a preceding vowel (see 2.3.7.). Phonetic tones are represented by superscript numerals 1-4; phonemic high and low tones by / $\text{V}^\text{̄}$ / and / $\text{V}^\text{̈}$ /; tense and lax consonants by [$\text{C}^\text{̄}$] and [$\text{C}^\text{̈}$], respectively; voiceless continuants by [$\text{C}^\text{̇}$].

as [a]. Contrast: /t̄a/[t̄a]"cuts" /t̄āq/[t̄āʔ]"calls" but /t̄ále r̄èq/"did cut; called." Similarly /t̄s̄á/"rides (horse)" /t̄s̄áq/"lifts" but /t̄s̄ále r̄èq/"rode; lifted."

2.1.4. /o/: raised lower-mid back rounded [ɔ̞[^]]. /ō/: slightly lowered higher-mid back rounded [ō^v]. /oq/ is also realized as [ō^v] when the /q/ is realized as zero (see 2.3.10.) Contrast: /ôma/"milk" /ô̄ma/"subordinate"; /sôma/"new" /sô̄ma/"straw."

2.1.5. /u/: a somewhat centralized and lowered variety of lower-high back rounded [ʊ]; raised to high back rounded [u] before /-k -g -q/ /ū/: high back rounded [ū]. Contrast: /Ndù/"comes together" /Ndùq/"stays, is there"; /lù/"clears one's throat" /lùk/"sheep; manner" /lù̄.nen/"bad-mannered."

2.1.6. /ü/: centralized lower-high front rounded [ʊ̞[>]], approaching lower-high central rounded [ɥ̞⁺]. /ǖ/: high front rounded [ǖ]. Contrast: /t̄üle r̄èq/"was dragged" /t̄ǖ.le r̄èq/"was dug"; /l̄ǖq r̄èq/[l̄ǖ[>]r̄ɛʔ]"it's manure" /l̄ǖ. r̄èq/"it's a body"; /ph̄ǖq the./[p̄⁺ǖ[>]t̄e]"was laid-off (from work)" /ph̄ǖ. thé./[p̄⁺ǖ^{t̄e}]"presented, Hon."

2.1.7. /ø/: centralized lower-mid front rounded [ɔ̞[>]], approaching lower-mid central rounded [ɔ̞]. /ø̄/: higher-mid front rounded [ø̄]. Contrast: /t̄sh̄óq te/[t̄s̄[>]ɔ̞^{t̄ɛ}]"the measure" /t̄sh̄ón te/[t̄s̄[>]ɔ̞^{t̄ɛ}]"the paint" /t̄sh̄ó. te/[t̄s̄[>]ø̞^{t̄ɛ}]"the coloring"; /ȳb̄. ȳb̄q s̄ele r̄èq/[ȳ^oɔ̞^o s̄el̄t̄r̄ɛʔ]"I have some parched grain, he said."

2.1.8. Vowels in high-toned syllables show tenser articulation and closer quality as well as shorter quantity. Conversely, in lowest-tone syllables (those with phonetic Pitch Level 4: see 3.1.1.) vowels are not only slightly more open, lax, and longer, but tend to have a breathy or murmured⁷ quality: /p̄ú/[p̄^uu¹]"fur, body-hair" /p̄ù/[p̄^uu⁴]"son."

2.1.9. Initial palatals (the /c . . . Y/ and /t̄š . . . ž/ series below) exert a raising and fronting influence upon following vowels: /dz̄àp/[dž̄æp⁸]"auxiliary verb" /m̄ix̄e./[m̄^{x̄e}ɛ¹]"don't know."

2.1.10. Syllable-final /i/ and /u/ when preceded by voiceless initials are usually voiceless if either word-final or followed in the same word by a voiceless consonant: /x̄àp̄ši/"servant" /t̄sh̄íkaq/"errand-boy" /m̄òt̄shi/"bitch" /k̄úxu/"apple" /š̄ónkhu/"wolf."

⁶ND and Aten have /uk/ rather consistently where the other informants often have /uq/.

⁷See Peter Ladefoged, Preliminaries to Linguistic Phonetics (Chicago and London: Univ. of Chicago Press, 1971) pp. 12-14.

⁸This fronting effect is perhaps responsible for the morphological alternation between /dž̄àp/ and /dž̄èq/, the latter predominating in syntactic non-final positions: /h̄n̄áq ídž̄èq m̄ídz̄ap./"Will he cast a spell or not?"

2.2. Syllabic Initials. CKT has a five-positioned set of stops (bilabial, dental, lamino-postalveolar, apico-alveolar, and velar), each in five manners of articulation (voiceless unaspirated, aspirated, and aspirated with voiceless nasal onset; voiced and voiced with nasal onset). This set is paralleled by a two-positioned set of affricates (lamino-alveolar and apico-prealveolar) each also in five manners of articulation:

p	t	t̚	c	k	ts	tš				
ph	th	t̚h	ch	kh	tsh	tšh				
Nph	Nth	Nt̚h	Nch	Nkh	Ntsh	Ntšh				
b	d	d̚	j	g	dz	dž				
Nb	Nd	Nd̚	Nj	Ng	Ndz	Ndž				
m	n	r	ṅ	ŋ	l		w	y	h	(q)
hm	hn	hr	hṅ	hŋ	hl					
			x		s	š				
			Y		z	ž				

2.2.1. The voiceless unaspirated series /p . . . tš/ is very tense in high-toned syllables and lax in low-toned ones: contrast /tá/"horse" /tà/"now"; /cáq/"iron" /càq/"robbery"; /tšá/"rides" /tšà-/"eighty- (bound form)." Within a word only the tense variant occurs: /tá/"looks" /íta/"will (he) look?"; /tèq/"drives (cattle)" /ídeq/"will (he) drive?"; /káq/"stops" /míkàq/"won't stop"; /kǝn xóq/"wear it!" /mǝgǝn/"don't wear it!"; /t̚ǝ./"flees" /m̚ǝǝ./"won't flee."

2.2.2. The voiceless aspirates /ph . . . tšh/ are relatively lax and without strong aspiration in comparison with LT voiceless aspirates (with high tone), which have tenser articulation. /ph/ varies freely between [pʰ] and a mixed bilabial-labiodental spirant [pʰ]. Intervocally within a word /th ch kh tsh/ may be realized respectively as [t̚h] (dental affricate), [x], [x], and [s]: /methoq/[mɛt̚hɔʔ]"flower" /michoq/[mɛxɔʔ]"may not" /sàkhon/[saxɔʔ]"inn" /m̚tshon/[m̚tʃhɔʔ]"family."

2.2.3. The voiceless nasal-onset series /Nph . . . Ntšh/ represents a series [npʰ . . . ṅtšʰ], the onset being a completely voiceless, brief nasal breathing interrupted by release of the (relatively lax) contoid. Contrast: /phón/"saves" /Nphón/"throws"; /chǝq/"cut!" /Nchǝq/"offering"; /khó/"he" /Nkhó/"is useful"; /tshǝn/"paint" /Ntshǝn/"weapon." Intervocally within a word, as well as across word boundaries within phrase-groups, the onset is voiced and the preceding vowel is nasalized: /Ntshó/[nts̚ɔ]"lake" /džàNtsho/[džànts̚ɔ]"ocean"; /ŋǝ. Ntšákpa te Nthón thé./[ŋǝnts̚ákpa t̚ɛnt̚ɔnt̚ɛ]"I saw the ice."

⁹This series as well as the voiced nasal-onset series, the voiceless-onset nasals, /hr/, and /hl/ might all be interpreted as consonant clusters. In the present analysis all of these are treated as complex phonemes, in order to maintain the basic (C)V(C) syllabic pattern; no other word-initial clusters have come to light, with the exception of /hy-/, which is here regarded as a variant of /y-/ in high-toned syllables. The voiceless nasal-onset series is regularly present in ND's speech, sporadic in Losang Tsulthim's, and apparently absent in the other two informants'.

2.2.4. The simple voiced obstruents /b . . . dž/ are fully voiced.

2.2.5. The voiced nasal-onset series /Nb . . . Ndž/ represents a series [mb . . . ndž], voiced obstruents with a homorganic nasal onset. Contrast: /dò/"stone" /Ndò/"sutra"; /jàq/"tongue, Hon" /Njà/"rainbow"; /dà/"enemy; sound" /Ndà/"similar"; /gò/"door" /Ngo/"head"; /dà/"grinds" /Ndà/"shivers."

2.2.6. The nasals /hm hn hñ hŋ/ normally have homorganic voiceless nasal onsets but voiced release: [hm . . . hŋ]; an occasional variant realization is as simple voiceless nasals: [m . . . ŋ]. Contrast: /náp/"dresses, Hon" /hnáp/ [pna^{ap}] [pna^{ap}] "snot"; /má/"wound" /hnmá/"says (literary)"; /ní./"two" /hñí/ "snare"; /níŋma/"a Buddhist sect" /hñíŋma/ /hñíŋma/"sediment. Note also /hŋáq/"spell" /hŋŋn/"previously" /hñíŋ/"heart" /hñén/"ear, Hon" /hñúŋma/"reed, cane" /hnmáŋgo/"tip of nose" /hnmáŋbu/"woolen cloth" /hnmúŋ/"oil, fat." /r/ is a voiced alveolar trill usually with accompanying friction, or a flap. /hr/ is a voiceless alveolar trill or flap with voiceless laryngeal onset [hr]: /dòhruk/"pebbles" /hrúk-hrúk/"in small pieces" /hré./"tears." /hl/ varies between voiceless [l̥] and a lateral with voiceless laryngeal onset [hl̥]. Contrast: /lú/"song" /hlú/"deceives"; /láma/"religious professional" /hláma/"left-over." Note also /hlé./"reaches (OT bslebs); corral (OT hlas)" /hlómo/"alms" /hláp/"teaches."

2.2.7. The series /c . . . Nj/ represents a series of post-alveolar stops with mid-blade articulation. /ch/ and /Nch/ may have slightly affricated release.

2.2.8. The affricates /tš . . . Ndž/ are lamino-alveolar with front-blade friction. Contrast: /cáq/"breaks" /tšáq/"lifts"; /chí/"what?" /tšhí/"dog"; /Nchám/"religious dance" /Ntšám/"wanders about"; /jè./"changes" /džè./"increases"; /jòŋ/"province" /džòŋ/"is thrown"; /chóga/"rite" /tšhóga/"man, husband."

2.2.9. The series /ʈ . . . Nd/ represents a series of retroflexed apico-alveolar stops with slight r-colored off-glide.

2.2.10. The velars /k . . . ŋ/ are not markedly backed before back and low vowels as they are in LT.

2.2.11. The sibilants /š ž/ are lamino-alveolar with front-blade friction, while /x Y/ are mid-blade fricatives at varying post-alveolar and alveolar positions [x̣~š] and [q̣~ž]. /Y/ may show very little friction, especially when lacking sentence-stress, but it is clearly in contrast with /y/: /yádži rèq/"will be good" /Yádži rèq/"will put; will shave." Contrast: /soŋ/ "copper utensil" /zòŋ/"good"; /šóq/"ladle" /xóq/"come!"; /žòq/"catapult" /Yòq/"side of the body"; /yùk/"moment; bolt of cloth" /Yùk/"stay, Hon"; /šíwa/"rat" /xíwa/"peace"; /šámo/"hen" /xámo/"hat." Word-initial /x s š/ are tense in high-pitched syllables and lax in low ones. Intervocally within a word only the tense variant occurs: /xù/"melts" /íYù/"will melt?" /sè./"says" /mìze./"won't say"; /šùk/"rubs" /màžuk/"don't rub!"; but /xù/ "peels; copies" /íxu/"will peel?; will copy?"; /séq/"kills" /mìseq/"won't kill"; /šùk/"vomits" /màšuk/"don't vomit!"

2.2.12. /y/ lacks the friction of /Y/ and, in low-pitched syllables (PL 4), is lax while /Y/ is half-tense and appears in PL 3 syllables. /w/ is a lax bilabial fricative without lip-rounding. The slight friction which appears at word-initial position is lost in intervocalic position within a word: /wà/ "fox; gutter" /wàYa/ "fox-fur hat" /wéne./ "hermitage"; /Ndàwa/ "moon" /rìNwa/ "longer" /síIwa ~ sí.wa/ "charcoal."

2.2.13. An apparently non-contrastive /hy/ occurs as a variant of high-pitched initial /y/: /Ngòyoq/ "deception" /Ngò hyóq-hyóq/ "bewildering"; /tàyap/ "rock-shelter, Trayap" /hyáp-hyáp/ "overhanging, sheltering"; /sém hyán-hyán/ "carefree, enjoying oneself."

2.2.14. /h/ is a voiceless laryngeal vocoid, here structurally a consonant. /q/ is a glottal stop, the predictable onset of initial vowels in high-pitched (PL 1) syllables, and as such it is not represented in phonemic transcription. [ʔ] does not appear as an onset to vocalic initials in low-pitched syllables. Contrast: /ón/[ʔʔ] "power" /ón/[ʔʔ] "comes"; also /úk/[ʔukʔ] "breath" /uda/[ʔda] "noise"; /ina/ "here" /ʔNtsan/ "by all means!"

2.3. Syllabic Finals. /p b k g m n ŋ l r q/ and zero are the possible syllabic finals, while /./ is here considered structurally equivalent to a final: it is not followed by any other possible final, and syllables with vowel plus /./ are heavy (see 3.3.1.) in regard to stress. Final /l r/ are not heard in normal, unaffected speech (see 4.11.).

2.3.1. /-p/ is realized as unreleased [p̚] in isolated monosyllables. Within a word and within phrase-groups it is realized as a weakly articulated bilabial fricative [ɸ]. In compounds and in verbal forms roots with /-p/ often lose the final altogether: /dèp/ "printed book" /hlóbde/ "textbook"; /kháp/ "needle" /khámik/ "needle's eye"; /páp/ "descends" /pàxi Ngì/ "(rain) is coming down"; /káp/ "covers up" /kása sɔŋ thé./ "went to cover it up."

2.3.2. /-b/ occurs¹⁰ only before voiced initials and is realized as [ɓ] or as a weakly articulated version [ɓ̚]: /t̚ɪbna/[t̚ɪɓna] "if it is concealed" /hlóbde/[lɓ̚dɛ] "textbook."

2.3.3. /-k/ is realized as unreleased [k̚] in isolated syllables, before pause, and within words or phrase-groups before voiceless initials. In normal speech /-k/ is found after /a/ and /o/ only when followed by light syllables having voiceless initials, within a word: /lákpa/ "hand, arm" /laxup/ "glove"; /t̚àktse/ "rocky pinnacle" /t̚àkcha/ "echo" /t̚ari/ "rocky mountain" /t̚àyap/ "rock-shelter, Trayap."

2.3.4. /-g/ occurs¹⁰ only before voiced initials, in normal speech perhaps only following /i e u/; it is realized as [g] or [ɣ], in free variation: /lúgra/ "sheepfold" /lúgna/ "if (he) pours" /thégmen/ "Hinayana" /rìgle rèq/ "(he) saw it." Before nasal initials it often has a nasal release [g̚] or may alternate with /-ŋ/: /zà migma ~ zà miŋma/ "Tuesday" /hñíigma ~ hñíiŋma/ "sediment."

¹⁰In systematic phonological terms final [ɓ̚] and final [g̚] would belong to the /p/ and /k/ phonemes, respectively.

2.3.5. /-m/ like /-p/ is fully realized normally only in isolated monosyllables: /khám/"Kham province" /sém/"mind" but /khám nòn/[kʰám nɔ̃]"in Kham" /sém gi·/[sɛ́ŋgi]"by the mind." /-n/ is realized as nasalization of the preceding vowel: /hmén/[mɛ́ñ]"medicine" /màn/"butter" /mìn/"am not."

2.3.6. /-ŋ/ usually lacks complete closure after back vowels and hence tends to fall together with /-n/: /chón/"beer" /hán/"boot." After front vowels it is clearly contrastive: /mín/[mɪ́ŋ]"name" /mìn/[mɪ́ñ]"am not"; /rín/[rɪ́ŋ]"length of time" /rìn/[rɪ́ñ]"cost."

2.3.7. Within a word /-m -n -ŋ/ are neutralized in favor of the archiphoneme /N/ which is realized as nasalization of a preceding vowel plus, if followed by an obstruent initial, a nasal onset homorganic to it.

2.3.8. /-l/ is articulated only in careful speech: /yǎlpawyl.pa/"farmer" /džálpowdžápo/"king" /sílwa·sí.wa/"charcoal."

2.3.9. /-r/ is realized as a short voiced alveolar trill or flap. It is articulated only in careful speech.

2.3.10. /-q/ is realized before a pause and finally in isolated words as a glottal stop. Within a phrase-group it is realized as zero. Contrast: /thík/"(clouds) gather" /thíq/"leads" /thí/"throne; ten thousand"; /xík/"louse" /xíq/"loosens" /xí/"dies" /táxi·/"(personal name)"; /téq/"lifts" /téq/"hands over" /té·/"looked; omen."

3. Suprasegmental Phonemes. In this section tone, quantity, and stress will be selectively treated.

3.1.1. CKT has two phonemes of tone, high /V/ and low /v/, although phonetically there are four syllabic pitch-levels,¹¹ designated here as Pitch Levels (PL) 1-4. PL 1 (highest, most tense) is found with all word-initial or isolated syllables having the tense /p . . . tš/ series initials, some syllables having initial /m n ñ ŋ y x s š/, some syllables having initial zero (those with initial phonetic [ʔ]), and all syllables having initial /hm hn hñ hŋ hr hl h/. PL 2 (lower pitch than PL 1, laxer than PL 3) accompanies the simple and the nasal-onset voiceless aspirates. PL 3 (lower than PL 2, half-tense) accompanies syllables having initials from the /b . . . dž/ and /Nb . . . Ndž/ series and the initial sibilants /Y z ž/. PL 4 (lowest, lax, often with murmured vowel) accompanies syllables having lax /p . . . tš/ series initials, some syllables having initial /m n ñ ŋ y x s š/, some having initial zero (those without initial phonetic [ʔ]), and most syllables with initial /w/. PL 1 and 2 are grouped together under phonemic high tone, since words of more than one syllable beginning with PL 1 or 2 initials follow high-tone pitch-contours. Those with PL 3 or 4 initials follow the low-tone contours. All isolated syllables have falling pitch-contour.

¹¹"Pitch-level" should be construed here as a combination of pitch plus the degree of tension associated with the syllabic initial and carrying through the nucleus and syllabic final. Distinctiveness of both pitch and tension, it should be noted, is more or less attenuated under the influence of sentence-stress and intonation patterns.

3.1.2. Words of more than one syllable with phonemic high tone have a high-level or high-falling contour depending, apparently, primarily upon stress and secondarily upon the phonetic tone of the second syllable. Words with light second syllables (see 3.3.1.) tend to follow an optional falling contour (in accord with the falling contour of both isolated syllables and normal sentence intonation) while this tendency is reduced if the second syllable is associated with PL 1 or 2 initials. If the second syllable is heavy the contour remains level, with a final fall if in isolation. Thus /kháNbu/"peach" /kódu/"skin boat" /mámi/"soldier" have an optional fall in contour from the first to the second syllable, while /khápe/"saying" /tépho/"dwarf, midget" /phákxa/"pork" do not. Further examples of the /kháNbu/-pattern are /háNba/"voraciousness" /hñínje/"pity" /áu/"grandmother" /áne/"grandfather" /láma/"religious professional" /síNgi/"lion."¹² Examples of the /khápe/-pattern are /khápu/"facial hair" /chúkha/"river's edge" /lúnta/"prayer-flag" and all high-toned disyllabic words with heavy second syllables, with the exception of words of the type /íson/"did (he) go?"

3.1.3. Phonemic low tone in disyllabic words has a low-level or low-rising contour, depending on the same type of factors conditioning phonemic high tone. The rising contour is heard most clearly when the first syllable has a PL 4 or 3 initial and the following syllable has a tense, voiceless PL 1 initial (/p . . . tš x s š/): /mètaq/"spark" /làNson/"immediately" /tšpa/"stomach"; /gèpo/"old man" /Nqù.keq/"thunder" /dòhruk/"pebbles." The same clear rise is found with PL 4 followed by PL 2: /kòkha/"kitchen" /pàchòq/"obstacle" /sàkhon/"inn." The contour tends to be flatter with PL 4 initials followed by PL 3 or 4, and PL 3 followed by PL 2: /yige/"writing, book" /rìNdo/"rite" /nàNza/"dress, Hon"; /lòma/"leaf" /tšma/"odor" /pò.ma/"lease" /kùyon/"holiday"; /dàNkha/"choice" /gùNkha/"winter." A flat (level) contour is normally heard with PL 3 followed by PL 3 or 4: /dòje/"dorje" /dàdo/"whetstone" /Ndzugda/"pointing" /gègen/"teacher" /džaga/"India" /dzàYon/"clay basin"; /gèmo/"old woman" /Ndàwa/"moon" /zònen/"moral character ('good-bad')." A heavy syllable followed by a light one tends to flatten a rising contour; thus /làkpa/"hand", although PL 4-1, has a flatter contour than /làxup/"glove." Verbal forms also follow the above patterns: /tàle (rèq)/[4-4]"did cut" /žòNle (rèq)/[3-4]"studied" /NthúNle (rèq)/[2-4]"drank" /tòNle (rèq)/[1-4]"sent"--have slight rising, level, higher level, and slight falling contours, respectively.

3.1.4. Trisyllables follow the contour patterns of disyllabic words, with a falling contour in final syllables. Four syllable words are analyzed as compound disyllabic words. Examples: /šéNre.ziq/"Avalokiteshvara" /kháNdoma/"dakini" /náNdžopa/"yogi"; /žùmaNkhen/"magician" /òpameq/"Amitabha" /mìtaba/"impermanent"; /ága-gèmo/ and /ága-thótho/"seesaw" /káre-kóre/"dawdling" (and similarly with many anukaran words).

¹²Comparative adjectives of one type fall into this group: /chéwa/"larger" /chúNwa/"smaller" /šúwa/"more sour" /šíwa/"happier" etc. have regularly a falling contour, probably owing to the dominant falling sentence intonation-pattern: this type of comparative is sentence-final, unless negative or interrogative in form, while if another word follows (/chéwa mīNgi/"it's not larger") the strong falling contour is lost. Interrogatives of the form /íson/"did (he) go?" follow the same pattern.

3.2. Quantity is predictable and hence not per se phonemically represented. Vowels in closed syllables (i.e., before fully realized consonant finals) are short. Vowels in open syllables (including those with final /./ and /-n/) in isolation are long: /t̪ip/[t̪iːp̪]"pollution" /t̪i/[t̪iː]"knife" /t̪i./[t̪iː]"writes." In words of more than one syllable, syllables tend to have equal quantity whether open or closed. Syllables with minimal sentence-stress, i.e., enclitic particles and auxiliary verbs, have reduced quantity.

3.3.1. Stress within words is apparently not phonemically significant. Words of more than one syllable normally have stress on the first syllable, though a rising tone-contour makes it difficult to hear this. Stress is attracted by the heavier of two syllables. A "heavy" syllable is one with a final segment (including /./ and /-n/). Disyllabic words with two heavy or two light syllables have acoustically about equal stress. The final syllable of trisyllabic words is invariably low in tone-contour, but it is not unstressed. Enclitics are without stress; in transcription they are separated by a space from the word to which they are phonologically bound.

3.3.2. Sentence-stress should be treated in conjunction with an analysis of intonation. I have not sufficient data for such an analysis in this study, beyond support for the following general remarks. Both declarative and interrogative sentences have a generally falling contour. The intonation-level of stressed words is higher vis-à-vis the rest of the sentence, and their tone-contours are more differentiated; it is often difficult to hear syllable pitch-level or word tone-contour in the words either preceding or following stressed words within a phrase-group or sentence. Interrogative morphemes in particular normally have such strong stress and raised intonation-level as to virtually obliterate inherent pitch-levels of succeeding words: in /chí wèq ne· phá sóNle rèq./ "Why did he go away?"--the rest of the sentence after /chí/ follows a steadily declining intonation, with only the syllables /phá/ and /sóN-/ on the same pitch-level relative to each other. Similarly in /íson/ "did (he) go?" and /ízò./ "did (he) eat?"--the inherent pitch-level distinction between /son/ and /zò./ (PL 1 and 4) is almost entirely lost in favor of the strong sentence-stress of the interrogative morpheme /í-/.

4. Comparison with orthographic forms. The following notes are to be supplemented by the preceding analysis.

4.1. OT palatal affricates (?) are rendered by CKT lamino-postalveolar stops. OT bcag chen-po 'cham jag-pa brjed ljoŋs 'jam-po: CKT /cáq chéNbo Nchám cākpa jèq jòŋ NjàNbo/.

4.2. OT obstruents with subfixed -y- are rendered by CKT palatal affricates, except that spy- phy-¹³, by-, and sky- become /š-/; sby- and sgy- become /ž-/; while 'phy- and 'by- become respectively /Ntšh-/ and /Ndž-/. OT bkyag khyi-bkag 'khyags-pa brgyab brgyaŋs mgyogs-po: CKT /tšáq tšhíkaq Ntšhákpa džáp džòŋ Ndžòkpo/; OT spyañ-khu phyi-ba byi-ba byugs skyid-mo skyugs yogs 'byor 'phyugs: CKT /šóNkhu šíwa šíwa šùk

¹³ND pronounces OT phy- in isolated syllables as a separate phoneme /šh/[š̥c], the syllables having PL 2, but this does not seem to carry over into free speech.

šupo žoŋ žoq Ndžò Ntšúk/.

4.3. OT *ś-*, with or without prefixes, and unprefixed *ź-* are rendered by CKT /x-/. OT prefixed *-ź-* is rendered by CKT /Y-/. OT *śi su źi-ba zu bžag bži gžogs*: CKT /xí xú xiwa xù Yàq Yì Yòq/.

4.4. OT voiced initials devoice unless prefixed. OT *da brda byaň sbyaň zaň bzaň-po*: CKT /tà dà šoŋ žoŋ sòŋ zòNbo/.

4.5. OT prefixes *m-* and *'-* are rendered by CKT obstruents with nasal onset. OT *kho mkho sgo mgo bdar 'dar*: CKT /khó Nkhó gò Ngò dà Ndà/.

4.6. OT prefixed *s-* is usually rendered by voiceless nasal onsets to radical nasals and *-l-*. OT *sman snabs sñiň sňags sloň-mo*: CKT /hmén hnáp hñiŋ hñáq hlónmo/.

4.7. OT final *-d* is rendered /-q/ with modification of preceding vowels: OT *khrid ded nad chod drud* are rendered by CKT /thíq tèq nèq chòq tùq/.

4.8. OT final *-s* is rendered /-./ with vowel modification: OT *bris rjes nas chos brus* are rendered by CKT /tì. jè. nè. chò. tù./.

4.9. OT final *-n* is rendered as nasalization of the preceding vowel with modification of *-a-* *-o-* *-u-* to CKT /-e- -ø- -ü-/.

4.10. OT final *-l* is lost in normal speech; if pronounced, it modifies a preceding *-u-* to CKT /-ü-/. Alternatively, OT final *-l* is rendered by CKT /-./ with vowel modification as in 4.8.

4.11. CKT shows /-oŋ/ for most OT syllables in *-aň(s)*, and /-iŋ/ for most of those in *-eň(s)*. OT *chaň khaň-pa steň 'phreň seň-ge*: CKT /chóŋ khónba tíŋ Nthiŋ síŋgi/.

5. Sample Text. The following series of questions and answers is based on the "Kham's Dialect" transcription found in Roerich and Phuntsok's Textbook of Colloquial Tibetan (Calcutta, 1957) pp. 170-172, in order to provide some basis for comparison. The dialect recorded there is not specified, but is fairly close to the present CKT.

1. tšéq kàne. šòŋ òNle yin. nà là phánon ne. òNle yin. 2. tà kúraq šòNge. yin. nà hlása le yà Ndòdži yin. 3. phí nán phé.dži yin. tódza mion; nà džaga le Ndò kóo sáNxi Ngì. 4. tšéq le chí lódžu íyòq. chí wo lódžu meq. 5. chí yòq rèq. tè yàmo chí yòq mídaq. 6. sáon tè gi tsá le tšhòq íson. nà sóNle yin; kámò. mòNbo phánon tshunon Nda Ndžèq thé. 7. chásiq dži kónDa chí súp íthe. pé NdàNda súp thé. 8. pòŋ te íne. sóŋ íthe. sóŋ thé. te, tá i. džòŋ Yàq Ngì. 9. yà, tšhéq ká íthe. chíchi kamo màžun. 10. tšhéq demò íyin. nà demò Ntshamo yin. 11. pháyu. chíNde. Ngì. yàmo Ngì. 12. lò yàmo íŋgi. óŋ hon, yàmo chí mìŋgi. 13. hlása ne. mà tshóNpòŋ sú ína òŋ íthe. sú wo òŋ màthe. 14. mídaq te thúk íphòq. pòNbo tè thúk mìphòq.

15. tšhéq tùwa íYe. nà tùwa mìnthin; nà yù ne. Nthínle mìn. 16. tà
 pèñi. xakpo íweq. yà, wèq. 17. yà, tà yàmo šòn. yà ya, tšhéq yàmo Yùk.
 18. tšhéq le chí lódžu mèq le. yòq to yòq te, tàda mìlo; jè.ma Ndžòkpo
 Njè. òq.

1. Where have you come from? I have come from beyond the pass. (/šòn/"come, go, Hon" /le/"perfective suffix") 2. Now where are you going? I'm going to Lhasa. (/ne/"agentive suffix" /dži/"imperfective suffix") 3. When are you coming back? I won't come for a while; I think I may have to go to India. (/kó-kóo/"particle of probable necessity" /xi/"progressive suffix" /Ngi/"existential copula") 4. Do you have something to say? I haven't anything at all to say. 5. Why is that? It isn't too good. (/tàq/"is in excess") 6. Did you go to the governor? I went; he conversed at great length. (/phánon tshúnon/"hither and yon" /Ndžèq/"does, makes, Hon" /thé./"perfective auxiliary verb") 7. Did he speak about politics? He spoke on various topics. 8. Has the official gone away from here? He has gone, but he got thrown from his horse. (/íne/"from here" /džòq/"is extended, is thrown") 9. Well, did you have any difficulty? Nothing difficult came up. 10. Are you well? I'm quite well. 11. How is your home area? It's fine. 12. Is it a good harvest? No, it's not good at all. 13. Did any big merchants come here from Lhasa? None came. (/ína/"here" /wo/"also") 14. Can one meet with the official? You won't be able to meet with the official. 15. Will you have a smoke? I won't smoke; I've never smoked. (/yù ne/"at all, ever") 16. Now, shall we be friends? Well then, let's be. (/wèq/"does, makes") 17. Well, goodbye now. Yes, goodbye to you. 18. I guess you don't have anything else to say? (/le/"interrogative particle") I do indeed, but I won't talk now; we'll meet again soon.