

Foundational Questions of Tibetan Morphology

TIBET

By

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“Grundfragen der tibetischen Morphologie”. *Zentralasiatische Studien* 7. (1973): 425-442.

Translated by Nathan Hill

The question, whether the number of Indo-European language speakers will be overtaken or completely outnumbered by the number of Sino-Tibetan language speakers, cannot be answered with certainty for two reasons: on the one hand recent and reliable population statistics are not available from the countries in which the aforementioned language group is found, on the other hand the classification of some languages in the Sino-Tibetan family is not undisputed. Thus I cannot at all begin my remarks with the assertion that the Sino-Tibetan family be—measured by its number of speakers—the largest of all the language families on earth, but considering that this unknown number of speakers should range roughly in the magnitude of 900 to 1000 million is perhaps nonetheless sufficiently impressive.

Of course the number of speakers of a language family is no criterion for its scientific importance or attractiveness. The scientific allure of Sino-Tibetan languages for some linguists is due to entirely different considerations. One such is doubtless the large number of different Sino-Tibetan languages (SHAFER specifies more than 300), which extend not only over a large geographic area, but also a very long time period (ca. 4000 years). A second consideration which seems to justify particular interest in relationship to the other large language groups—the Indo-European, Semitic, or Altaic languages—is the still rather slight inventory of proven linguistic regularities. This modest state of knowledge is related to the breadth and difficulty of the subject. The long term objective of a “comparative grammar of the Sino-Tibetan languages” will not be possible so long as the material contained in some languages is not worked on and analyzed in the optimal way. Only on such an assured basis may hypothetical premises be established about the phonology and morphology of a further bygone time of presumed regularity. The following remarks occupy themselves with a few thoughts on these matters, such as the reworking and analysis to be done in the Tibetan domain.

Reckoned by its number of speakers—ca. 4-5 million people have a Tibetan dialect as mother tongue—Tibetan has only a middling rank within the Sino-Tibetan languages. Reckoned by the age of its written tradition—the Tibetan script is supposed to have been created in 632 a.d.—it stands in second place after the admittedly much older Chinese. Considered from the linguistic standpoint Tibetan's leading position is indisputable. While for Chinese characters one in principle only really knows the dialect pronunciation of today and their reconstructed phonetic values can solely claim dependability for the period of "Middle Chinese" (7th–13th cent.), for Tibetan a strict phonetic writing system is available since the 7th century, which furthermore carries a strong archaicizing tendency and enables assured keys to the time prior its appearance.

This archaicizing writing system, in which those morphemes that in practically all daughter languages have fallen victim in the furthest degree to a slow process of decay are still fully conserved, allows, to a disproportionate high degree, as is the case in other languages, the recognition of etymologically related words and as a consequence also allows the presentation of the morphological regularities that control Tibetan word formation. The evident character of many of these regularities I would like to show with two examples.

a) In Tibetan there are not a few verbs ending in vowels, which indicate a characteristic.

- (1) *che* 'to be large'
dma (') 'to be low'
rga 'to be old'
mtho 'to be high'

The pertinent adjective is built simply by the attachment of an *-n* onto the verbal stem.

- (2) *chen* (*po*) 'large'
dman (*po*) 'low'
rgan (*po*) 'old'
mthon (*po*) 'high'

The suffix morpheme *-n* ('adjective builder')

Because the stems built thus are only employed in an adjectival function, one is correct, to attribute the morpheme *-n* (under conditions to be described further) an adjective building force.

b) In the second example I would like to contrast six intransitive verbs with their transitive/causative equivalents:

(3)	<i>khor</i> 'to turn oneself'	<i>skor</i> 'to turn sth.'
	<i>thob</i> 'to fall to one's lot'	<i>stob</i> 'to allot so. sth.'
	<i>'phro</i> 'to spread out'	<i>spro</i> 'to spread sth. out'
	<i>'gyur</i> 'to change'	<i>sgyur</i> 'to change sth.'
	<i>'du</i> 'to gather; assemble'	<i>sdud</i> 'to gather up, collect'
	<i>'bar</i> 'to burn'	<i>sbar</i> 'to alight'

One sees that the intransitive forms begin with a ' - prefix, which is supposed to have the phonetic value of a laryngeal fricative or nasal, and that in the corresponding transitive/causative it is substituted with an *s-* prefix. Already these few examples suggest to the unbiased observer the conjecture that ' - and *s-* are not components of the verbal root, but rather prefixes, and that further ' - shows intransitivity and *s-* transitivity. However, this rule needs in some cases further specification.

It will not escape the attentive observer that the first three pairs of verbs demonstrate a further regularity, which in fact proves to be the case without exception: an aspirated stop loses its aspiration after the prefix *s-*.

Now such elementary regularities as were just described have been known for a long time, however an attempt at a systematic presentation and critical appraisal of all morphological and morpho-phonologic categories, which are productive as regards Tibetan word formation, is still missing. I will now show, that as for the analysis of Tibetan words eleven morphological and morpho-phonological categories are available, namely prefixation (1), suffixation (2), infixation (3), vowel variation or ablaut (4), variation in place of articulation (5), variation in manner of articulation (6), assimilation (7), dissimilation (8), metathesis (9), elision (10), contraction (11). Among these so far only a part has been systematically evaluated, the discoverers of some of them have placed to great an importance on their discoveries, while the other parts have been ignored. Hence the good and correct observations in the works of these authors, which address a major subsection of Tibetan morphology, are almost without exception overlaid with at best a great number of erroneous and often fanciful explanations.

Thus VON KOERBER, in excessive generalization of regularities, which at all events are valid for subsections, wants to reduce all Tibetan words to the six "roots" *ga, da, ba, du, gu, and bu*. WOLFENDEN presses the meaning of all Tibetan verbs in the corset of a wholly too primitive semantic scheme of subject oriented prefixes and directive infixes. DURR acts on the assumption of a preconceived theory about the Tibetan phoneme system and bases thereupon an attempt (mistaken in my eyes) to interpret away a whole array of initial root consonants, which according to him may not stay initials. SIMON, whom Tibetan linguistics owes the most basic insights until now in the domains of phonetics, morphology, and semantics and who was the first to enunciate a large number of fundamental discoveries, sets up a metathesis theory, so global that he can withhold them from traceless disappearance only with additional unprovable hypotheses.

A new reflection based on ascertained principles, with a coherent system of proven and interdependent rules in the place of uncoordinated hypotheses, is urgently needed. The following system of morphological categories intends to be understood as such, a new beginning. Before I sketch it in detail, it seems to me necessary to bring to the fore the self-evident fact that Tibetan is a monosyllabic language. Now even though the one-syllable-ness is considered as one of three main hallmarks of Sino-Tibetan languages, in my opinion there has been a failure to draw from that fact a few elementary consequences for the classification and for the etymology in the Tibetan language. In fact the majority of Tibetan words show themselves to us not just in one syllable, but in a guise of two and more syllables. This polysyllabic shape may however be reduced to two basic units: independent word stems and particles. Although the circa 20-30 particles of Tibetan go back likewise to erstwhile independent stems, in historic time they can only arise in combination with word stems. Example:

- (4) *khyim* "house" (independent stem)
na (Particle, originally abstract location "the inside"; later only as a postposition for building the locative: *khyim na* "at home")

Multiple-syllable-ness naturally does not only appear in the syntagmatic domain (as in the foregoing example) but also in the paradigmatic, that is the domain of a single word:

- (5) *rta pa* “the one belonging (*pa*) with a horse (*rta*): rider”
(stem-particle)

khyim bdag “the house (*khyim*) owner (*bdag*)” (stem-stem)

Three and more syllable words are composed in an analogous way from both elemental stems and particles. Next to the overwhelming majority of easily analyzable polysyllabic words remains a small number that until now remained not only unexplained but whose seeming multi-syllable-ness was not even put into question. Here the application of the correct morphological and syntactic categories helps further. Two examples:

- (6) *yon tan* “[skt.] *guṇa* ... good quality, excellence; valuable properties ... acquirements, accomplishments, attainments” (JÄSCHKE, *Tibetan-English Dictionary*, p. 516)

yon “gift, offering” *tan* - (not an independent word)

thams cad “whole, all; added to the singular number ... more frequently added to a plural ... (JÄSCHKE, p.230)

thams - cad – (not independent words)

The first example is relatively easy to clarify because one needs to restore *tan* to the complete spelling:

- (7) *gtan (pa)* “enduring” (JÄSCHKE, p. 205 knows only the substantive and adverbial meaning of this stem respectively “duration” and “continually”)

In order to be able to suggest a comfortable semantic bridge to the basic meaning of *yon tan* namely “quality, characteristic” from the literal translation “continual gift”. I will discuss the category of elision of word components in more detail latter.

The second example leads already deep into morphology and morpho-phonology The first component of *thams cad* is to be ascribed to the stem.

- (8) *tham* “be complete” cf. *tham pa* “complete”

From this is an adverb derived with the help of an adverbial *-s*.

- (9) **thams* “completely”

The plural particle displays an exact parallel to this.

- (10) *rnams*, e.g. *kyims rnams* “houses”

which goes back to the nominal stem

- (11) *rnam* “piece, part, class”

and hence originally meant “piecewise, part by part”. *cad* the second component of *thams cad* is finally, as I have shown in my “Lehrbuch” a variant of adverbial particle

- (12) *chad* e.g. in *phyin chad* “later”

which for its own part is derived from the noun

- (13) *cha* “piece, fraction”

with the help of the abstract noun building suffix *-d*. To this suffix *-d* compare

- (14) *che* ‘be large’ *ched* “extent, meaning”

Also the variation of *cad* to the aspirated *chad* may be understood through a regularity I have already named. For of the first three verb pairs cited in example (3) I formulated the rule that the prefix *s-* does not tolerate a following aspirate. This rule is here still operative beyond the morpheme boundry, or said in an Indic way: the external sandhi is in this case like the internal sandhi.

Through this etymology, which I hope despite its complexity can still be seen through and continues to make sense, not only is the derivation of seemingly polysyllabic word clarified which until now was unanalyzed, but in addition its true part of speech has also been determined. *thams cad* is namely not, as the dictionaries would have us believe, an adjective, but an adverb approximately “altogether”. Therewith is quite casually clarified the fact seeming so strange to JÄSCHKE that this word can be placed after a plural suffix, which according to the rules of Tibetan syntax is outright unallowable.

- (15) *khyim rnams thams cad* not “all houses” but “the houses altogether, the houses in their totality”

Instead of *thams cad* we employ a proper adjective like:

- (16) *kun* “all” or *ma lus pa* “without exception, all”

the word order can only run : basic word—attribute—plural suffix, thus

- (17) *khyim kun rnams* “all houses” or

khyim ma lus pa rnams “all houses, without exception”

After this consideration of the monosyllabic character of Tibetan and of the resulting consequences thereof for etymology, morphology, and phonology now I go into the construction of independent word stems. A poverty of vowel phenomena is characteristic for Tibetan. It possesses only the five respective short and open vowels.

- (18) Tibetan vowel phonemes: **D E I O U**

Transliteration: a e i o u

This can be connected with the table (19) of the 32 consonantal and semi-vocal phonemes. For the combination of vocalic and consonantal phonemes 12 structural formulae may be quoted, cf. table (20).

(19) Consonant phonemes of Tibetan

	labial	dental	denti- alveolar	palatal	velar	laryngeal
plosive	p, p ^h , b	t, t ^h , d			k, k ^h , g	ʔ
nasal	m	n		ɲ	ŋ	
lateral			l ɭ			
approximate			ɭ, ʃ ^h	j		
fricative		s, z	ʃ, ʒ			h, f
affricate		ts, ts ^h , tʂ	tʃ, tʃ ^h , dʒ			
semi vowel	w					

Academic Transliteration of Tibetan

	labial	dental	denti- alveolar	palatal	velar	laryngeal
plosive	p,ph,b	t,th,d			k,kh,g	ʔ (+vowel)
nasal	m	n		ny	ng	
lateral			l, lh			
approximate			ɾ, hr	y		
fricative		s, z	sh, zh			'h
affricate		ts, tsh, dz	c, ch, j			
semi vowel	w					

(20) CV, CVC, CVCC; CCV, CCVC, CCVCC; CCCV, CCCVC, CCCVCC; CCCC, CCCCVC, CCCCVC (C: consonant; V: vowel)

Tibetan word is thus constructed from a minimum of two and a maximum of seven elements. In the Tibetan written system each phonetic element of a word falls precisely in one of the seven following graphemic categories. prescript, superscript, subscript, vowel, first final, second final.

Example: The seven elements of the word *bsgrubs*, namely

འ: b, ས: s, ག: g, ར: r, འ: u, བ: b, ས: s

are graphically brought together as follows: བསྐྱུས་

Of these seven elements all except for radical and vowel can be omitted.

This divergence from the in principally linear writing system of India is no accident, because it reflects a decidedly different principal of morphological classification. Namely it largely bears out the following equivalences between graphic and morphological categories:

- (22) a) prescript: first prefix (can only stay in word initial position)
- b) superscript: second prefix (allows a first prefix before it)
- c) radical: (initial) root consonant
- d) subscript: phoneme modifier or infix, occasionally also root consonant
- e) vocalization: root vowel
- f) first final: root final or first suffix
- g) second final: first or second suffix

That these equivalences do not apply for all cases counts for little in view of the fact that this system, stemming from the seventh century, antedates linguistic categories of the 19th century.

1st and 2nd prefixation and suffixation

The morphological categories prefixation and suffixation will be demonstrated with the form *bsgrub* from example (21). The four elements into which *bsgrub* can be analyzed are

- (23) *b-*: first prefix (perfect or necessative builder)
- s-*: second prefix (causative builder)
- '*grub*: nucleus, give the impression of the concept "accomplishment"
- s*: first suffix (perfect or imperative builder)

The nucleus *grub* one finds in the words

- (24) *grub pa* "an accomplished person, a saint"
- '*grub* "to become accomplished"
- sgrub* "to accomplish"

It seems to not to be further analyzable, into a root **gru* and a suffix *-b*, let alone a root **gu* which is enlarged through an infix *-r-* and a suffix *-b*.

The form *bsgrubs* is thus unambiguously designated, through the three morphemes, prefixed *b-*, prefixed *-s-* and suffixed *-s*, as the perfect of a causative.

- (25) *bsgrubs* "has (*b-* ... *-s*) been brought (*-s-*) to accomplishment"
 (perfect of the causative)
bsgrub "is to be (*b-... -ø*) brought (*-s-*) to accomplishment"
 (necessative of the causative)
sgrubs "should (*ø-... -s*) be brought (*-s-*) to accomplishment"
 (imperative of the causative)

One sees with this example that the Tibetan written system in many cases already gives a definite clue of which element is prefixed and which is suffixed. The two categories prefixation and suffixation are the best and most frequently attested and deserve therefore no further documentation. It would only be desirable to have a somewhat more specific stipulation of their function than previously presented: an explicit discussion of allomorphy, how e.g. the conditioning factor between *b-* and *m-* on the one hand and *d-* and *g-* on the other hand; but above all the designation of the cases in which the equivalents given in table (22) are *not* valid. I refer here only to the combination *lh-* which is graphically represented by a radical *h* with superscript *l-*. In this case, as will be shown below, these two letters represent only one phoneme, the aspirate voiceless *l*, which like aspirate *r* in contrast to the other aspirates is not represented by a graphical element but by the combination of two signs. Therefore the equation "superscript = prefix" does not hold here!

3. Infixation

The third affix category, infixation, differs fundamentally from prefixation and suffixation. First, the number of attestations is small; they suffice to secure the reality of this sparingly employed category. Second, the correlation between (graphic) subscript and (morphologic) infix is very weak. The quite numerous subscripts in Tibetan words must thus in the majority of cases be clarified otherwise, and may be otherwise clarified in turn. The "subscript" *l* is [435] genetically certainly no accretion but the radical itself. The six letters, which can stand over *l* represent either prefix (*g-*, *b-*, *r-*, *s-*) or their allomorphs (*k-*, *z-*). The subscript *w* is merely a graphic or phonetic supplementary character, and no morphological element. The two remaining subscripts *y* and *r* (/j/ and /ʃ/) following my impression until now have in the greater number of cases only the function of a phonetic additional character (Zusatzzeichen). So the combination velar + *y* (/j/) serves as the graphical representation of the palatal stop, for which in so doing one need not create

an individual sign. Likewise one represents the alveolar palatal affricates graphically through the combination velar, dental or labial + *r* (). In other cases the subscript *r* like *l* represents in fact the root consonant; one should compare thus

- (26) *rng* “(be) long” and
sring “make long”

Lastly the combination *h* + subscript *r* represents only *one* phoneme, the aspirate voiceless *r*; also here the subscript *r* is no morphologic infix. The following pairs are assured attestations of the infixation of a *y* (/j/) (“palatalization”):

- | | |
|----------------------------|--|
| (27) <i>dga'</i> “rejoice” | <i>dg-y-es</i> “rejoice” (respectful) |
| <i>b-go</i> “dress” | <i>g-yo-n</i> “dress” (resp. ?) |
| <i>ldag</i> “lick” | <i>ljags</i> (< * <i>ld-y-ags</i>) “tongue” (resp.) |
| | properly “licker, lick-organ” |
| <i>non</i> “hear” | <i>m-nyan</i> (< * <i>mn-y-an</i>) “hear” (resp.) |

Regarded phonetically we have in the first two examples the change of a velar into a palatal, in the later two examples of a dental (dental nasal) into a dental alveolar affricate (palatal nasal). The last two cases are highly instructive in so far as they show the palatalization need not always have a graphical representation in the form of a subscript, but that palatalized dentals are written as dental alveolar affricatives. On no account from this now can the conclusion be drawn from this—as has happened—that every dental alveolar affricate must be interpreted *a priori* as a dental + infix /j/.

The quite seldom infixation of an *l* (“rhotacization”) in my opinion occurs in *sras* the respectful word for “son”. I attribute *sras* to *tsha* (/ts^ha/) “descendant” which is augmented through the infix *-r-* and the suffix *-s*. The suffix *-s* possibly also here has a perfective function: “someone who has become a successor, successor/descendant”. The change from initial affricate /ts^ha/ to fricative /s/ is due to the sound law that Tibetan in no case tolerates the sequence affricate + *r*.

4. Vocalization (Ablaut)

The fourth category, vocalization or ablaut, has been long known through its frequent appearance in the formation of the various verb stems. SIMON is to thank for proof of its great productivity also in nominal formation, and from him stems the following example together with a lovely semantic parallel to Latin.

- (29) *'bring* (*po*) "the middle (of three)" goes back to
'brang "follow" and means thus in effect "the following"
 cf. Latin *secundus* "the second" which through
 the old alternate *sequondos* can be ascribed to
sequi "follow"

With help of this category the last Tibetan cardinal direction which hitherto have been un-clarified may be etymologized. Among the remaining three names two offer no problem at all.

- (30) *shar* "East" is the past stem of
'char "arise" and indicates therefore succinctly "the
 cardinal direction in which the sun rises (or: has risen)."
- (31) *nub* "West" is the plain verb stem
nub "go down, set" and indicates therefore succinctly "the
 cardinal direction in which the sun goes down"

For *lho* "South" Simon has recently provided a very shrewd and impressive explanation in which he points out a relationship with

- (32) *la* "the upper, high" (old, henceforth obsolete place stem in
 classical times remains only a case suffix)
 and
lha "God" properly "the High"

He correctly places the ablaut form here:

- (33) *lho* "height" succinctly for "the height of the son" or "the
 cardinal direction in which the sun reaches its highest
 position"

For the name of the fourth cardinal direction, *byang* "North" (which certainly has nothing to do with *'byang* 'cleanse') I see no other possibility than to bring it together with *'bying* "sink." This affiliation of

- (34) *byang* "North" as prefixless ablaut form to
'bying "sink" (*byang* indicates succinctly "the cardinal direction
 in which the sun (far below the horizon) has sunken)."

has the advantage that it emanates from the same semantic concept which underlies the other three cardinal directions.

5 and 6 variation in manner of articulation and place of articulation

5th variation in manner of articulation, 6th variation in place of articulation, are to be regarded as morphological categories for which phonologic and morphologic functions are inseparably bound to one another. To change in manner of articulation belong

a) the change from voiceless to voiced sound:

(35) to *'khor* “rotate (inr.)” and *skor* “rotate (tr.)” (example 3)
belong also *gor (mo)* “round”

b) aspiration and loss of aspiration (cf. examples 3 and 32);

c) change between affricate and fricative (cf. example 28).

To change in place of articulation belong

a) change from dental to dental alveolar through palatalization
(cf. example 27);

b) change between velar and dental nasals e.g. in

(36) *len* “take, seize” past stem: *b-lang-s*

'khrung “become” *skrun* “create, produce” (causative).

A more exact study of the conditions of these sound changes could—at least in some cases—show that it has only to do with phonologic variation i.e. exclusively due to sound laws.

7 and 8 assimilation and dissimilation

The two categories of assimilation and dissimilation are likewise morphologic. Assimilation is present for example in the verb

(37) *zlo* “to report” from *lo* “report” (*z-* is here the prefix *s-* become voiced)

This primarily phonetic process gains a morphologic aspect because the combination *zl-* is articulated quite irregularly as *nd-* (voiced dental final with nasal prefix). This is a sign of an inserted *-d-* in a hypothetical intermediate form **z-d-lo* and this inserted *d* can be verified. One need only compare the following historically connected words

(38) *log* “backward, reversed”

ldog “to turn back” (intransitive) < **d-log*

zlog “make turn back” (transitive) < **z-d-log*

The initial cluster *ld-* doubtless describes merely a graphic simplification for an historical *dl* which is not writable in Tibetan. That here in fact it is a matter of the known productive prefix *d-* and not a new infix *-d-*, may be shown through numerous clear cut parallels. Through the attribution of *zlog* to **zdlog* the phonetic value of the initial cluster may for the first time be convincingly clarified.

Dissimilation must also be accounted for in the analysis of morphology. Thus the stem series of the verb

- (39) *'-bigs* "pierce"
phigs past stem
d-big necessative stem
phigs imperative stem

is not some special verb class in which the perfect has no prefix but rather the original past prefix *b-* is eliminated before the following labial on grounds of dissimilation. Likewise the prefix *g-* can not remain before velars nor *d-* before dentals. Here in part occurs a reciprocal substitution of prefixes.

9 metathesis

The metathesis theory postulated by SIMON for every superscript *r-* and *l-*, according to which these are in truth subscripts—morphologically not prefixes but infixes—, is in its global formulation is surely false and what is more highly uneconomical. SIMON quite convincingly solves with this global theory circa 10–20 etymological problems, yet at the same time his theory presents circa 500 problems until then not yet present. All the same the examples gathered by him are amply striking. "metathesis" can be established as a possible, albeit an infrequently employed morphological category. To his pairs belong e.g.

- (40) *rga* "to be old" (durative)
b-gre "to age" (perfective !)
rgal "cross"
sgral "to make cross."

One must differentiate carefully between such cases in which the metathesis purely is graphically conditioned (cf. example 39) and such as—like example 30—presumably have phonetic causes.

10 elision

As the tenth category I would like to establish a negative category namely the elision of word elements. When an array of schematic components or frequently used multi-syllable word formations are very early prominently displayed word components can be eliminated.

I mentioned earlier (example 6 and 7) *yon tan* “good quality” in which the second component the original prefix *g-* is elided. In the intensive formation

- (41) *sa le* “very clear, gleaming”, as in *sa le sbram* “refined gold”,
 (actually *gsal le*, from *gsal* “clear, gleaming”, (*l*)*e* is the intensive particle)

even a prefix and final consonant of the root can be dropped. The drop of the final consonant of the root is compensated for by the fact that it is repeated in the initial of the intensive particle ‘*e*’, thus the pronunciation remains conserved.

Not seldom, in addition to the prefix, the initial root consonant is also dropped. Its place is then taken by the second root consonant which was originally a subscript. Through the knowledge of regularities one can easily ascribe for example the homophones

- (42) 1. *ro* “taste, essence” (skr. *rasa*)
 2. *ro* “corpse”

to their respective original forms. *ro* “taste” is the result of elision of the verb

- (43) ‘*bro* “to taste”

that has lost prefix and initial root consonant. *ro* “corpse” does not come to its meaning because—as one learned Tibetan explained when asked—“that which has lost its essence is like a corpse” (*lucus a non lucendo*), but instead because it also represents the results of elision, this time from the verb

- (44) ‘*grong* “to die” (resp.)

11 contraction

The eleventh and final category which I would like to demonstrate is contraction. This possibility of word formation has also already been pointed out by SIMON, however with his certain evidence it is a matter only of a

very specific type namely the merging of a word stem with a case particle. This process is therefore not particularly noteworthy, because among other things it occurs regularly in the formation of genitive, instrumental, and terminative. The merging of two independent stems into a new monosyllabic shape is in contrast much more difficult to demonstrate. However, that it does in fact occur in word formation, in my opinion, is shown by the following two honorific words.

- (45) *yab* "father" (honorific) and
yum "mother" (honorific)

which I interpret as the product of contraction from the two syllable expressions

- (46) **ya pha* "high father" and
 **ya ma* "high mother"

The vowel *-u-* in *yum* is easily explained through the influence of the following labial nasal.

Herewith have I set forth altogether eleven morphologic and morpho-phonetic categories which govern the construction and derivation of Tibetan words, namely

- (47) 1. prefixation (first and second!)
 2. suffixation
 3. infixation (palatalization and rhotacization)
 4. vowel variation ('ablaut')
 5. variation in manner of articulation
 6. variation in place of articulation
 7. assimilation
 8. dissimilation
 9. metathesis
 10. elision
 11. contraction

This outer frame must and can now still be complete through a large array of separate rules, which govern the form, function, and combination of separate morpheme; because this would be subject of a substantial monograph, understandably I cannot venture further into this domain. In spite of that, I hope that my thoughts have made two things clear: on the

one hand the possibilities of internal derivation in this archaic Sino-Tibetan language are multifaceted, yet governed according to regular principals; and on the other hand the need of the regularities described by me as an instrument with whose help numerous words may be definitively clarified and with which perhaps also the first attempt at an etymological dictionary of Tibetan with good chances of success could be undertaken. I believe it is no exaggeration to assert that through such a dictionary could the study of remaining Sino-Tibetan languages be raised onto a qualitatively new level.

Notes

1. ' is here solely a additional graphical character