

THE TIBETAN SYSTEM
OF
WRITING

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PREFACE

A grant from the Ford Foundation made it possible for the author to carry out field research in spoken Tibetan in Darjeeling, West Bengal, India, during the period September 1953 to March 1954. The materials presented in this study were collected during that period by working with Tibetan-speaking informants resident in that area. The pamphlet was completed in manuscript in the summer of 1954 and immediately accepted for inclusion in the publications series of the Program in Oriental Languages of the American Council of Learned Societies; but publication was not undertaken immediately because of the typographic difficulties, which were ultimately solved by the editor's lettering-in the Tibetan as well as doing the typewriter composition and editorial revision. The author was fortunate enough to be far removed from the scene of these labors, so that his first and last obligation with respect to the present publication consisted in reading the page-proofs. It was fortunately not necessary to undo any of the editor's changes, most of them minor, which on the whole improved the clarity of presentation as well as harmonizing this with another of my publications (see the note to 3.21).

The author's appreciation is also due to Professor Mary R. Haas, of the University of California, both for the original suggestion out of which this work grew, and for the training and encouragement which made its completion possible. Mention must also be made of the patience and cooperation of my Tibetan informants, without which my fieldwork in India could not have been carried out.

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1. PHONEMES AND SYMBOLS

1.01 The Tibetan system of writing is an alphabetic script on syllabic principles, based upon an Indic prototype, perfected in the ninth century, and since then used in Tibet for a variety of purposes. Though chiefly known to the Occident as the script in which the Tibetan translation and recension of the Buddhist canon has been transmitted, its use, both in the past and at the present time, is by no means restricted to the religious domain: it is the system of writing employed for any purpose for which a script is needed, from newspapers to billboards.

1.02 By omission and addition the Indic prototype upon which the Tibetan system was based, was adjusted to the facts of the Tibetan language of the time; but even today this same script still serves as an efficient and comparatively unambiguous method of writing even a language as far removed from ninth-century Tibetan as the dialect of Central Tibet has come to be. The present work is a synchronic description of the Tibetan system of writing, as it operates in present-day usage, with respect to this Central Tibetan colloquial.

1.03 Since it is a living language with which we are concerned here, and with the method by which it is customarily written by its speakers, we must begin with a skeleton statement of the phonemic system of Central Tibetan (CT).

1.1 CT has 44 segmental and suprasegmental phonemes, as follows:

1.11 35 segmental consonant phonemes (C): a voiceless unaspirated, a voiceless aspirated, a voiced unaspirated stop, and a voiced nasal, each, at the labial (p ph b m), dental (t th d n), palatal (t̪ t̪h d̪ ñ), and velar (k kh g ŋ) articulatory positions; the stops as just listed, but not the nasals, at the retroflex (ʈ ʈh ɖ) position; the same, in palatal (t̪ʂ t̪ʂh d̪ʂ) and alveolar (ts tsh dz) affrication; alveolar (s) and palatal (ɕ) spirants, both voiceless; glottal stop (ʔ) and spirant (h), both voiceless; voiced and voiceless aspirated laterals (l ɭ) and flaps (r ɣ), and voiced labial (w) and palatal (y) semivowels.

| | | | | | | | |
|----|----|-----|----|----|-----|----|---|
| b | d | dz | ɖ | ɗ | dʒ | g | |
| p | t | ts | ʈ | ɟ | tʃ | k | ʔ |
| ph | th | tʃh | ʈh | ɟh | tʃh | kh | |
| | f | s | ɸ | | ʃ | | h |
| w | l | | r | y | | | |
| m | n | | | | ɱ | ŋ | |

1.12 7 segmental vocalic phonemes (V):

| | | |
|---|---|---|
| i | u | u |
| e | ø | o |
| a | | |

1.13 2 suprasegmental features of tone (T): a high feature, here unmarked, and a low feature, here marked by a grave accent (`); thus: la [high tone], là [low tone].

1.14 The syllable of CT is of the shape CVT(C); that is, each syllable has one initial consonant-phoneme, one vowel, and one tone; but there may be one final consonant or none. There are no C or V clusters, nor does V ever appear without initial C.

1.2 The script uses the following 34 symbols:

1.21 5 double-value stop-consonant symbols:

Symbol Used to write

| | | | |
|---|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ㄱ | k` | g` | [Unless tone-sandhi has operated (as it does in compounds: see 3.123 f), the tone is low in a syllable whose initial consonant is written with one of these symbols. The ambiguity with respect to voicing is cleared up by the use of prescripts or superscripts or both when the initial consonant is voiced: details in 2.113 ff.] |
| ㄷ | t` | d` | |
| ㅂ | p` | b` | |
| ㅈ | tʃ` | dʒ` | |
| ㅊ | ts` | dz` | |

1.22 5 single-value stop-consonant symbols:

| | | |
|---|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ㄱ | k | [Since our transcription indicates high tone by writing nothing, in contrast to the ` which writes 'low tone', the lack of accent-mark in this list is significant: the use of one of these symbols for the initial consonant of a syllable positively signifies high tone, and we indicate the same fact here by writing no further mark with our transcription of the stop.] |
| ㄷ | t | |
| ㅂ | p | |
| ㅈ | tʃ | |
| ㅊ | ts | |

1.23 5 aspirated-stop-consonant symbols:

| | | |
|---|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 𑍑 | kh | [In CT, syllables beginning with an aspirated stop all have high tone; hence a single set of symbols will suffice for this series of consonants, while two sets are provided and used for the unaspirated-stop series to get a simple indication of phonemic tone, as listed above in 1.21 and 1.22.] |
| 𑍒 | th | |
| 𑍓 | ph | |
| 𑍔 | tʃh | |
| 𑍕 | tʃh | |

1.24 6 continuant-consonant symbols:

| | | | |
|---|---|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 𑍖 | ŋ | ŋ` | [Since these symbols are ambiguous as to tone, the tone of the syllable requires a different sort of indication. As remarked in 2.12, the favorite sort of tone-indication then is the use of prescript and superscript letters, called 'silent' because they signify no segmental phoneme nowadays, whatever their former or etymological value may have been (which is often questionable because of their new modern function).] |
| 𑍗 | n | n` | |
| 𑍘 | m | m` | |
| 𑍙 | ñ | ñ` | |
| 𑍚 | l | l` | |
| 𑍛 | r | r` | |

1.25 4 sibilant-consonant symbols:

| | |
|---|----|
| 𑍜 | s |
| 𑍝 | ʃ |
| 𑍞 | s` |
| 𑍟 | ʃ` |

1.26 5 miscellaneous symbols:

| | | | | |
|---|---|----|---|-------|
| 𑍠 | ʔ | ʔ` | 𑍡 | w` |
| 𑍢 | h | h` | 𑍣 | y` |
| | | | 𑍤 | w` y` |

1.27 4 overt vowel-symbols:

| | | |
|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 𑍥 | i | [The dotted rectangle here indicates the consonantal writing above (for i e o) or below (for u) which the vowel-symbol is placed; absence of any vowel-symbol spells 'a'. These five values may be altered by various conventions detailed later on; for instance, many e syllables lack any vowel-symbol, as if the vowel were a, and the e value is signalled by silent consonant-symbols written as finals; and by similar tricks the o and u symbols serve for ø and ü.] |
| 𑍦 | e | |
| 𑍧 | o | |
| 𑍨 | u | |

1.31 The consonant-symbols are written so that they seem to hang from an imaginary line, which is to a great extent made into a real line of dots and dashes by the lining-up of the bars and dots which form the top part of the majority of symbols; the syllable-ending point (tsheg: 1.34) also falls in this line: ཡགས་མེད་ཚང་འཇུང་གི་ཡོད།

The last mark in this example is the sentence-final punctuation-mark.

This particular sentence is extraordinary, for a sentence of such length, in not containing a single example of subscript or superscript writing.

A consonant-symbol may be written below or above another consonant symbol. A symbol written below another is called a subscript. The two subscript symbols ི and ཻ are usually thought of as the abbreviated forms of the symbols ར [r] and ལ [y] respectively;

they are common and important because they are the normal means of converting other symbols into symbols for retroflex or palatal consonants. Other subscripts and superscripts may be thought of as 'silent letters' which, whatever their etymological values may have been,

today have significances ranging from zero to indication of tone or of voicing (as detailed below, beginning at 2.111). A few of the consonant symbols require a little practise to recognize when in subscript position; thus ཡ under ཀ becomes ཡྐ; but in general these ligatures are not confusing, and at any rate, at least one example of each is given below.

The symbol ཏ, called wàsur, usually spoken of as the subscript abbreviation of ཏ, has no function in the writing of the language, except for a few cases where it serves as a mater lectionis for the vowel 'a'. The spelling of words using it must therefore be memorized. Thus,

ཚ 'hot', but ཚྏ 'salt', both phonemically tsha.

1.32 Symbols written above other consonant symbols are called superscripts. Thus ས superscript to ཀ gives སྐ. Note that ར in superscript position is slightly abbreviated to ར, except above ཏ; thus ར superscript to ཏ gives རྏ, but to ཏ gives རྏ. It is always the top-most consonantal symbol that hangs from the standard writing-line, no matter whether it is itself significant and has a subscript, or is on the other hand superscript to the segmentally significant consonant-symbol.

However, no ambiguity is possible in the regular spellings: given a pile $\frac{x}{z}$, the reader always knows (a) that x is always a superscript to what is under it, or (b) that z is one of a known set of subscripts, or else (c) that $\frac{x}{z}$ is a familiar arbitrary combination; see 2.1511 ff for the details.

1.33 In addition, a consonant-symbol, called 'prescript', with auxiliary significance or none, may be written before the initial-consonant spelling; and consonant-symbols called 'postscripts' may appear at the end of the syllable with auxiliary significance or none. The sentence in 1.31 begins with a syllable spelled lgs with no overt vowel. Since ࠮ never is used as a prescript, it must be the initial-consonant spelling, and with no vowel overtly symbolized we read la(gs) or là(gs). Now the ࠮ s is clearly a postscript and is silent; but the ࠮ g is called a 'final' although it, too, is silent in this word: là. The last syllable of the sentence has a silent final ࠮ d with the auxiliary function of indicating that the vowel-sign ࠮ stands for ࠮ rather than o. The fourth syllable is the only one with a prescript in this sentence; the fact that ࠮ is prescript is obvious from the placement of the vowel-sign below the true initial consonant-symbol, and the syllable is to be read as thug with final ࠮ pronounced as usual: it is not one of the list of silent finals.

1.34 Each written syllable is followed by a written point, called ࠮ 'tsheg', which falls on the writing-line from which the consonant-symbols depend; it is customarily written (although we do not follow the custom) after any consonant-symbol or sequence of symbols cited in discussion or listed or used (as we use A, B, C, &c) as sequence-labels instead of numerals, and so on: in short, it is not customary to write a consonant-symbol before an open space without insulating it with at least a tsheg. In text, the tsheg may be thought of as a single symbol writing the several junctures of the language, but its only practical significance is that it cuts the syllables apart for the reader and enables him to spot the prescripts and postscripts. The conclusion of the longer grammatical units of text is marked by a vertical rule, called ࠮ 'se', which is doubled after the longest grammatical units, where it corresponds roughly to sentence-final open juncture and phrase-final melody. It may be written four times || ||, for example at the end of a chapter; and in poetry two rules end each verse. See the text below, 4.

2. BASIC PRINCIPLES OF SPELLING

2.1 Initials are written either by the use of simple symbols, as ꞑ'kha 'mouth', or by combinations of symbols, as ꞑꞑ' dâ 'hundred'. Note that since, as stated above, CT has no consonant clusters, any combination of consonant symbols in initial (or final) ^{position} represents simply a single initial (or final) consonant-phoneme. Since tones are indicated by the particular method employed to write these initial phonemes—by choosing among spellings which would represent the same consonant-phoneme—the writing of tones may most conveniently be treated together with that of the initials themselves.

2.11 Stops

2.111 In general, voiceless stops followed by low tones, i.e. k` t` p` tš` ts` ʈ` ʈ̣`, are written with the double-value stop-consonant symbols used without prescripts or superscripts, k` t` p` tš` ts` being written by the symbols ꞑ, ʈ, ꞑ, ꞑ, ꞑ, alone, while ʈ̣` is written by any of ꞑ, ʈ, or ꞑ with ̣ subscript, thus: ꞑ̣, ʈ̣, ꞑ̣, and ʈ̣` by the symbol ꞑ with ̣ subscript, thus: ꞑ̣. This general principle, of writing the retroflex stop consonants with consonant symbols plus ̣ subscript, and the palatal consonants with consonant symbols plus ̣ subscript, applies throughout below, and will be cited hereafter simply as Rule One.

2.112 Voiceless stops followed by high tones, i.e. k t p tš ts ʈ ʈ̣, are written with the single-value stop-consonant symbols, used either with or without prescripts and superscripts, and with subscripts according to Rule One (2.111). If there is no prescript nor superscript, this gives us the spellings ꞑ k, ʈ t, ꞑ p, ꞑ tš, ꞑ ts, three retroflex-stop spellings ꞑ̣ ʈ̣, ꞑ̣ ṭ, ꞑ̣ ʈ̣, and the palatal-stop spelling ꞑ̣ ʈ̣. Superscript and prescript symbols do not alter these values, nor even change the tone; thus: ꞑ̣̣, ꞑ̣̣̣, ꞑ̣̣̣̣, ꞑ̣̣̣̣̣, ꞑ̣̣̣̣̣̣, ꞑ̣̣̣̣̣̣̣, all equal ꞑ k.

2.113 The voiced stops, always followed by low tone except under con-

ditions of tone-sandhi, i.e. g` d` b` dz` dz` d` d`, are written with the double-value stop-consonant symbols used with prescripts or superscripts or both, and with the necessary subscripts according to Rule One (2.111), e.g. ᄁᄁᄁ' gà, ᄁᄁᄁ'dà, ᄁᄁᄁ'dzà, etc. Hence the designation 'double-value consonant symbols' for ᄁ, ᄁ, ᄁ, ᄁ, ᄁ, since they are also used (without prescripts or superscripts) to write the voiceless stops of CT (2.111).

2.114 The aspirated stops kh, th, ph, tšh, tsh, ʈh, ʈh, which are always accompanied by the high tone (unmarked in our transcription), are written with the aspirated-stop consonant-symbols ᄁ, ᄁ, ᄁ, ᄁ, ᄁ, with the necessary subscripts according to Rule One, so that ʈh has the three normal spellings ᄁ, ᄁ, ᄁ, and ʈ is written ᄁ. Here again (as in 2.112) prescripts and superscripts make no difference.

2.115 The ʇ subscript with labial-stop symbols gives alternate symbols for palatal affricates (not, as might be expected, stops ʈ etc.), thus: ᄁ p`, ᄁ tš`; ᄁ p, ᄁ tš; ᄁ ph, ᄁ tšh; compare the normal symbols for these three in 2.111, 2.112, and 2.114 respectively. And ᄁ m plus ʇ gives ᄁ ᄁ, an alternate to ᄁ ᄁ (2.12 below).

2.12 The continuants ŋ n m ᄁ l r are written with a single set of symbols which, unlike the stop-symbols, have no tone-implication; and here the use of prescripts and superscripts makes the difference between high and low tone, instead of signifying voice (as in 2.113) or nothing (2.112 and 2.114). With low tone there is no prescript nor superscript: ᄁ ᄁ, ᄁ ᄁ, ᄁ ᄁ, ᄁ (or ᄁ : 2.115) ᄁ, ᄁ l, ᄁ r. Any prescript or superscript signifies high tone instead. Subscript ʇ here is rare, and unrelated to the pronunciation.

2.13 The sibilants s and š with high tone are written ᄁ s, ᄁ š; with low tone ᄁ s`, ᄁ š`; and prescripts and superscripts have no effect.

2.14 The voiceless lateral ʎ and flap ʎ, the glottal stop ʔ and glottal spirant h, and the semivowels w and y, are written in a variety of fashions, the most important of which are listed below. Note that ʎ and ʎ are always accompanied by high tone. The most usual writing of h is ᄁ, and the tone is not indicated. The same symbol with ʇ subscript is the usual spelling for the voiceless flap: ᄁ ʎ. On the other hand, the ᄁ h is itself subscript to ᄁ l in the usual spelling for the voiceless lateral: ᄁ ʎ. The usual symbol for ʔ is ᄁ, but the tone is not indicated (as with h); and in addition, several combinations of other

consonant-symbols are used to spell ' (2.421). Besides its proper symbol ཨ , w is written with the double-value labial stop symbol བ , especially in grammatical morphemes (3 below) but also in a few full words (2.413); no simple rule for the tones can be stated. The usual writing for y` is ཡ , and for y [high tone] is ཡཡ , but others are found (2.517).

2.15 The prescripts, superscripts, subscripts (and postscripts: 2.5), wherever the above statements allow for variety in the writing of one and the same phonemic shape (and that is in nearly every detail), just have to be memorized word by word; there is no rule to guide in their usage. The following lists give the various combinations of initial consonant symbols used, and the initial consonant phonemes symbolized by them. In conformity with Tibetan practise, we read each spelling with the vowel a, the vowel that is normally indicated by absence of overt vowel-symbol. Most of these are genuine Tibetan syllables; every one would be, given appropriate vowels and finals. Here 'à' means that this initial-consonant spelling implies low tone. Plain 'a' of course normally means that high tone is implied by this initial-consonant spelling; but see 2.14 for the possibilities of ambiguity with the 'miscellaneous' initials.

2.1511 7 symbols with subscript ོ : 1 ཏ ོ ta, 2 ཏ ོ tha, 3 ཏ ོ tà, 4 ཏ ོ tša, 5 ཏ ོ tšha, 6 ཏ ོ tšà, 7 ཏ ོ ñà.

2.1512 11 symbols with subscript ོ : 1 ཏ ོ , 2 ཏ ོ , 3 ཏ ོ ta; 4 ཏ ོ , 5 ཏ ོ , 6 ཏ ོ tha; 7 ཏ ོ , 8 ཏ ོ , 9 ཏ ོ tà; 10 ཏ ོ sa, 11 ཏ ོ fa.

2.1521 6 symbols which may appear superscript to ཏ : 1 ཏ ོ , 2 ཏ ོ , 3 ཏ ོ , 4 ཏ ོ , 5 ཏ ོ la; 6 ཏ ོ dà [N.B.!].

2.1522 15 symbols and combinations which may appear with ཏ superscript: 1 ཏ ོ ka, 2 ཏ ོ ta, 3 ཏ ོ gà, 4 ཏ ོ dà, 5 ཏ ོ na, 6 ཏ ོ dzà; 7 ཏ ོ , 8 ཏ ོ ña; 9 ཏ ོ ta, 10 ཏ ོ dà, 11 ཏ ོ na, 12 ཏ ོ bà, 13 ཏ ོ ma, 14 ཏ ོ tsa, 15 ཏ ོ dzà.

2.1523 10 symbols which may appear with ཏ superscript: 1 ཏ ོ ka, 2 ཏ ོ gà, 3 ཏ ོ na, 4 ཏ ོ tša, 5 ཏ ོ dzà, 6 ཏ ོ ta, 7 ཏ ོ dà, 8 ཏ ོ pa, 9 ཏ ོ bà, 10 ཏ ོ r.

2.1524 21 symbols and combinations which may appear with **ᳵ** super-

script: 1 **ᳵ**ka, 2 **ᳵ**᳚᳚᳚ ᳚᳚᳚; 3 **ᳵ**᳚᳚᳚ , 4 **ᳵ**᳚᳚᳚ ᳚᳚᳚; 5 **ᳵ**᳚᳚ ᳚᳚᳚, 6 **ᳵ**᳚᳚ ᳚᳚᳚; 7 **ᳵ**᳚᳚᳚ ,
8 **ᳵ**᳚᳚ ᳚᳚᳚, 9 **ᳵ**᳚᳚ ᳚᳚᳚, 10 **ᳵ**᳚᳚ ᳚᳚᳚, 11 **ᳵ**᳚᳚ ᳚᳚᳚, 12 **ᳵ**᳚᳚ ᳚᳚᳚, 13 **ᳵ**᳚᳚ ᳚᳚᳚, 14 **ᳵ**᳚᳚ ᳚᳚᳚,
15 **ᳵ**᳚᳚ ᳚᳚᳚, 16 **ᳵ**᳚᳚ ᳚᳚᳚, 17 **ᳵ**᳚᳚ ᳚᳚᳚; 18 **ᳵ**᳚᳚᳚ , 19 **ᳵ**᳚᳚᳚ ma; 20 **ᳵ**᳚᳚ ᳚᳚᳚, 21 **ᳵ**᳚᳚᳚ tsa.

2.1531 11 symbols which may appear with prescript **᳚**: 1 **᳚**᳚᳚ ᳚᳚᳚, 2 **᳚**᳚᳚ ᳚᳚᳚, 3 **᳚**᳚᳚ ᳚᳚᳚, 4 **᳚**᳚᳚ ᳚᳚᳚, 5 **᳚**᳚᳚ ᳚᳚᳚, 6 **᳚**᳚᳚ ᳚᳚᳚, 7 **᳚**᳚᳚ ᳚᳚᳚, 8 **᳚**᳚᳚ ᳚᳚᳚, 9 **᳚**᳚᳚ ᳚᳚᳚, 10 **᳚**᳚᳚ ᳚᳚᳚, 11 **᳚**᳚᳚ ᳚᳚᳚.

2.1532 15 symbols and combinations of symbols which may appear with prescript **᳚**: 1 **᳚**᳚᳚ ka, 2 **᳚**᳚᳚ ᳚᳚᳚; 3 **᳚**᳚᳚ , 4 **᳚**᳚᳚ ᳚᳚᳚; 5 **᳚**᳚᳚ ᳚᳚᳚, 6 **᳚**᳚᳚ ᳚᳚᳚; 7 **᳚**᳚᳚ , 8 **᳚**᳚᳚ ᳚᳚᳚, 9 **᳚**᳚᳚ ᳚᳚᳚, 10 **᳚**᳚᳚ ᳚᳚᳚, 11 **᳚**᳚᳚ ᳚᳚᳚, 12 **᳚**᳚᳚ wa or ᳚᳚᳚, 13 **᳚**᳚᳚ ᳚᳚᳚, 14 **᳚**᳚᳚ ma, 15 **᳚**᳚᳚ ᳚᳚᳚.

2.1533 45 symbols and combinations of symbols which may appear with prescript **᳚**: 1 **᳚**᳚᳚ , 2 **᳚**᳚᳚ , 3 **᳚**᳚᳚ ka; 4 **᳚**᳚᳚ , 5 **᳚**᳚᳚ , 6 **᳚**᳚᳚ ᳚᳚᳚; 7 **᳚**᳚᳚ , 8 **᳚**᳚᳚ ᳚᳚᳚; 9 **᳚**᳚᳚ , 10 **᳚**᳚᳚ , 11 **᳚**᳚᳚ , 12 **᳚**᳚᳚ ᳚᳚᳚; 13 **᳚**᳚᳚ , 14 **᳚**᳚᳚ , 15 **᳚**᳚᳚ , 16 **᳚**᳚᳚ , 17 **᳚**᳚᳚ ᳚᳚᳚; 18 **᳚**᳚᳚ , 19 **᳚**᳚᳚ na; 20 **᳚**᳚᳚ , 21 **᳚**᳚᳚ , 22 **᳚**᳚᳚ tsa; 23 **᳚**᳚᳚ ᳚᳚᳚; 24 **᳚**᳚᳚ ᳚᳚᳚, 25 **᳚**᳚᳚ ᳚᳚᳚; 26 **᳚**᳚᳚ , 27 **᳚**᳚᳚ , 28 **᳚**᳚᳚ ᳚᳚᳚; 29 **᳚**᳚᳚ , 30 **᳚**᳚᳚ , 31 **᳚**᳚᳚ ᳚᳚᳚; 32 **᳚**᳚᳚ , 33 **᳚**᳚᳚ ᳚᳚᳚; 34 **᳚**᳚᳚ , 35 **᳚**᳚᳚ ᳚᳚᳚; 36 **᳚**᳚᳚ , 37 **᳚**᳚᳚ ᳚᳚᳚; 38 **᳚**᳚᳚ , 39 **᳚**᳚᳚ ᳚᳚᳚; 40 **᳚**᳚᳚ ᳚᳚᳚, 41 **᳚**᳚᳚ ᳚᳚᳚, 42 **᳚**᳚᳚ ᳚᳚᳚; 43 **᳚**᳚᳚ , 44 **᳚**᳚᳚ , 45 **᳚**᳚᳚ la.

2.1534 15 symbols and combinations with prescript **᳚**: 1 **᳚**᳚᳚ kha, 2 **᳚**᳚᳚ ᳚᳚᳚, 3 **᳚**᳚᳚ ᳚᳚᳚, 4 **᳚**᳚᳚ ᳚᳚᳚, 5 **᳚**᳚᳚ ᳚᳚᳚, 6 **᳚**᳚᳚ ᳚᳚᳚, 7 **᳚**᳚᳚ ᳚᳚᳚, 8 **᳚**᳚᳚ ᳚᳚᳚, 9 **᳚**᳚᳚ ᳚᳚᳚, 10 **᳚**᳚᳚ ᳚᳚᳚, 11 **᳚**᳚᳚ ᳚᳚᳚, 12 **᳚**᳚᳚ ᳚᳚᳚, 13 **᳚**᳚᳚ na, 14 **᳚**᳚᳚ tsha, 15 **᳚**᳚᳚ ᳚᳚᳚.

2.1535 19 symbols and combinations with prescript **᳚**: 1 **᳚**᳚᳚ kha, 2 **᳚**᳚᳚ ᳚᳚᳚, 3 **᳚**᳚᳚ , 4 **᳚**᳚᳚ ᳚᳚᳚; 5 **᳚**᳚᳚ ᳚᳚᳚, 6 **᳚**᳚᳚ ᳚᳚᳚; 7 **᳚**᳚᳚ , 8 **᳚**᳚᳚ , 9 **᳚**᳚᳚ ᳚᳚᳚; 10 **᳚**᳚᳚ , 11 **᳚**᳚᳚ ᳚᳚᳚; 12 **᳚**᳚᳚ , 13 **᳚**᳚᳚ ᳚᳚᳚; 14 **᳚**᳚᳚ ᳚᳚᳚, 15 **᳚**᳚᳚ ᳚᳚᳚, 16 **᳚**᳚᳚ pha, 17 **᳚**᳚᳚ ᳚᳚᳚, 18 **᳚**᳚᳚ tsha, 19 **᳚**᳚᳚ ᳚᳚᳚.

2.2 Vowels.

2.21 The vowel a is written covertly, by using any consonant-symbol or any of the above combinations of consonant-symbols in syllable-initial position, without any of the overt vowel symbols. The vowel a is thus commonly said to be inherent in all the consonant-symbols.

2.22 The vowels i, o and u are written overtly, by using respectively the symbols $\overset{\sim}{\text{c}}$, $\overset{\smile}{\text{c}}$, and $\overset{\cup}{\text{c}}$, the first two as superscripts to, the last one as a subscript to, that consonant-symbol (or combination with subscript or superscript or both) which spells the initial consonant of the syllable: that is, not with its prescript if there is any. This placement can therefore occasionally distinguish between words: $\overset{\sim}{\text{r}}\text{c}$ tòŋ, but $\overset{\smile}{\text{r}}\text{c}$ ŋo.

2.23 The vowel e is written either with the overt symbol $\overset{\sim}{\text{c}}$ as a superscript to the initial-consonant spelling, or else by adding, in written syllable-final position, either the symbol c or the symbol c to a spelling without overt vowel-symbol (which would otherwise signify the vowel a: 2.21); in this case, the symbol c has a double function, writing not only the vowel e, but also the final consonant n, while c in this position is 'silent'. Note also that when i and e are written with the overt symbols $\overset{\sim}{\text{c}}$ and $\overset{\smile}{\text{c}}$, the additional writing of c (or c : 2.24) in written syllable-final position is unrelated to any feature of the language.

2.24 The vowels ø and ù are written in various ways, all of which consist in principle of a modification of an o or an u, respectively, written as above, by writing an additional consonant-symbol immediately following the initial-consonant spelling with its $\overset{\smile}{\text{c}}$ or $\overset{\cup}{\text{c}}$. These consonant symbols may be c , c , or c , in which case their only function is to write, in conjunction with the symbols $\overset{\smile}{\text{c}}$ or $\overset{\cup}{\text{c}}$, the vowels ø or ù, or the symbol c , which then has a double function: writing the final n as well as indicating that the vowel is ø or ù. Additional specialized ways of writing e, ø, and ù are dealt with in 3.14 below.

2.3 Finals.

2.31 Final b, g, m, ŋ, n are written with c or c , c or c , c or c , or c (see 2.24 for the effect of final c upon vowel-readings). Final r and l are written with c and c (but see 2.24 for the effect of final written c [normally silent] upon vowel-read-

ings; there is a certain amount of free variation in CT as far as morphemes ending in *ü* and *ö* are concerned: such forms often have parallel forms, used in free variation, of the shape *-ul*, *-ur*, and *-ol*, *-or*, e.g. ຍູນ ຍູ or ຍູນ ຍູນ in free variation 'country'). Final *s*, rare in CT, is spelled irregularly: 3.26 (written ສ is silent: see above).

2.32 Certain syllables with the vowel *a* and no final consonant-phoneme are written with a final ຫ; then it is obvious that the preceding consonant-symbol spells the initial-consonant phoneme of the syllable and another consonant-symbol before it must be a prescript: ມາຫາ ກາ 'sky', and if the initial-consonant symbol is one that could also have been a final-consonant symbol (2.31) ambiguity has been prevented by this device: ດາ ດາ ດາ 'I', ດາ ດາ ດາ ດາ 'virtue', for the reader knows that ຫ would have been used if possible, so that ດາ ດາ cannot be ດາ ດາ (see above, 2.22, for the absence of ambiguity with other vowels than *a*).

2.4 The regular operation of the above stated basic spelling principles is shown by examples below, arranged so as to display first (2.411–.421) the spellings for initials and tones and incidentally the related final consonants, and then (2.51–.54) the spellings for vowels and final consonants. The lists here show all the phonemic contrasts of CT in regular spellings (thought not with all possible prescripts, subscripts, and superscripts: 2.1511–.1535); irregular spellings, especially those required in certain form-classes, will follow thereafter (3.).

2.411 Velars.

| | | | | | |
|-------|----------|----------|------|----------|--------------|
| ka | ດາ ດາ ດາ | 'order' | kaŋ | ດາ ດາ | 'foot' |
| kà | ດາ | 'where' | kàŋ | ດາ ດາ | 'full up' |
| kha | ດາ | 'mouth' | khaŋ | ດາ ດາ | 'room' |
| gà | ດາ ດາ | 'saddle' | gàŋ | ດາ ດາ | 'hillock' |
| ŋa | ດາ ດາ | 'five' | kò | ດາ ດາ | 'dress' |
| ŋà | ດາ | 'I' | gò | ດາ ດາ ດາ | 'have to' |
| ŋembà | ດາ ດາ ດາ | 'reward' | mag | ດາ ດາ ດາ | 'war' |
| ŋèmba | ດາ ດາ ດາ | 'bad' | màg | ດາ ດາ | 'bridegroom' |

2.412 Dentals.

| | | | | | |
|---------|----------|---------------------|------|---------|--------------|
| taŋ | ཅང་ | 'spend, send' | tag | ཐུག་ | 'tiger' |
| thaŋ | ཐང་ | 'a plain' | thag | ཐག་ | 'spider web' |
| dàŋ | རྩང་ | 'meet expenditures' | dàg | པང་ག་ | 'I' |
| ta | རྩ་ | 'horse' | na | རྩ་ | 'ear' |
| tà | ད་ | 'now' | nà | རྩ་ | 'if' |
| tha | མཐུན་ | 'border' | naŋ | གནང་ | 'give' |
| dà | མུད་ | 'arrow' | nàŋ | རྩང་ | 'house' |
| †andŋig | གྲམ་ཐུག་ | 'arranging' | ŋòn | ལྷོ་རྩ་ | 'previously' |
| ŋàndzo | ང་ཚོ་ | 'we' | dùn | བདུན་ | 'seven' |
| tshen | མཚན་ | 'night' | lèn | ལན་ | 'reply' |

2.413 Labials.

| | | | | | |
|-------|--------|-----------|--------|--------|---------------|
| pö | ཐུས་ | 'incense' | pha | པ་ | 'father' |
| pö | པོ་ | 'Tibet' | bà | ཟུང་ | 'witch' |
| pü | ཕུ་ | 'son' | ma | མ་ | 'wound' |
| bü | ཕུ་ | 'worm' | mà | མ་ | 'not' |
| piwaŋ | པ་ཐང་ | 'guitar' | nam | རྩམས་ | plural marker |
| wàŋ | དབང་ | 'power' | ñam | མཉམ་ | 'along with' |
| wömba | ཕྱུ་པ་ | 'deaf' | lâm | ལམ་ | 'road' |
| wö | ལྗང་ | 'light' | dâm | འགྲམ་ | 'near to' |
| šàb | ཉལས་ | 'foot' | šabšub | ཉལ་ཉལ་ | 'whisper' |

2.414 Dental affricates.

| | | | | | |
|----------|-----------|--------------------|-------|--------|----------------|
| tse | ཚེ་ | 'mountain peak' | tsö | ཚོང་ | 'discuss' |
| tshe | ཚེ་ | 'life' | tsho | མཚོ་ | 'lake' |
| tsar | རྩར་ | 'to the root' | tsaŋ | ཅང་ | 'consequently' |
| tshar | ཚར་ | 'finish' | tshaŋ | ཚང་ | 'nest' |
| ŋàndzö | ང་ཚོ་ཉི་ | (3.14, .24) 'our' | tshom | ཚོམ་ | 'be annoyed' |
| tšhandzö | ཕུག་མཚོང་ | (3.21) 'treasurer' | dzòm | འཇོམས་ | 'be assembled' |

2.415 Palatal affricates.

| | | | | | |
|------|-------|--------------------|-------|-------|-----------|
| tʃè | ཐུང་ | 'do' | tʃhe | མཚེ་ | 'tusks' |
| tʃà | ཐུ་ | 'bird' | tʃaŋ | ལྷང་ | 'willow' |
| tʃha | ཚེ་ | 'speech, portion' | tʃhaŋ | ཚང་ | 'beer' |
| dʒà | མཇེལ་ | 'visit a superior' | dʒaŋ | ལྷངས་ | 'acquire' |
| tʃu | ཐུ་ | 'ten' | tʃuŋ | ཐུང་ | 'become' |
| tʃhu | ཚེ་ | 'water' | tʃhuŋ | ཚུང་ | 'small' |

2.416 Retroflex stops.

| | | | | | |
|----|------|-----------------|-----|-------|---------------|
| ʈa | ཐུང་ | 'hair of head' | ʈu | ཐུངས་ | 'incarnation' |
| ʈà | ཐུ་ | 'monk' | ʈu | ཐུལ་ | 'bathe' |
| ʈà | ཐུ་ | 'enemy' | ʈu | ཐུལ་ | 'snake' |
| ʈò | ཐུ་ | 'Chumbi Valley' | ʈag | ཐག་ | 'heal' |
| ʈò | ཐུ་ | 'go' | ʈag | ཐག་ | 'blood' |

2.417 Palatals.

| | | | | | |
|-----|-------|---------|---------|-------|-------------|
| ʈe | ཐུངས་ | 'born' | ʈhò | ཐུང་ | 'you' |
| ʈi | ཐུངས་ | 'happy' | yab | ཐལ་ | 'to fan' |
| ʈhi | ཐུངས་ | 'dog' | yàb | ཐལ་ | 'father' |
| ʈi | ཐུངས་ | 'of' | yib | ཐུལས་ | 'figure' |
| ʈi | ཐུངས་ | 'two' | yintʃaŋ | ཐུང་ | 'but still' |

2.418 Sibilants.

| | | | | | |
|-----|-------|---------|----|-----|------------|
| so | ཐུང་ | 'tooth' | ʂa | ཐུ་ | 'mushroom' |
| sò | ཐུ་ | 'eat' | ʂà | ཐུ་ | 'hat' |
| ser | ཐུངས་ | 'gold' | ʂi | ཐུ་ | 'death' |
| sèr | ཐུངས་ | 'say' | ʂi | ཐུ་ | 'four' |

2.419 Laterals.

| | | | | | |
|----|-------|---------|----|-----|-----------------|
| lo | ཐུང་ | 'cough' | la | ཐུ་ | 'wage' |
| lò | ཐུ་ | 'year' | là | ཐུ་ | 'mountain pass' |
| ʂo | ཐུངས་ | 'south' | ʂa | ཐུ་ | 'god' |

lèn ལན་ 'answer'
 nàl ཉལ་ 'lie down'
 rīril རྩིལ་འལ་ 'round'

yen ལྷན་ 'a patch'
 thil མཐེན་ 'palm of hand'
 gèl འགྲེན་ 'place, put'

2.420 Flaps.

ràŋ རང་ 'self'
 faŋ རམ་ 'bachelor'
 pàrpar བར་བར་ 'from time to time'

sùr ཟུར་ 'pension'
 pòr བོར་ 'leave'
 tshirdù ལྷུར་དུ་ 'for the purpose of'

2.421 Glottals.

?arag ལམ་རྒྱ་ 'alcoholic spirits'
 ?ogšö ལོག་ཞོལ་ 'beard'
 ?àpha ལམ་པ་ 'father'
 ?àma ལམ་མ་ 'mother'
 ?ùpo རལུལ་པོ་ 'poverty'

?orog ལོ་རྩོག་ 'crow [bird]'
 hàtšəŋ ཏ་ཅང་ 'very'
 hàlam ཏ་ལམ་ 'almost'
 hakò ཏ་གོ་ 'understand'
 hor ཏོར་ 'Turks'

2.5 Next we may inspect the following examples of spellings of vowels and finals, arranged, unlike the lists immediately above, by spellings; these, together with the examples presented above, complete the presentation of the regular operation of the script.

2.51 ་ང, ་ག, ་གས, ་མ, ་མས, ་ན [no vowel-symbol].

་ང : le ལྷང་ 'purpose'; ་ག : šàg བཞག་ 'keep', nag བརྒྱག་ 'yak (and other large animals)'; ་གས : lag བལྲགས་ 'lost', lag བཀྲགས་ 'read'; ་མ : tsam ཅམ་ 'about, roughly'; ་མས : nam བརྒྱམས་ 'grasping', kham ཁམས་ 'Kham'; ་ན : tsen བཅན་ 'mischief-making spirit [of a lama who has died without attaining salvation]', šèn བཞན་ 'other', phentog བན་ཐོག་ 'benefit'.

2.52 ་ིང, ་ིག, ་ིམས, ་ིན, ་ིང, ་ིས.

་ིང : dāsi རྒྱལ་སྤྱིང་ 'royal administration'; ་ིག : tšig བཅིག་ 'one', dzigten འཛིག་རྟེན་ 'the world'; ་ིམས : tšhōṭhim རྩོས་ཁྱིམས་ 'religious customs or laws'; ་ིན : tēminnà དེ་མིན་ན་ 'otherwise';

ྱིང་ : རྒྱུང་རྒྱུས་ nigrù 'diligence', སྲིམ་མོ་ 'daughter'; རྩེས་ : t̥ɕba རྩེས་པ་ 'boy, child', tsi རྩེས་ 'recognized as'.

2.53 ལྷོག་, ལྷོག་པ་, ལྷོག་པ་, ལྷོག་པ་, ལྷོག་པ་, ལྷོག་པ་.

ལྷོག་ : d̥ub ལྷོག་པ་ 'attaining (to rank, degree)'; ལྷོག་ : thug ལྷོག་ 'noodles', lobthug ལྷོག་ལྷོག་ 'student'; ལྷོག་པ་ : t̥ɕhòd̥ùg ལྷོག་ལྷོག་ 'catechetical examination'; ལྷོག་ : sum ལྷོག་ལྷོག་ 'three'; ལྷོག་ : རྩེས་ ལྷོག་ 'government; school of religious speculation'; ལྷོག་པ་ : sup ལྷོག་པ་ 'saying'; ལྷོག་ : bù ལྷོག་པ་ 'offer', rùrù ལྷོག་ལྷོག་ 'rotten', fúfú ལྷོག་ལྷོག་ 'ragged, threadbare'; ལྷོག་ : t̥ù ལྷོག་ 'time, when'.

2.54 རྩེས་, རྩེས་པ་, རྩེས་, རྩེས་, རྩེས་.

རྩེས་ : s̥è ལྷོག་ 'being afraid of', tse རྩེས་ 'play', dzè ལྷོག་ 'forget'; རྩེས་པ་ : sem རྩེས་པ་ 'mind'; རྩེས་ : t̥ɕhen རྩེས་ 'great'; རྩེས་ : ʃher ལྷོག་ 'carry'; རྩེས་ : ñèba རྩེས་པ་ 'punishment'.

2.55 ལྷོག་, ལྷོག་, ལྷོག་, ལྷོག་པ་, ལྷོག་པ་, ལྷོག་པ་, ལྷོག་པ་, ལྷོག་པ་.

ལྷོག་ : lobp̥on ལྷོག་ལྷོག་ 'teacher (especially in spiritual matters)'; ལྷོག་ : t̥ɕhòtsò ལྷོག་ལྷོག་ 'religious discussion', nõdz̥ln ལྷོག་ལྷོག་ 'evil spirit'; ལྷོག་ : log ལྷོག་ 'read', lòg ལྷོག་ 'return [travel]'; sog ལྷོག་ 'life'; ལྷོག་པ་ : màtog ལྷོག་ལྷོག་ 'no more than..., nothing but...'; ལྷོག་པ་ : d̥òm ལྷོག་ལྷོག་ 'penis'; ལྷོག་པ་ : dzò̃m ལྷོག་ལྷོག་ 'be assembled'; ལྷོག་ : ŋon ལྷོག་ 'previously'; ལྷོག་ : khoŋ ལྷོག་ 'he'; ལྷོག་ : t̥ɕhò ལྷོག་ 'religion, esp. the Buddhist dharma; book; sermon'.

3. SPECIAL AND IRREGULAR SPELLINGS

3.0 In 2. above we have seen the basic conventions by which the symbols of the Tibetan script are employed to write the language. Now we must consider certain exceptions to these principles, some completely or fairly consistent writings for a particular form-class, others covering only a few words or a single word.

3.1 There are important orthographic exceptions to 2. for certain form-classes.

3.11 The tautological noun-extender -pa ས -bà ས -wà is said to be properly written འ' after ཅ, ད, ན, བ, མ, and ས, and elsewhere ག'; and the actor-suffix -po ས -bò ས -wò and the tautological adjective-extender -po ས -bò ས -wò are similarly said to be properly written ར' after ཅ, ད, ན, བ, མ, and ས, and ལ' elsewhere; but in current usage these orthographic conventions are not well observed, as the examples will show. Note that, as stated below (3.221), it is the basic form of the preceding morpheme that is written before these suffixes and extenders. Thus: làgpa ལག་པ་ 'hand', gèmba གེམ་པ་ 'senior in age or rank', gòngba དགོངས་པ་ 'anger', dība དེ་པ་ 'the [plural]', tūbà ལྷུ་ལ་པ་ 'a living incarnation (of someone)', mùtowà མུ་ལྷོ་བ་ 'a beggar', dāwa rīmpotšhe ལྷུ་ལ་བ་རིན་པོ་ཆེ་ 'the Dalai Lama', dāwa ལྷོ་བ་ 'moon, month', dōmbo མགྲོན་པོ་ 'guest', dūgpo ལྷུ་གཤེན་པོ་ 'suffering', māngbo མང་པོ་ 'many', bàwo དབའ་བོ་ 'male witch', dābo ལྷུ་ལ་པོ་ 'king'.

3.12 The numbers of CT constitute a form-class characterized by a great deal of morphologically determined morpheme-alternation. The spellings for this set of forms are full of irregular features.

3.121 Units.

| | | | |
|---------|-------|---------|--------|
| 1: tʂig | གཅིག་ | 6: tʂeg | དྲུག་ |
| 2: ŋi | གཉིས་ | 7: dʊn | བདུན་ |
| 3: sum | གསུམ་ | 8: dʂe | བརྒྱད་ |
| 4: ʂi | བཞི་ | 9: gu | དགུ་ |
| 5: ŋa | ལྔ་ | 10: tʂu | བཅུ་ |

'Ten' is tʂu or tʂuthambà བཅུ་ཐམ་པ་. The form thambà 'and no more' may be added at will to the expressions for 10, 20, 30, 40, 50, 60, 70, 80, and 90; it is in each case written the same.

3.122 Tens.

| | | | |
|--------------|-----------|--------------|------------|
| 11: tʂugtʂig | བཅུ་གཅིག་ | 16: tʂugtʂeg | བཅུ་དྲུག་ |
| 12: tʂuŋŋi | བཅུ་གཉིས་ | 17: tʂubdʊn | བཅུ་བདུན་ |
| 13: tʂugsum | བཅུ་གསུམ་ | 18: tʂobdʂe | བཅུ་བརྒྱད་ |
| 14: tʂubʂi | བཅུ་བཞི་ | 19: tʂurgu | བཅུ་དགུ་ |
| 15: tʂoŋa | བཅུ་ལྔ་ | 20: ŋiʂu | ཉི་ལྔ་ |
| | | ŋiʂuthambà | |

Here note the complex shape of the morpheme for '10', and its spellings, especially in '15' and '18'.

3.123 Decades. In each decade, the multiple of '10' is formed by prefixing a simple decade-morph to an allomorph of tʂu '10', with the optional addition of thambà (3.121). The simple decade-morphs are:

| | | | |
|---------|------|----------|--------|
| 20: ŋi | ཉི་ | 60: tʂeg | དྲུག་ |
| 30: sum | སུམ་ | 70: dʊn | བདུན་ |
| 40: ʂib | བཞི་ | 80: dʂe | བརྒྱད་ |
| 50: ŋab | ལྔ་ | 90: gu | དགུ་ |

Here the allomorphs of '10' are: ʂu ལྔ་ with '20', elsewhere tʂu throughout, but this tʂu is written ཅུ་ in '30', '60', '70', '80', and བཅུ་ in '40', '50', '90', i.e. where the simple decade-morph has a final b.

In each decade, the numbers from the first to the ninth place, e.g. '41' to '49', are formed by prefixing to the units a secondary decade

morph. These secondary decade morphs, and the numbers for which each allomorph is found, are:

- 20: tsa^{1,2,3,5,6} ∞ tsab^{4,7,8} ∞ tsar⁹, all written རྩ་
- 30: so^{1,2,3,4,6} ∞ sɔ⁵ ∞ sob^{7,8} ∞ sor⁹, all written རྩོ་
- 40: ʂe^{1,2,3,4,5,6} ∞ ʂeb^{7,8} ∞ ʂer⁹, all written རེ་
- 50: ŋa^{1,2,3,4,5,6,7,8} ∞ ŋar⁹, both written ང་
- 60: re^{1,2,3,5,6,9} ∞ reb^{4,7,8}, both written རེ་
- 70: tɔn རོན་ 80: da གྲ་ 90: kɔ རོ་

(The units morphs of 3.121 are used with one alteration: after a low-tone secondary decade morph, the units morph has high tone.) Paralleling the -thambà extensions of the simple multiples of '10', these compound numbers have alternate longer forms with the simple multiple prefixed: '4' ʂi, '9' gu, '40' ʂibtʂu or ʂibtʂuthambà, '49' ʂèrgu or ʂibtʂuʂèrgu.

3.124 Each number from '20' to '99' has short and long forms in free variation according to the pattern just shown. Typical short forms are:

| | | |
|--------------------|----------------------------------|--------------------------------|
| 20 ʂiʂu རེ་གྲ་ | 21 ^o tsatʂig རྩ་པའིག་ | 22 ^o tsaŋi རྩ་པའིས་ |
| 23 tsasum རྩ་བསུམ་ | 24 tsabʂi རྩ་པའེ་ | 25 tsarja རྩ་ལྷ་ |
| 30 sumtʂu སུམ་རྩ་ | 31 sotʂig རྩོ་པའིག་ | 33 sosum རྩོ་བསུམ་ |
| 40 ʂibtʂu པའེ་བརྩ་ | 44 ʂèʂi རེ་པའེ་ | 49 ʂèrgu རེ་ངགྲ་ |
| 50 ŋabtʂu ལྷ་བརྩ་ | 54 ŋàʂi ལྷ་པའེ་ | |
| 60 ʂigtʂu རྩལ་རྩ་ | 63 rèsum རེ་བསུམ་ | |
| 70 dùntʂu བརྩན་རྩ་ | 73 tɔnsum རོན་བསུམ་ | |
| 80 dètʂu བརྩང་རྩ་ | 82 dàni གྲ་པའིས་ | 88 dàde གྲ་བརྩང་ |
| 90 gùbtʂu ངགྲ་བརྩ་ | 94 kòʂi རོ་པའེ་ | 95 kòŋa རོ་ལྷ་ |

3.125 Higher numbers. '100' is dà བརྩ་, or dàthambà བརྩ་ཐམ་པ་. '101' to '199' are formed by dà followed by dàŋ རང་ 'and' (spelled as tãŋ: 3.22) followed by the numbers from '1' to '99' as above. '200', '300', etc., are formed by prefixing the simple decade morphs (beginning of 3.123) to dà, thus: sumdà སུམ་བརྩ་ '300', ŋabdà ལྷ་བརྩ་ '500', and so on. Note also tɔŋ རོན་ '1000', ʂhi རྩི་ '10,000', and bùm བསུམ་ '100,000'.

3.126 The numerals are 1᳚, 2᳚, 3᳚, 4᳚, 5᳚, 6᳚, 7᳚, 8᳚, 9᳚, 0᳚, used exactly as we use ours: 10 ᳚᳚, 1945 ᳚᳚᳚᳚.

3.13 Verbs. The verb morph itself is written regularly, according to the statements in 2., but in the writing of the various aspect particles suffixed to this morph, the following spelling conventions are observed: The imperfective aspect marker -gì is written [᳚]᳚ after ᳚, ᳚, and ᳚, but [᳚]᳚ after ᳚ and ᳚, and open syllables, and [᳚]᳚ after ᳚, ᳚, ᳚, and ᳚. The perfective aspect marker -Cà ∞ -bà is written ᳚ after ᳚, ᳚, and ᳚, and open syllables, elsewhere ᳚, regardless of pronunciation; but again, these last rules on the usage of ᳚ and ᳚ are not always too closely followed today. Thus we have sèrra-, in free variation with the assimilated form sèra-, both written ᳚᳚᳚᳚ 'said', and similarly tsharrà- alongside tsharà- ᳚᳚᳚᳚ 'finished'. In artificially slow literary pronunciation, these are sèrwa- and tsharwà-, hence the spellings. Note also pobbà- ᳚᳚᳚᳚ 'shook down', tagrà- ᳚᳚᳚᳚ 'sent, spent', na᳚᳚à- ᳚᳚᳚᳚ 'gave', dùbba- ᳚᳚᳚᳚᳚᳚ 'acknowledged to be of a certain grade of sanctity', hàlebà- ᳚᳚᳚᳚᳚᳚ 'astonished'. The iterative marker -gìn ... -gìn is spelled [᳚]᳚ after ᳚, ᳚, and ᳚, but [᳚]᳚ after ᳚ and ᳚ and open syllables, and [᳚]᳚ after ᳚, ᳚, ᳚, and ᳚, in every case repeated twice, thus: phùgìn tshalgìn ᳚᳚᳚᳚᳚᳚ ᳚᳚᳚᳚᳚᳚ 'making offerings and bowing down over and over', tagìn tagìn ᳚᳚᳚᳚᳚᳚ ᳚᳚᳚᳚᳚᳚ 'looking again and again', ᳚᳚᳚᳚ ᳚᳚᳚᳚ ᳚᳚᳚᳚᳚᳚ 'crying and carrying on'. The verbal auxiliary dò 'to be about to perform (the action indicated by the head of the construction)' is spelled in a wholly irregular fashion: ᳚᳚᳚᳚, thus: leb᳚᳚ ᳚᳚᳚᳚᳚᳚ ᳚᳚᳚᳚᳚᳚ 'about to reach (somewhere)', phudò ᳚᳚᳚᳚᳚᳚ ᳚᳚᳚᳚᳚᳚ 'about to take off flying'. The verbal referent marker -bì ∞ -wì is written with ᳚᳚ or ᳚᳚, with ᳚ and ᳚ alternating as indicated above, thus: pobbì᳚shirdù ᳚᳚᳚᳚᳚᳚ ᳚᳚᳚᳚᳚᳚ 'in order to shake down (some fruit)', dòwidòpa ᳚᳚᳚᳚᳚᳚ ᳚᳚᳚᳚᳚᳚᳚ 'the desire to go', yàr là᳚wika màna᳚᳚᳚᳚᳚᳚ ᳚᳚᳚᳚᳚᳚ ᳚᳚᳚᳚᳚᳚ ᳚᳚᳚᳚᳚᳚ ᳚᳚᳚᳚᳚᳚᳚ ' (he) did not give the order to arise (from a prone position)'.

3.14 The nominal referent marker in CT is of a curious shape:

after consonants: [$+d̥^{m,n,r,l,b} \sim +gl^{g,u}$] \sim after vowels: [$(>e \sim \sim +yl)^a$
 $\sim (+yl \infty +ti)^{i,e} \sim >u^u \sim (>o \sim \sim +yl)^o \sim +d̥^u \sim +ti^o$]. This marker is
 written ᳚ after ᳚ , ᳚ and ᳚ , but ᳚ after ᳚ , ᳚ , ᳚ , and ᳚ , and
 ᳚ after ᳚ and ᳚ ; after open written syllables, i.e. those ending in no
 written consonant symbol, ᳚ is added, but if ᳚ already is written in
 this position, ᳚ is simply added to it as a superscript. The actor
 marker, which in CT serves as a formal mark dividing the verbs of the
 language into two form-classes, those requiring its presence as an
 overt marker of the actor-expression in predications in which such
 verbs are involved, and those requiring its zero counterpart, is identi-
 cal in shape with the above after consonants; after vowels it appears as
 $\sim [>e^a \infty \text{᳚}^{i,e} \sim >u^u \sim >o^o \sim +d̥^u \sim +ti^o]$. It is spelled as the nominal
 referent marker is, but with the addition of ᳚ , thus: ᳚᳚ , etc., and in
 written syllables ending with ᳚ , this ᳚ is replaced by ᳚ , and in writ-
 ten syllables ending in no consonant-symbol, the ᳚ is added as a final
 written consonant-symbol. The locative marker ᳚ is written ᳚ after
 ᳚ and ᳚ , otherwise regularly ᳚ .

3.2 In addition to the above orthographic conventions for certain form-classes, the fact that the writing system makes no provision for recording certain important morphological processes of the language leads to more irregularity.

3.21 There are a considerable number of morphologically determined morpheme alternants in CT, covered by spelling-conventions by which the script represents only the shortest and simplest of two or more related morphs no matter which one occurs in the colloquial forms. Thus the secondary decade-morpheme for '30' is always written ᳚ 'so' no matter which of the four morphs so , sö , sob , sor actually occurs. The same is true of many common words in other segments of the vocabulary as well. The following list gives some of the most important words of this sort. In many groups, the leading form, matching the spelling, does not occur in CT colloquial at all, so that the meaning given is literary or even hypothetical; but the other forms are actual:

ka བཀའ་ 'word, order' ལ kab- [kabdön བཀའ་བརྒྱུན་ 'a rebuke']
ལ kan- [kandür བཀའ་དུལྱུར་ 'Kangyur' (section of the canon),
kandī བཀའ་དངོས་ 'a request'] ལ ka- [kaḍū 'a chastisement'].

ku ལྗོངས་ 'body' ལ kumdün ལྗོངས་མཉམ་པའི་སྐྱེས་པ་ 'presence' ལ kundā ལྗོངས་ལྷན་པོ་ 'wife'
ལ kurdāb ལྗོངས་རྒྱུ་ 'prone' ལ kündzām ལྗོངས་མཚམས་ 'place where a
lama customarily meditates' ལ kuḍin ལྗོངས་རྒྱུ་ 'kindness'.

gè རྒྱལ་ 'virtue' ལ genden རྒྱལ་ལྡན་ 'Virtue-Possessing' (PN).

gò ལྗོངས་ 'door' ལ gòndza ལྗོངས་ལྡན་ 'lock on a door'.

kha ཁ་ 'mouth' ལ khablòg ཁ་ལྡན་ 'prone' ལ khamdzù ཁ་མཚུ་ 'legal
case' ལ khalèn 'a mock fight'.

ḡà ང་ 'I' ལ ḡandzo ང་ཚོ་ 'we'.

ta རྩ་ 'horse' ལ tabdùg རྩ་རྒྱུ་ 'horse race'.

tè རེ་ 'that' ལ tènḡa རེ་ལྷོ་འདྲ་ 'like that'.

to རྩ་ 'food' ལ tobtḡe རྩ་ཆས་ 'food, article'.

tà ར་ 'now' ལ tànda ར་ལྟ་ 'now'.

nà ར་ 'clothes' ལ nāmsa ར་བཟའ་ 'clothing'.

tḡhag ལྗོངས་ 'hand' ལ tḡhandī ལྗོངས་ལྗོངས་ 'small knife', tḡbandzò
ལྗོངས་མཚོན་ 'treasurer'.

pho རོ་ 'palace' ལ phobḡàḡ རོ་བུ་ 'palace'.

mè རེ་ 'fire' ལ mēnda རེ་མཚན་ 'gun'.

sa རས་ 'earth, place' ལ sandzām རས་མཚམས་ 'boundary'.

là ར་ 'mountain pass' ལ làbtḡigàḡ ར་ལྗོངས་ལྗོངས་ 'a place-name'.

fo ར་ 'south' ལ foḡdàḡ ར་བུ་ 'Southern Rock' [place-name].

ñī རེ་ 'sun, day' ལ ñīnsarlà རེ་ལྗོངས་ 'at sunrise'.

Certain other irregular features in the writing of some of these
words will be discussed immediately below, and others have already
been mentioned above.

3.22 The script has no provision for writing assimilation, dissimilation, apocope, voicing and deaspiration, or tone-sandhi, all of which are important processes in CT. In all cases where these phenomena have taken place, and it is possible, by the usual methods of morpheme analysis, to establish a basic form, it is this basic form that the script writes, and not the end result of the phonological process. In other cases, where lack of the subject form in certain critical environments makes establishment of a basic form impossible, the irregular writings are of the same type and may safely be assigned to this category. We have already met a few cases of such writings above, in the course of other examples; more are given below, and others in the text (4.).

3.221 Vocalic assimilations.

The change of *ö ü* to *o u* before *-b -w* of the verbal perfective marker is the most important representative of this category:

gò- ᳚᳚᳚᳚ 'have to do' ∞ gòwàrè ᳚᳚᳚᳚᳚᳚᳚ 'had to do'; Bù ᳚᳚᳚᳚ 'request' ∞ Bùbàrè ᳚᳚᳚᳚᳚᳚ 'requested'.

3.222 Consonantal assimilations. Place-assimilation of a nasal to a following stop is usual, and examples will be found in the lists in 2.411, 2.412, 2.413, and 3.11, where we assume assimilation if we trust the spellings; attested cases are e.g. gèmba ᳚᳚᳚᳚᳚ 'senior in age or rank' with *gèn- attested by gègen ᳚᳚᳚᳚᳚ 'teacher', and t̥õmbà ᳚᳚᳚᳚᳚᳚ 'to consult (with astrologers and the like)' with *t̥õn- as in kab̥t̥õn ᳚᳚᳚᳚᳚᳚᳚ 'a rebuke' (3.21).

3.223 Dissimilation is rare, e.g. yùrla for yùlla ᳚᳚᳚᳚᳚ 'to a country'.

3.23 Apocope: tsùmò < tsümmò < tsünmò ᳚᳚᳚᳚᳚᳚ 'queen'; simò < simmò < sinmò ᳚᳚᳚᳚᳚᳚ 'demon'.

3.24 Voicing and deaspiration of a voiceless aspirated initial stop when in second position in a compound, i.e. following close juncture, is frequent; and again, there are many writings which, although no free form with voiceless aspirated initial can be established by synchronic analysis, can be assigned here with high probability. There are examples above, e.g. nàndzo (2.412), compare thendzò ᳚᳚᳚᳚᳚ 'you [pl.]'. Thus we find kàdzò ᳚᳚᳚᳚᳚ 'how many?' alongside the basic tshò ᳚᳚᳚᳚ 'measure'; and spellings like ?udzùg ᳚᳚᳚᳚᳚᳚ 'insistence' and

ʔamdzòg ལམ་ཚོག་ 'ear', with the low tone normal in voiced-stop syllables contradicting the high-tone implication of the aspirated-stop symbols. Here also may be mentioned some expressions in which the usual pronunciation has a voiced initial in the second member, where the careful literary pronunciation has a voiceless initial, in both cases with low tone; the writing is based on this second artificial pronunciation: sòdzà ∞ sòtsà བསྟེན་པ་ 'tea', tshedzà ∞ tshetšà རྩོ་བྱ་ 'toy'.

3.25 Tone-sandhi, of which we have seen many examples above, and others of which will be found in the text below, is not written. Thus each syllable is written with the tone it would have in isolation, again with the methodological limitations on this statement mentioned in 3.22 above.

3.26 Finally, there are a certain number of simply irregular spellings; some of these might also have been included, for certain of their details, in the lists above. The most important of these irregular spellings, especially as they appear in common words, follow here:

- ʔutshub དུཅུབ་ཚུབ་ 'be choked'
- kajdò ཀང་རྒྱུག་ 'lame, halt'
- kànla བང་ལ་ 'what for'
- tùṅḍo རུང་ལྲོ་ 'cattle'
- tetša རྩོ་ལྷུག་ 'a whip' for རྩོ་ལྷུག་ 'horse's goad' (3.14).
- togtsòtšig རྩོག་ཚོ་ཚིག་ 'a bit, a little'
- dàŋ དང་ 'do this!'
- dùŋjal ལྷུག་འཕྲུལ་ 'suffering, tribulation'
- dùm ལྷུང་ 'story, tale'
- dùŋṭha འུཅུན་ལུག་ 'a week'
- dè འདིར་ 'here'
- dòŋḍa རྩོག་རྒྱུག་ 'a kick'
- thumà ལྷུང་མ་ 'a spoon'
- negàmè བཅད་འག་མེད་ 'it doesn't matter much'
- phe ལེབས་ 'going'

mà མཱ་ 'down, on the ground'
 mīndūg མིན་འདུག་ 'is not'
 mēgo མེ་གོ་ 'America'
 mòmo མོག་མོག་ 'a puff [article of food, fried]'
 tēmè སྐྱེས་དམར་ 'wife'
 dābo རྒྱལ་པོ་ 'king'
 tšl འདྲི་སྲིད་ 'do!'
 tšerèsi སྐུར་འཇམ་གཟིགས་ 'Avalokiteshvara'
 tšemo བུ་སྐྱེས་མོ་ 'old woman'
 saṅñi སང་རྒྱུན་ 'the following day'
 sl གཟིགས་ 'see'
 sl ཟེར་ 'say'
 seṅaṅ གསེར་ཏི་ 'gold coin' (3.3)
 semṅhe སེམས་འཕྲུང་ 'sorry'
 sibthur བཞེས་ཐུར་ 'spoon'
 šu བཞུགས་ 'live'
 šeṅmīndūg ཤེས་གྱི་མི་འདུག་ 'don't know how to...'
 rīda རི་འདུགས་ 'deer; other wild animal (object of hunt)'
 rō རོགས་ 'please'
 lū ལུས་ 'remain'
 là lès ལགས་ལགས་སེ་ 'Yes, sir!'
 ʔesa ལྷ་ས་ 'Lhasa'

3.3 The orthographic conventions and special symbols for spelling Sanscrit and other Indic words in the Tibetan script are properly speaking somewhat outside the scope of the present work, but certain points should be noted. The Sanskrit long vowels are written by adding a subscript འ to the symbol for the initial consonant, the Sanskrit voiced aspirates by adding a subscript ཅ , and the Sanskrit retroflexes by reversed ཅ , ཐ , ཎ , and ཏ , i.e. by ཅ , ཐ , ཎ , and ཏ . Note also that

the Sanskrit palatal stops are written with the symbols belonging to the Tibetan dental affricates ཅ, ཇ, and ཉ. Thus: Skt. ā ཨ, ka ཀ, kā ཀྱ, ṭa ཏ, ḍha ཏྲ, ṇī ཏྷ, aṃ ཨོ, aḥ ཨོཾ. In some more sophisticated idiolects of CT, a retroflex nasal phoneme ŋ is added to the phonemic inventory, as for example in the great prayer of Tibetan Buddhism, ॐ omṃāṇipemēhum ཨོཾ་མ་ཎི་པཌེ་ཏུཾ།. A few Indic loan-words have Sanskritized spellings: mēṇḍe མཎེད་ 'a fee', as do a few esoteric expressions such as fi ཏྷིཾ་ 'a mystic syllable of benevolent intent', mātāmṛṭa མ་ཏམ་རུ་ཏ་ 'a mystic expression uttered by a demon groaning', and the like.

4. TEXT AND TRANSLATION

ཁྱི་སྤྱང་དང་རྩེ་ལོ་རྒྱལ།།

འི་གཅིག་ཁྱི་སྤྱང་ཅིག་ཞེ་སྤྱག་སྐྱོམ་ནས་ཁྱོན་པ་གདིང་བ་
 བོ་ཅིག་ལ་ཚུ་འཕྱང་བའི་ཕྱིར་དུ་ཕྱིན་པ་ཟེར། ཁོས་ཚུ་འཕྱང་
 ཚར་ནས་ཁྱོན་པ་དེའི་མཐའ་ལ་ཕྱིར་ཐོན་མ་བྱུང་པ་ཟེར།
 ཁོས་ཕྱིར་ཐོན་པའི་དོན་དུ་སྤྱིང་རུས་ཆེན་པོ་བྱས་ན་ཡང་ཐོན་མ་བྱུང་
 པ་ཟེར། དེ་ནས་ཁོ་ཁྱོན་པའི་རྩི་ག་པའི་འགྲམ་དུ་མཉེས་ནས་
 སྤྲོད་པ་ཟེར། འོག་ཚོ་ཅིག་ལ་ར་ཅིག་དེ་དུ་འགྲུལ་ནས་ཡོང་པ་ཟེར།
 ཁོས་ཁྱི་སྤྱང་དེ་ཁྱོན་པའི་ནང་ལ་མཐོང་ནས་སྐད་ཆེན་པོར་དྲིས་
 པ་ཟེར། ཁྱོད་རང་གང་བྱས་ནས་ཁྱོན་པ་དེའི་ནང་དུ་ཉླགས་པ་ཟེར།
 དེ་དུ་གང་ཡང་འདུག་གས། དེས་ན་ཁྱི་སྤྱང་གི་ལར་དུ་ཟེར་བ།
 དེ་དེང་ཞེ་སྤྱག་ཚད་པ་ཆེན་པོ་འདུག། དེས་ན་ངས་ཚུ་སིལ་པོ་
 འདྲིའི་ནང་ལ་བསྐྱད་ནས་རྩེ་དམོ་རྩེ་གི་ཡོང། ཁྱོད་རང་དེ་འདྲ་
 ཐེལ་བ་བྱས་ནས་ག་པ་འགྲོ་གི་ཡོང། སྤྲོན་ལ་ངའི་འགྲམ་དུ་
 མར་ཡོང་ནས་ཚུ་འདི་ལ་རྩེ་དམོ་རྩེ་ཅིག་། ར་ཡིས་ཁྱི་སྤྱང་གི་
 སྐད་ཆ་འདི་ཐོས་ནས་ཁོས་དུང་པོ་བཞག་པ་ཡིན་འདུག།

ṭhibtṣaṅ dāṅ rāyi lōḡū.

The story of the jackal and the goat.

ñlntṣig ṭhibtṣaṅtṣig ṣèṭag komnè ṭhōmbà tiṅ sà-
One day a jackal was very thirsty and went to drink

botṣig là tṣu thuṅwītṣhirdù tṣhimbàrè. khō tṣhu thuṅ-
water from a very deep well. When he was finished

tṣharnè ṭhōmbà tēyi thalà tṣhir thōnmàthubbàrè.
drinking the water, he could not climb up out of the well.

khō tṣhir thōmbtōndù ñiṅrù tṣhembò tṣènayāṅ thōnmàthub-
Although he tried very hard to climb out, he could not climb

bàrè. tène kho ṭhōmbètsigpeḡāmdu ñenè
out. Then he stayed there leaning against the side of the

dōparè. togtsōtṣiglà ràtṣig tèru ḡùne yoṅbàrè.
well. In a little while a goat came along there.

khō ṭhibtṣaṅtè ṭhōmbènāṅla thoṅnè ke tṣhembòr ṭi-
He saw the jackal in the well and asked him in a loud

bàrè. ṭhōràṅ kàṅtṣenè ṭhōmbà tēyi nāṅdu ṣūḡparè.
voice: 'Why are you in the well?

tèru kàṅyaṅ dùḡḡè. tēna ṭhibtṣaṅḡi lèndu sèrra.
What is down there?' Then the jackal said in reply:

tèriṅ ṣèṭag tshepa tṣhembò dùḡ. tēna ṅè tṣhu silbò-
'Today it is very hot. So I am staying down

diyì nāṅla dène tsemò tseglyò. ṭhōràṅ tēṅḡa
here playing in this cool water. Where are you

ṭèwatṣène kàba ḡòḡlyò. ṅōnlà ṅè ḡāmdu
going in such a hurry? First come down here

mà yōṅne tṣhu dila tsemòtsetṣig. rè ṭhibtṣaṅḡi
by me and play in the water.' The goat

ketṣhadī thōnè khō ṭāṅbo ṣebàyindùḡ
heard what the jackal said and believing him

བསམས་ནས་སྐོན་པ་དེའི་རང་དུ་མཚོང་བ་ཤིང་། དེས་ན
 བྱི་རྒྱུང་དེ་དགའ་ནས་ཁོ་མཐོང་བ་དང་ལམ་སང་ཁོ་ཉི་མུའུ་
 ཉོན་ནས་སྐོན་པའི་མཐའ་ལ་ཐོན་བྱུང་པ་དང་གྲོས་ནས་ཕྱིན་
 པ་ཤིང་། ཁོས་ར་དེ་སྐོན་པའི་རང་དུ་ཐོར་ནས་བཞག་པ་དང་
 བྱུང་སོང་བྱས་ནས་ཁོ་ལ་ལབ་པ། བྱི་ར་རང་ལྷགས་པ་ཞིག་
 རུང་ག་པ་ཤིང་། ལོ་རྒྱུས་འདིས་ང་ཚོ་ལ་བཞག་གི་སྐྱེད་ཆ་
 ལབ་པ་དང་ལམ་སང་བཏེན་པ་བཅུ་དགོས་མ་ཤིང་།
 ང་ཚོས་གང་ཡང་བྱད་པའི་སྐོན་ལ་བསམ་སྐྱོད་པ་དང་
 དགོས་།།།

samnè thombà tèyi nàṅdu tšhonwàrè. tēna
to be honest, went down into the well. Then

ṭhibtšəṅ tē gāne kho thonṅà dāṅ lāmsəṅ khō dābdu
the jackal was happy and as soon as he saw him he

šōnne thōmbè tha là thōnthubbà dāṅ ṭōne tšhim-
jumped upon his back, climbed out of the well and ran

bārè. khō rà tē thōmbènāṅdu pōrne šāḡpa dāṅ
away. He left the goat behind in the well and

ṭhesō tšēne kholà lābba. ṭhōrāṅ kugpašīḡ
mocked him. 'You are a fool,'

dūḡparè. lòḡú dī ṅāndzo là šēṅḡi ketšha
he said. This story teaches us that we must not believe

lābba dāṅ lāmsəṅ dēmba tšagōmārè.
something as soon as someone tells it to us.

ṅandzō kāṅyaṅ tšēbiṅōnlà samla taṅ-
We must consider before we do anything.

gò.

NOTES

1.01 On the introduction of writing to Tibet, see B. Laufer, "Bird divination among the Tibetans," TP 15 (1914) 64-67.

1.03 The analysis upon which the present outline of CT phonemics is based is presented in detail in the author's "Studies in Spoken Tibetan, I: Phonemics," JAOS 75 (1955) 46-51. For earlier accounts of this dialect, see footnote 2 of that article. On CT and the Lhasa dialect, see the author's "The independent status of the Lhasa dialect within Central Tibetan," Orbis 4:1 (1955) 49-55.

1.2 The method employed by Tibetan masters when spelling words aloud, and the names used for the letters in such a case, are accurately described in Bell, Grammar, 17 ff. Here we deal only with the square hand as used in printing; the cursive hand, widely but not exclusively employed in writing, especially for business purposes, introduces no new principle, but is simply a matter of learning the cursive shapes of the symbols and some special combinations; it has been described in J. Bacot, "L'écriture cursive tibétaine," JA 1912, 1-78 [reprint pagination].

2.15 These are abstracted for the reader's convenience from the lists in Alexander Csoma de Kőrös, A grammar of the Tibetan language in English (Calcutta, 1834), pp. 12-16. This is still the most useful of the older grammars of the written language; but more easily available are H. A. Jäschke, Tibetan grammar² (London, 1883), and Sarat Chandra Das, An introduction to the grammar of the Tibetan language (Darjeeling, 1915).

3.1 Symbols for statements of alternation: ~ 'phonological variation'; ∞ 'morphological variation'; ~ ~ 'free variation'; > 'vowel-shift'; + 'suffixing'; ∅ 'zero'. Superscripts indicate the governing condition for each variant.

3.12 See the author's "The significance for comparative grammar of some Ablauts in the Tibetan number-system," TP 43 (1955) 287-96.

3.21 See the author's "Morphologically determined allomorphs in spoken Tibetan," Language 30 (1954) 458-60.