

CERTAIN PHONETIC INFLUENCES OF THE TIBETAN PREFIXES UPON THE ROOT INITIALS

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If one reads any Tibetan grammar, one is impressed in the very beginning by the definite rules which govern the prefixes, i. e. certain prefixes appear only before certain definite types of initials and do not appear before others. The native grammarians are equally sensitive of these and form rigid statements about them,¹ which we may summarize as follows:

<i>r-</i> (<i>ra-mgo</i>)	appears before 11 consonants:	<i>k, t, ts, g, d, b, dz, ñ, n, ń, m.</i>
<i>l-</i> (<i>la-mgo</i>)	„ „ 10 „	<i>k, t, p, ts, g, d, b, dz, ñ, h.</i>
<i>s-</i> (<i>sa-mgo</i>)	„ „ 11 „	<i>k, t, p, ts, g, d, b, ñ, n, ń, m.</i>
<i>b-</i> (<i>ñon-ādžug</i>)	„ „ 10 „	<i>k, t, ts, ts, ś, s, g, d, ž, z.</i>
<i>g-</i> („)	„ „ 11 „	<i>t, ts, ts, ś, s, d, ž, z, y, ń, n.</i>
<i>d-</i> („)	„ „ 6 „	<i>k, p, g, b, ñ, m.</i>
<i>a-</i> („)	„ „ 10 „	<i>g, d, b, dz, dz, kh, th, ph, tśh, tsh.</i>
<i>m-</i> („)	„ „ 11 „	<i>g, d, dz, dz, kh, th, tśh, tsh, ń, ń, n.</i>

Such dictates of euphony as formulated by the native grammarians more or less according to their system of writing seems at once inadequate in the light of modern linguistics. As a matter of fact, the *s* in *sl-* and *sr-* is also undoubtedly a prefix although it is considered by the natives as having an initial *s-* with a *ra-btags* and a *la-btags*; on the other hand, I believe, *lh-*, in some cases at least, is not to be considered as a prefix *l* followed by an *h*, but rather as a simple consonant. Furthermore, *s-*, *ś-* in some cases are not simple initials but represent a combination of prefix plus initial. The details of these will have to follow, but it is evident that these euphonic phenomena will have to be interpreted in more scientific terms, before any serious phonological study can be pursued.

When a prefix is said not to be able to stand before a certain initial, it is necessary to examine what this statement exactly means. It may mean, I believe, any one of the following three things. Firstly, a prefix may not be able to exist before a certain consonant because of the dissimilatory tendency of similarly articulated sounds; thus, prefix *b-* cannot stand before labial initials, prefix *g-* cannot stand before guttural initials, prefix *d-* cannot stand before dental plosives, fricatives, and affricatives etc. This not only applies to the prefix placed immediately before the

1). Cf. Foucaux, *Grammaire de la langue tibétaine, appendices*, and Bacot, *Les ślokas grammaticaux de Ton-mi Sambhota* pp. 51-54.

initial but also when it is separated by another interposed prefix. Thus, in verbs like *s-kum-pa*, *b-s-kums*, *b-s-kum*, *s-kums* "to contract, to draw in (the legs)", we find a regular *b-* prefix in the perfect and in the future form, but in roots with a labial initial this prefix regularly disappears, thus: *s-pon-ba*, *s-pans*, *s-pan*, *s-pons* "to give up, to renounce". Forms like *b-s-pans*, *b-s-pan* cannot exist because *b-* is dissimilated by the following initial *p-*.

Secondly, a prefix may influence the following initial, so as to modify its manner of articulation in a definite way. This kind of phonetic influence takes place irrespective of the function of the prefix and the meaning of the root, and the result of this is that certain initials will not be found after certain prefixes. What I believe to be obvious examples of this is that in Tibetan after prefixes *s-*, *b-*, *g-*, *d-*, are not found aspirated consonants and after *q-* are not found spirants. In other words, aspirated consonants after *s-*, *b-*, *d-*, *g-*, and spirants after *q-* are changed into other sounds. The details of these will have to be given later, but Tibetan, so far as I can see, is particularly rich in this sort of phonetic change; and I propose to make a special study of this in the present paper.

There is of course a third possibility, namely, the following initial may influence the prefix in a definite way, so that before certain initials only certain prefixes are allowed. This is particularly evident in Lhota Naga where an old prefix *me-* is differentiated into *n-* and *m-* according to the following initial.¹ In classical Tibetan, however, I do not find definite traces of this type, except possibly prefixes *d-* and *g-* whose notorious compensatory behavior has made many people suspect them of a single origin.

It is indeed strange that while various functions of the Tibetan prefixes have been from the very beginning zealously studied, the purely mechanical phonetic reactions which must certainly have taken place between the prefix consonant and the root initial have remained so far untouched and that grammars seem to be simply satisfied with the euphonic statements of the native grammarians, more or less modified, without further inquiry. Conrady's pioneer work, *Eine Indochinesische Causativ-Denominativ-Bildung*, 1896, is chiefly interested in the functions of the prefixes, but he advocates a theory that the quality of the initial, i.e. tenuis, media or aspirata, is associated with definite grammatical functions in Tibetan²— a theory which has greatly influenced his work. Before pronouncing whether this theory is to what extent correct, I believe that Conrady might have materially improved his work by trying to find

1). Cf. Wolfenden, *Outlines of Tibeto-Burman Linguistic Morphology*, 149, 156.

2). Op. cit. pp. 54-55.

out what the initials of the verbs he deals with really are, minus the influence of the prefixes. For in verbs like *a-dud-pa*, *b-tud*, *g-dud*, *dud* or *thud*, "to bend down, to bow," *a-debs-pa*, *b-tab*, *g-dab*, *thob* "to throw, to strike", etc. where we have all three initials *d-*, *t-*, *th-* appearing in one verb, it is really a problem to determine what the true initial (or initials) is and under what conditions it is differentiated into *d-*, *t-*, *th-*. Conrady gives *tud-pa*, *tab-pa* as the original stems, evidently considering that the perfect forms with the *b*-prefix are the original stems. Similarly he gives *krol-ba* as the original stem for *akhrol-ba*, p. f. *d-krol*. Instead of deriving the other forms from his reconstructed stem and showing how the initials may be influenced by the prefixes, he concludes by saying that these roots are contaminated forms and really 'unvereinbar'¹, thus completely ignoring the possibility that these different initials may be due to the mechanical working of the prefixes.

Wolfenden recently studies the Tibetan prefixes from an entirely different point of view in his most stimulating book *Outlines of Tibeto-Burman Linguistic Morphology*. He is mainly interested in tracing the functions of the prefixes and their later adaptations and leaves out entirely the problem of their phonetic influences. However, in agreement with Conrady, he maintains that the perfect form in *b-* with a following surd is nearer the original than the form with *a-* and an aspirated initial². Whether this viewpoint is acceptable or not we shall later see, but it seems certain and is generally felt that in the so-called three or four-rooted verbs presenting various types of initials, some form (or forms) of the initial must be original and the others secondarily developed. It is quite possible that a functional interchange of consonants might have been operating in these cases, but it seems to me that a clearer understanding of such forces can only be obtained by first realizing what mechanical influences the prefix and the root-initial may possess for each other. In the following pages I shall study the various combinations of prefixes and initials and try to show what the original form may be.

Prefix s-

1. *sk-* < *s-kh-*

s-kam-pa 'to long for' : *kham* 'appetite'

s-kor-ba, *b-s-kor* 'to surround' : *kho-ra* 'circumference' *khor-mo-yug* 'continually'

s-kol-ba, *b-s-kol* 'to boil' : *khol-pa* 'boiled, bubbling', *khol-ma* 'anything boiled'

s-kyogs-pa 'to turn (the neck)' : *khyog-po* 'curved, bent'

1). Op. cit. pp 27 ff.

2). Op. cit. p. 49.

s-kyor 'the hollow of the hand filled with a fluid' : *khyor* 'a handful'
s-kyes, *s-kyas-ma*, *s-kyos-ma* 'a present' : *khyos-ma* 'a present'

It is well to remember here the fundamental principle formulated by Conrady that the prefixed forms of the Tibetan written language are derived from the prefixless forms (op. cit. p. 3). The prefixless simple nouns (or adj.) as quoted above are beyond the slightest doubt original forms and therefore present the initial in the original state, namely *kh-*. The derivatives with the *s-* prefix present without exception an unaspirated *k-*. The reason for such a change is simple: the *s-* deprives the following aspirated initial of its aspiration. For this reason we find no aspirates after *s-* in Tibetan. An excellent example of this force of *s-* can be found in English, cf. *tone* and *cope* pronounced [t'oun] and [k'oup] but *stone* and *scope* pronounced [stoun] and [skoup].

Conrady's explanation that the aspirated consonants are derived from prefix *s-* with an unaspirated surd or sonant seems to me to have put the cart before the horse, for in that case we cannot understand why in Tibetan we have *sk-* side by side with *kh-*, etc. If *sk-*, etc. has become *kh-*, etc., in classical Tibetan we shall have no *sk-* at all. On the other hand, some dialectical forms in *kh-* versus Tib. *sk-* as cited by Conrady are definite proofs that Tib. *sk-* comes from *s-kh-* and that the dialectical *kh-* comes from a prefixless form and is therefore original. For instance, *kham* is thought to be the provincial (Wt.) pronunciation for *r-kam*, *s-kam*, but the dialects so far as we can gather from Jäschke seem to have regularly the pronunciation *k-* for *sk-*, *rk-*, never *kh-*. According to our theory, *kham* represents the original form, and *s-kam* is a derivative coming from *s-kham*. The examples can be readily multiplied if we recognize such intransitive verbs like *a-khum-pa*, *khums* 'to shrink', *a-khol-ba*, *khol* 'to boil, intr.', etc. as possessing an original *kh*. The prefixless perfect forms as well as the present forms with *a-* present alike an aspirated surd, and there is no reason to think that this is not their original initial, but the *s-* derivatives have all *k-*:

s-kum-pa, *b-s-kums*, *b-s-kum*, *s-kums* 'to contract': *a-khum-pa*, *khums* 'to shrink'

s-kol, *b-s-kol* 'to boil, tr.': *a-khol-ba*, *khol* 'to boil, intr.'

s-kyur-ba, *b-s-kyur* 'to throw, to cast off': *a-khyur-ba* 'to be separated'

s-kur-ba, *b-s-kur* 'to send, to transmit': *a-khur-ba*, *khur* 'to carry, to convey'; *khur* 'burden'

s-koñ-ba, *b-s-kañs*, *b-s-kañ*, *s-koñs* 'to fulfill': *a-kheñs-pa*, *kheñs* 'to be full'

s-kyil-ba, *b-s-kyil* 'to bend': *a-khyil-ba* 'to wind, to twist, intr.'

s-kyom-pa, *b-s-kyoms*, *b-s-kyom*, *s-kyoms* 'to shake, agitate': *a-khyom-pa* *a-khyoms* 'to rock, to reel, intr.'

s-kyel-ba, *b-s-kyal*, — *s-kyol* 'to conduct, to accompany': *a-kyhol-ba*, *kyhol* 'to be carried, to be brought somewhere'

Similarly the origin of many combinations of *s*+ unaspirated surd can be proved to come from an *s*- with an aspirated surd.

2. *st-<s-th-*

s-tuñ-ba, *b-s-tuñs*, *b-s-tuñ*, *s-tuñs* 'to shorten': *thuñ-ba* 'short'

s-tod 'the upper, higher part', *s-tod*, *b-s-tod* 'to exalt': *thod* 'a head-ornament; over, above the door'

s-tim-pa, *b-s-tims*, *b-s-tim*, *s-tims* 'to penetrate, to be absorbed': *thim-pa* 'to disappear by being absorbed', also *a-thim-pa*

s-tob-pa, *b-s-tab*, *b-s-tob*, *s-tob* 'to force to accept, to feed': *thob-pa* 'to get, to obtain'

s-tun-pa, *b-s-tun* 'to agree': *a-thun-pa*, *m-thun-pa* 'to agree'

s-tugs-pa 'thick, thickness': *a-thug-pa*, *m-thug-pa* 'thick'

s-ton-pa, *b-s-tan-pa* 'to show': *a-thon-pa*, *thon*, —, *thon* 'to come out, to step forth (from the crowd)'

3. *sp-<s-ph-*

s-puñ-ba, *s-puñs* 'to heap, to accumulate': *phuñ-po* 'a heap'

s-poñ-ba, *s-pañs*, *s-pañ*, *s-poñs* 'to give up, to renounce': *phoñs-pa* 'poor, needy', *a-phoñs-pa*, *a-phoñs* or *phoñs* 'to be poor, to be deprived of'

s-pra-ba, *s-pras*, —, *spros* 'to adorn': *phra* 'ornament, jewel'

s-phriñ-ba, *s-priñs* 'to send a message, to give information': *phrin*, *a-phrin* 'news'

s-pañs 'height': *a-phañ*, *a-phañs* 'height'

s-por-ba, *s-par-ba* 'to lift up': *a-phar-ba* 'to leap, to be raised'

s-pur-ba 'to make fly, to scare up': *a-phur-ba*, *phur* 'to fly'

s-pel-ba 'to increase': *a-phel-ba*, *phel* 'to increase, intr.'

s-po-ba, *s-pos*, —, *s-pos* 'to change, tr.': *a-pho-ba*, *a-phos*, *a-phos* 'to change place, to migrate'

s-pyañ-ba 'to make hang down': *a-phyañ-ba*, *a-phyañs* 'to hang down'

s-prul-ba 'to juggle': *a-phrul-ba* 'juggery'

s-pro-ba, *s-pros* 'to make go out': *a-phro-ba*, *a-phors* 'to emanate'

s-prod-pa, *s-prad-pa*, 'to deliver': *a-phrod-pa*, *phrod* 'to be delivered'

4. *sl-<s-lh-*

s-lad-pa, *b-s-lad* 'to mix, to adulterate': *lhad* 'an alloy'

s-lan-pa 'to mend': *lhan* 'together', *lhan-pa* 'a patch'

s-le-ba, *lhas* 'to braid': *lhas lhas-ma* 'a braid', *lha-ba* 'to braid'

These simple nouns in *lh-* in contrast with their derivatives with *sl-* undoubtedly show that we are dealing with roots with an original initial *lh-* and that the development into *sl-* is exactly parallel to the preceding types, *sk-*: *kh-*, *st-*: *th-*, *sp-*: *ph-*. In fact *lh-* has to be treated as a simple consonant, which may be defined as a voiceless or whispered *l* in contrast to the voiced *l*.¹ This pronunciation is kept at least in Eastern Tibet according to Jäschke. The reason why the Tibetans have written it as an *h-* with a *la-mgo* is probably, because they had no good equivalent for it when they first borrowed their alphabet from the Indians and the *lh-* is probably as good as any that came close in expressing it. Furthermore, the perfect root of the Tibetan verb often appears in a prefixless form, and here *lhas*, the perfect of *s-le-ba*, clearly indicates that we have here a simple prefixless initial *lh-*.

On the other hand, *sl-* can equally well be derived from *s-l-*:

s-log-pa, *slogs*, *b-s-log* 'to turn round, about': *log-pa* 'to return'²

s-loñ-ba, *s-lañ-ba*, *b-s-loñs*, *b-s-lañ*, *s-loñs* 'to cause to rise':
lañ-ba lañs, ——— *loñs* 'to rise'²

s-lob-pa, *b-s-labs*, *b-s-lab*, *slobs* 'to learn, to teach': *lob-pa*, *lobs*
'to learn'

5. *s-<s-tsh-*

sañ-ba, (*b*)-*sañs* (*b*)-*sañ* 'to cleanse': *tshañs-pa* 'purified', *a-tshañ-ba*,
tshañs, *b-tsañ* 'to make clean'

sad-pa 'to test, examine': *tshad*, *tshod* 'measure, the right measure',
tshod l-ta-ba 'to try, to prove'

sig-pa 'to hitch up, as porters do with a load on their back': *tshigs*
'member between two joint, joint'

sib-bu 'a sort of small pox, measles': *tshibs* 'measles'

sim-pa 'to be well, well off': *tshim-pa* 'to be content, adj. contented'

sog-pa, *b-sags*, *b-sag*, *sogs* 'to gather, to heap up': *tshogs* 'an assemblage, accumulation', *a-tshogs-pa*, *tshogs* 'to assemble'

1). Y. R. Chao noted it as ɿ in the pronunciation of *lha-sa*, cf. Yu and Chao, *Love Songs of the 6th Dalai lama Tshangs dbyangs rgyo mtsho*, p. 26.

2). Cognate to these verbs we have,

l-dañ-ba, *l-dañs* or *lcñs*, ———, *l-doñ* 'to rise'

l-dog-pa, *log*, ———, *log* 'to return'

In these verbs we have to reckon with a metathesis of *d-l-* into *l-d-* as suggested by Simon (*Tibetisch-Chinesische Wortgleichungen* pp. 30-31). But it is not necessary to accept his wholesale consideration of *r-* and *l-* prefixes as due to metathesis: for in that case we cannot understand why we have at the same time *lg-* and *gl-*, etc. The *d-* in the above two verbs is then a prefix attached to the present root, the perfect roots present, as they often do, a plain initial (*l-*).

6. *ś-<s-tśh-*

śad 'the mark of punctuation (<a cutter)': *tśhad-po* 'rent, torn, a limited time', *a-tśhad-pa*, *tśhad* 'to be cut'

śam, *g-śam* 'the lower part of a thing': *tśham la a-bebs-pa* 'to throw down, to cause to lie down'

śas 'part': *tśha* 'part, portion'

śom-pa, *bśoms* or *b-śams*, *b-śam*, *b-śoms* 'to prepare, to make ready': *tśhom-pa* 'to be finished, accomplished'

Prefix *b-*7. *bk-<b-kh-*

b-kal perf. of *a-khal-ba* 'to send things, to charge': *khal* 'burden, load'

b-ku-ba 'to extract, to make an extract of a drug by drawing out the juice': *khu-ba* 'fluid, liquid'

b-kyigs, *b-kyig* perf. and fut. of *a-khyig-pa* 'to bind'

b-krus, *b-kru* perf. and fut. of *a-khrud-pa* 'to wash'

b-kur-ba 'to carry, convey': *a-khur-ba*, *khur* 'to carry'

b-kon perfect of *a-khon-pa* 'to bear a grudge'

The above examples show conclusively that *bk-* is derived from *b-kh-*. But the examples can be readily increased if we take into consideration the following regular type of transitive verbs:

a-gegs-pa, *b-kag*, *d-gag*, *khog* 'to hinder'

a-geñs-pa, *b-lkañ*, *d-gañ*, *khoñ* 'to fill'

a-gebs-pa, *b-kab*, *d-gab*, *khob* 'to cover'

a-ges-pa, *b-kas*, *d-gas*, *khos* 'to split'

a-gog, *b-kog*, *d-gog*, *khog* 'to take away, to rob'

a-god-pa, *b-kod*, *d-god*, *khod* 'to establish, to build'

a-grems-pa, *b-kram*, *d-gram*, *khroms* 'to put down, to scatter'

a-grol-ba, *b-krol*, *d-grol*, *khrol* 'to liberate'

It has usually been considered that the perfect roots in *bk-* are probably the original¹, and from this Conrady built up two causative series of these types: Intr. *g-*: tr. *k-* and *kh-* and Intr. *kh-*: tr. *k-* (op. cit. p. 54). But it seems to me doubtful whether the perfect roots here actually represent an original unaspirated surd initial. There is much to be said for the view held by Francke and Simon that the verb in general falls into two groups, the present and the future forming one group and the perfect and the imperative the other². The first group has a sonant initial and

1). Cf. Conrady, op. cit. pp 26 ff.

2). Jäschke, *Tibetan Grammar*, addenda by A. H. Francke and Simon, p. 144.

the second group a surd initial. The problem, however, is to see if we can find out whether the surd initial is aspirated or not. In the first place, the imperative is without a prefix and therefore is likely to present the initial in its original form, uninfluenced by any prefix, and secondly we know that *b*-prefix does not exist before an aspirated consonant which makes us suspect that a loss of aspiration has probably taken place where *b*- stands. But a proof of this is furnished in verbs of this type with a labial initial.

- a-bud-pa, phud, ———, phud* 'to pull off'
a-bogs-pa, phog, d-bog, phog 'to impart advice'
a-bigs-pa, phigs, d-big, phigs 'to pierce'
a-bebs-pa, phab, d-bab, phob 'to cast down'
a-bul-ba, phul, d-bul, phul 'to offer'

This type is exactly parallel to the preceeding type with the exception that the perfect root has no *b*-prefix. The perfect *b*- evidently is dissimilated here on account of the labial initial, but at the same time it presents a very interesting phenomenon, namely, the perfect root shows instead of an unaspirated surd an aspirate as initial. If, as it is generally believed, *bk*- represents an original initial *k*- with a *b*-prefix, we shall not be able to understand why, in the case of labials where the *b*-prefix cannot exist on account of dissimilation, we have aspirates instead of unaspirated surds. A type such as *a-b*- with perfect in *p*- simply does not exist in Tibetan.¹ It is evident, then, that in the type *a-g*-, *b-k*-, *d-g*-, *kh*- as well as in the type *a-b*-, *ph*-, *d-b*-, *ph*- we are really dealing with two stem forms, *g*-: *kh*- and *b*-: *ph*-; the present and the future have a sonant initial, the perfect and the imperative an aspirated surd. I may remark also that this interchange of initials belongs primarily to be transitive verbs, and rarely occurs in the neuter or intransitive verbs.

Of the types of present and perfect roots, Francke and Simon (pp. 144-145) give *a-g*-: *kh*- as a separate type, but, among the examples given, 13 out of 14 all have labial initials, with a single exception *a-dul-ba, thul* 'to conquer' which has also a perfect *b-tul*. As a matter of fact a type *a-g*-: *kh*- does not exist by itself, and *a-b*-: *ph*- type is but a variant of their type I, *a-g*-: *b-k*-, with the *b*-prefix dissimilated. To be more exact, we may speak only of an original type *a-g*-: *b-kh*- which gives *a-g*-: *b-k*-

- 1). There is, of course, a type *a-b*-: *b*- which corresponds to *a-g*-: *g*-, or *a-g*-: *b-g*-
a-bub-pa, bub, ———, bubs 'to be turned upside down'
a-bor-ba, bor, ———, bor 'to throw'
 Cf. *a-gol-ba, gol* 'to part'
a-gyel-pa, gyel, ———, gyel 'to fall, to tumble'
a-gyed-pa, b-gyes, b-gye 'to divide'

or *a-b-*: *ph-* according to whether the *b-* is dissimilated or not. The perfect *thul* may be from an accidental dropping of *b-* and is clearly exceptional, but even there the initial is *th-*, not *t-*.

8. *bt-<b-th-*

b-tug-pa 'to reach': *thug-pa* 'to reach'

b-tub 'fit, practical', *b-tub-pa* 'to be able': *thub-pa* 'to be able to cope with'

b-tum-pa 'to wrap around': *thums* 'covering, a parcel wrapped up'

b-tags, *b-tag* perf. and fut. of *a-thag-pa* 'to weave': *thags* 'texture, web'

b-tig-pa, *b-tigs* 'to drop, to let fall in drops': *thigs-pa* 'a drop', *thig-le* 'a spot', *a-thig-pa*, *a-thigs* 'to fall in drops'

b-tus, *b-tu*, *b-tus* perf., fut., and imp. of *a-thu-ba* 'to gather': *thus-mi* 'an assemblage of men'

Similar to the type *a-g-*: *b-k-* discussed above which goes back to an original alternation of sonant and aspirate in the verbal initial,¹ we have here *a-d-*: *b-t-*,

a-diñ-ba, *-tiñ*, *g-diñ*, *thiñs* 'to spread on the ground'

a-dud-pa, *b-tud*, *g-dud*, *dud* or *thud* 'to bend down'

a-dul-ba, *b-tul* or *thul*, *g-dul*, *thul* 'to tame, to conquer'

a-degs-pa, *b-tegs*, *g-deg*, *theg* 'to lift, to support', cf. *theg-pa* 'a vehicle; to be able to carry'

a-debs-pa, *b-tab*, *g-tab*, *thob* 'to cast, to throw'

a-dogs-pa, *b-tags*, *g-dags*, *thogs* 'to bind'

a-don-pa, *b-ton*, *g-don*, *thon* 'to cause to go'

9. *btś-<b-tśh-*

b-tśags, *bśag* perf. and fut. of *a-tśhag-pa* 'to tread'

b-tśaṅs, *b-tśaṅ* perf. and fut. of *a-tśhaṅ-ba*, imp. *tśhoṅs* 'to hold, to keep'

b-tśabs, *b-tśab* perf. and fut. of *a-tśhab-pa* 'to conceal'

b-tśam perf. of *a-tśham-pa* 'to agree'

b-tśas, *b-tśa*, perf. and fut. of *a-tśha-ba*, imp. *tśhos* 'to prepare, to bite'

1). It is interesting to observe the note made by Jäschke in his dictionary under *thag* (p. 228), 'In *thag-pa* and other words beginning with *th-* (e. g. *than*, *tho*), *d-* sometimes takes the place of *th-*, and this uncertainty in the use of the initial letter dates perhaps from a time when the aspirated pronunciation of the media first began to be adopted in C., and was not yet generally introduced.' It seems to me that some of these variations may really go back to an old alternation of *d-*: *th-*.

- b-tšins, b-tšin* perf. and fut. of *q-tšhins-pa*, imp. *q-tšhins* 'to bind'
b-tšibs, b-tšib perf. and fut. of *q-tšhibs-pa*, imp. *tšhibs* 'to ascend'
b-tšus, b-tšu perf. and fut. of *q-tšhu-ba*, imp. *tšhus* 'to scoop water, to irrigate', cf. *tšhu* 'water'
b-tšes, b-tše perf. and fut. of *q-tšhes-pa*, imp. *tšhes* 'to assure'
b-tšems, b-tšem perf. and fut. of *q-tshems-pa* 'to chew'
b-tšos, b-tso perf. and fut. of *q-tšhos*, imp. *tšhos* 'to prepare, to gnaw off'

It is impossible to agree with Wolfenden and Conrady in considering that the *b-ts-* represents the original initial. The imperative uninfluenced by any prefix shows an aspirate *tšh-* and such simple noun as *tšhu* 'water' possesses also an aspirated initial. There is not the slightest reason to believe that the initial of *tšhu* is secondary while that of its derivative *b-tšus* represents on the contrary the original.

Verbs showing an alternation of *q-dž-*: *b-tš-* (<*btšh-*) like *q-g-*: *b-k-* (<*b-kh-*) are,

- q-džil-ba, b-tšil, gžil* 'to expel'
q-džul-ba, b-tšul, gžal, q-džol 'to weigh, to repay'
q-džil-ba, b-tšil, gžil 'to expel'
q-džug-pa, b-tšug, gžug, tšhug 'to put in, to cause'
q-džun-pa, b-tšun, gžun tšhun 'to subdue, to soften', cf. *q-tšhun-pa* 'to be tamed'
q-džum-pa, b-tsum, gžum 'to shudder, to shrink', cf. *tšhum-pa* 'to shrink, to crouch with fear'
q-džur-ba, b-tšur 'to be entangled'
q-džoms-pa, b-tšom, gžom, tšhom 'to conquer, to finish', cf. *tšhom-pa* 'to be finished'

The *ž-* in the future forms is probably due to the prefix *g-* which softens the *dž-* into *ž-* as suggested by Simon (*Wortgleichungen* p. 30).

10. *bts-* <*b-tsh-*

- b-tsa-ma* 'fruit', *b-tsas-ma* 'harvest, wages', *b-tsa-ba, b-tsas* 'to bring forth, to bear': *tsha-bo* 'grand-children'
b-tsags also *tshags, b-tsag* perf. and fut. of *q-tshag-pa*, imp. *tshog* 'to cause to trickle, to sift', cf. *tshag-ma, tshags* 'sieve, filter'

1). The colloquial form of the perfect of this verb is *tšhug* (Jäschke, *Tib. Gr., Addenda* p. 140) which according to the usual rule that perfect is used for all tenses, corresponds to *b-tšug*, but goes back to a prefixless form, cf. *b-tul, thul* pf. of *q-thul-ba* 'to tame'. The *tšh-* is original.

- b-tsañ* fut. of *q-tshañ-ba*, perf. *tshañs* 'to press into, to stuff'
b-tsir, *g-tsir* or *b-tsir* perf. and fut. of *q-tshir-ba*, imp. *tshir* 'to press out, to wring'
b-tses, *b-tse* or *g-tse* perf. and fut. of *q-tshe-ba* 'to hurt, to damage'
b-tsems or *tshems*, *b-tsem* perf. and fut. of *q-tshem-pa*, imp. *tshems* 'to sew', cf. *tshem-po* 'seam'
b-tsags, *b-tsog* perf. and fut. of *q-tshog-pa*, imp. *tshog* 'to hew'
b-tsoñs, *b-tsoñ* perf. and fut. of *q-tshoñ-ba*, imp. *tshoñ* 'to sell', cf. *tshoñ* 'trade'
b-tsos, *b-tso* perf. and fut. of *q-tshod-pa*, *q-tshed-pa*, imp. *tshos*, *tshod* 'to cook vegetables', cf. *tshod-ma* 'vegetables'
b-tsol perf. and fut. of *q-tshol-ba*, imp. *tshol* 'to seek'

Alternation of *q-dz-*: *b-ts-* (<*b-tsh-*):

- q-dzugs-pa*, *b-tsugs*, *g-zugs*, *zugs* 'to prick into'
q-dzud-pa, *b-tsud*, ———, *tshud* 'to put, to lead', cf. *q-tshud-pa*, *tshud* 'to be put'
q-dzum-pa, *b-tsum*, *g-zum*, *tshum* 'to close one's eyes, mouth'
q-dzog-pa, *b-tsogs*, *b-tsog* 'to heap together', cf. *tshogs* 'an assemblage, accumulation', *q-tshogs-pa*, *tshogs* 'to assemble'

Prefix *g-*

11. *gt-* < *g-th-*
g-tigs-pa 'to fall in drops': *thigs-pa* 'a drop'
g-tibs-pa 'to be gathering of clouds': *q-thibs-pa*, *thibs* 'to gather of clouds', *thib-pa* 'dark'
g-tim-pa 'to disappear': *thim-pa* and *q-thim-pa* 'to disappear'
g-tug-pa, *g-tugs* 'to reach': *thug-pa* 'to reach'
g-tub-pa 'to be able': *thub-pa* 'to be able'
g-tubs-pa 'to cut to pieces': *q-thub-pa*, *q-thubs*, *g-tub*, *q-thub* or *b-tub* 'to cut to pieces'
g-tum-pa 'to veil, to wrap up': *thums* 'covering', *q-thum-pa*, *q-thums* or *b-tums*, *b-tum*, *q-thum* or *b-tum* 'to cover'
g-toms-pa 'filled up', *g-tams-pa* 'full': *tham-pa* 'complete, full', *thams-tsad* 'whole, all'
g-tor-ba 'to scatter': *q-thor-ba*, *b-tor*, *g-tor*, *q-thor* 'to be scattered'
12. *g-tś-* < *gtśh-*
g-tśags-pa 'to love': *tśhags-pa* 'to love'
g-tśog-pa, *b-tśag*, ———, *tśhogs* 'to break, to split': *q-tśhag-pa*, *tśhags* 'to break, to be broken off', *tśhogs-pa* 'to be broken'

- g-tšod-pa*, *b-tšad*, *g-tšad*, *tšhod* 'to cut': *tšhod-pa* 'to be cut off',
tšhad-po 'rent, torn'
13. *gts- < g-tsh-*
g-tsag vulg. for *q-tshag-pa* and *q-dzag-pa* 'to filter'
g-tsañ 'clean, cleanness': *tshañs* 'purified', *q-tshañ-ba*, *tshañs*, *b-tsañ*
 'to make clean'
g-tsir fut. of *q-tshir-ba* 'to press'
g-tse-ba, *g-tses* fut. and perf. of *q-tshe-ba* 'to hurt'
14. *gž- < g-dž-* (see the future roots of the verbs listed under 9.)
15. *gz- < g-dz-* (see the future roots of the verbs listed under 10.)
16. *gl-, kl- < g-lh-, g-l-*
g-lan-pa, *g-lon-pa* 'to patch, to mend': *lhan-pa* 'to join; a patch', cf.
s-lan-pa 'to mend'
k-lon-pa 'to mend', cf. the preceding verb
g-leb-pa 'to make flat': *leb-mo* 'flat', *lhub* 'width', *lhab-lhub* 'wide,
 flowing'
g-lod-pa 'to loosen, to comfort': *lhod-pa* also *lad-pa* 'loose, easy'
g-lon-pa, *g-lan-pa* 'to return an answer': *lhon-pa* 'to return, to give
 back', *lan* 'a return, an answer', cf. *l-don-pa* 'to give
 back' (§ 27)
g-log-pa, *lhog-pa* 'a large ulcer or sore'
k-lub-pa, *k-lubs* 'to cover e.g. the body with ornaments': *lhub-pa*
 'to fasten e.g. ornaments to the ear'
- Prefix *d-*
17. *dk- < d-kh-*
d-krol perf. and fut. of *q-khrol-ba*, imp. *khrol* 'to cause to sound, to
 play musical instruments', cf. *khrol-doñ* 'a musical
 instrument'
d-kri-ba, *d-kris* 'to wind up, to wrap a garment round the body'; *q-*
khri-ba, *q-khris* 'to wind, to twist oneself'
d-kyu-ba 'to run a race': *q-khyu-ba*, *q-khyus* 'to run'
d-krigs-pa 'darkened, dim': *q-khrig-pa* 'to be clouded (of the sky)'
d-krug-pa 'to stir up': *q-khrug-pa*, *q-khrugs* 'to be disturbed'
18. *dp- < d-ph-*
d-pyañ-ba 'to suspend, to make hang down': *q-phyañ-ba*, *q-phyañs*
 'to hang down'
d-pyo-ba 'to change': *q-pho-ba*, *q-phos* 'to change place'

Prefix *a-*

19. *atśh- < a-ś-*
a-tśhad-pa, *b-śad*, *b-śad*, *śod* 'to explain, to tell': *śod-pa*, *b-śad* 'to say, to declare'
a-tśhar-ba, *śar* 'to rise, appear': *śar* 'east (<rising sun)', *śar-pa* 'grown up youth (collective noun, probably from the rising generation)'
a-tśhi-ba, *śi* 'to die'
a-tśhigs-pa 'to bind': *śig-ge-ba*, *śig-śig* 'close-bounded'
a-tśhegs-pa, *b-śags*, *b-śag*, *śog* 'to cleave, split': *g-śog-pa* also *b-śog-pa*, *g-śag-pa*, *g-śeg-pa*, *g-śags* or *b-śags*, *g-śag* or *b-śag*, *g-śog* 'to cleave, split'
a-tśhor-ba, *śor* 'to escape'
a-tśhor-ba, *b-śor*, *g-śor* 'to pursue, chase'

This type of verbs with their perfects in *ś-* (intr.) or *b-ś-* (tr.) is fundamentally different from the type *a-tśh-* with their perfects in *tśh-* (intr.) or *b-tś-* (tr.); both the prefixless perfects and the imperatives and their cognates show unquestionably an original *ś-* as initial while the latter type has *tśh-*. This *ś-* must not be thought of as the weakening of *tśh-* (cf. Conrady, op. cit. p. 19); as *tśh-* and *ś-* both can exist as root initials without a prefix, we see no reason why weakening takes place in one verb and not in the other, nor can we assume that *b-ś-* is weakened from *q-tśh-*, for *b-tśh-* gives regularly *btś-* (9). The present forms in *a-tśh-*, then, goes back to *a-ś-*, and as prefix *a-* does not exist before *ś-*, we may safely assume the development *a-ś- > a-tśh-*.

20. *atśh- < a-s-*
a-tśho-ba, *sos*, ———, *sos* 'to live, exist; to feed, intr.' perf. *b-sos* 'to feed, tr.', cf. *g-so-ba*, *g-sos* or *b-sos* 'to feed, to nourish'

Similar to the preceding type, verbs showing an alternation of *a-tśh-* and *s-* go back to an original initial *s-* and are different from those showing an alternation of *a-tśh-* and *tśh-* or *b-ts-* which go back to *tśh-*. We have equally here (19 and 20) to guard against confusion with 5 and 6 which also show an alternation of *ś-*: *tśh-* and *s-*: *tśh-*. There the prefixless forms in *tśh-* and *tśh-* are the test forms for an original *tśh-* and *tśh-*, and show that the *ś-* and *s-* are secondary forms from *s-tśh-* and *s-tśh-*, while here in 18 and 19 the prefixless *ś-* and *s-* and the existence of *tśh-* and *tśh-* only after an *a-* definitely speak for an original *ś-* and *s-* and for an affricativizing of *ś-* and *s-* into *tśh-* and *tśh-* after the prefix *a-*.

There are, however, certain uncertainties in verbs of this type,
a-tśhab-pa, *tśhabs* or *b-sabs*, *b-sab*, *tśhob* 'to pay back, to refund'

While *tshabs* and *tshob* speak for an original *tsh-*, *b-sabs* and *b-sab* favor an original *s-*. It seems to me that this probably represents a mixed type of inflection. We have probably originally two verbs from one root with different prefixes, thus

a-tshab-pa, *tshabs*, ———, *tshob*
[*sab-pa*], *b-sabs*, *b-sab*, [*sabs*] (<*s-tshab-pa*)

A blend of these two verbs gives us the forms actually found in Tibetan.

21. *adz-* < *a-z-*

a-dzig-pa, *b-zig*, *g-zig*, *b-sig* 'to destroy; to be ruined', cf. *zig-ral-ba* 'ruined'

a-dzu-ba, *a-dzus* 'to melt, to digest': *zu-ba* 'to melt, to digest', *zun-pa* 'melted'

a-dzug-pa, *zugs*, ———, *zugs* 'to go, to walk'

a-dzo-ba, *b-zos*, *b-zo*, *a-dzos* 'to milk', cf. *zo* 'milk'

a-dzog-pa, *b-zag*, *g-zag*, *zog* 'to put, to arrange'

a-dzog-pa, *b-zogs*, *g-zog*, *zog* 'to cut, to carve'

There are also uncertain forms like *a-dzoms-pa*, *b-tsom* or *zom*, *g-zom*, *tshom* 'to conquer' which may also be due to a blend as in 19. In such a case a development of *s-dz-* into *z-* has to be assumed.

22. *adz-* < *a-z-*

a-dzud-pa, *zad* 'to be on the decline'

a-dzar-ba, *b-zar*, *g-zar* 'to hang down', cf. *zar-babs* 'tassel, gold-brocade', *zar-bu* seems to be 'tassel'

a-dzin-pa, *b-zuñ*, *g-zuñ*, *zuñs* 'to take hold, to catch', also *zin-pa*

a-dzur-ba, *b-zur*, *g-zur*, *zur* 'to make way, to step aside', cf. *zur* 'edge, side, corner'

a-dzer-ba 'to say': *zer-ba* 'to say'

a-dzoms-pa 'to come together': *zom* 'point, summit'

There are again some uncertain forms such as,

a-dzugs-pa or *zug-pa*, *b-tsugs* or *zugs*, *g-zug*, *zugs* 'to prick into', cf.

a-tshugs-pa, *tshugs* 'to go into, to penetrate'

a-dzum-pa, *b-tsum* or *zum*, *g-zum*, *tshum* 'to close one's eyes, mouth'

The *z-* forms speak for an original *z-* and the *tsh-* or *b-ts-* forms for an original *tsh-*, which, as we have noticed above (in 10), alternates with *dz-*. A blend as suggested in 19 probably explains best such irregularities,

a-dz-, *b-ts-* (<*b-tsh-*), *g-z-* (<*g-dz-*), *tsh-*

z- (<*s-dz-*), *b-z-* (<*b-s-dz-*), ———, *z-* (<*s-dz-*)

It is to be noticed that we have to assume here the development of *s-dz-* into *z-*. There is of course another uncertainty in verbs like *a-dzed-pa*, *b-zed*, *g-zed* 'to hold out, forth' where we have equal right to consider *dz-* as the original initial, in so far as a cognate with a prefixless *z-* initial is not forthcoming. The *b-z-* form is easily understood as weakening from *b-dz-*.

Prefix *l-*

23. *lk-<l-kh-*
l-kob 'fat, heavy, plump': *khob* 'fat, heavy, clumsy'
24. *ltś-<l-tśh-*
l-tśud-pa, *l-tśus*, *l-tśu* 'to turn round, to twist': *a-tśhu-ba* 'to be twisted'; *tśhu-ba* 'sinew'; cf. also *g-tśud-pa*
l-tśu-ba also *g-tśu-ba* 'screw', prob. related to the preceding stem
25. *lt-<l-th-*
l-tem-pa 'the state of being full': *them-pa* 'to be full'
l-tams-pa, *b-l-tams*, *b-l-tam* 'to be full, to be born': *tham-pa* 'complete, full'
26. *lt-<d-lh-(?)*
l-tuñ-ba, *lhuñ* 'to fall off'
27. *ld-<d-l-<a-l-(?)*
l-dañ-ba *l-dañs* or *lañs* —, *ldoñ* 'to rise': *lañ-ba*, *lañs*, —, *loñs* 'to rise', *s-lañ-ba* or *sloñ-ba*, *b-s-lañs*, *b-s-lañ*, *s-loñs*, 'to cause to rise'
l-dugs-pa, *l-dugs* or *b-lugs*, *b-lug*, *b-lugs* 'to pour, to cast metals', cf. *lhug-pa* 'to pour', *lugs* 'the casting of metals'
l-dab-l-dib 'silly-talk': *lab-pa* 'to say, to talk'
l-dud-pa, *b-lud*, *b-lud*, *b-lud* 'to give to drink'
l-dum-pa 'round': *z-lum-pa* 'round, circular'
l-dog-pa, *log*, —, *log* 'to return': *z-log-pa* 'to cause to return'
log-pa 'to return', *s-log-pa* 'to turn around'
l-doñ-ba *l-doñs* or *loñ* 'to become blind': *loñ-ba* 'blind, to be blind'
l-don-pa 'to give back': *lhon-pa* 'to return, to give back'
l-dob-pa 'to apprehend quickly': *lob-pa* 'to learn', also *s-lob-pa*
- Notice that in these two sections (25, 26) the *l-* is properly speaking not the prefix but the true root initial, while *d-* is the prefix. I suspect, however, that even *d-* is probably not the original prefix but goes back to some other form. Although there are verbs with *d-* prefix but their paradigms are different from those presented here, namely, *d-l-*, *l-* or *d-l-*, *b-l-*, *b-l-*, *l-* or *b-l-*. On the other hand verbs with *a-* prefix often present paradigms of this sort,
- a-dž-*, *dž-* or *ž-*, or *d-l-*, *l-* or *a-dž-*, *b-ž-*, *b-ž* *a-dž-* *d-l-*, *b-l-*, *b-l-*, *l-* or *b-l-*

If we recall such developments as $q-s > q-tsh-$, $q-z > q-dz-$, etc., we can easily understand that a development of $q-l-$ into $q-dl-$ and through metathesis into $l-d-$ is highly probable.

Prefix $r-$

28. $rk- < r-kh-$

$r-kam-pa$ 'to desire': $kham$ 'appetite'

29. $rt- < r-th-$

rta 'horse': $tha-s-kar$ 'Rosssstern'

$r-tuñ-ba$, $b-r-tuñs$, $b-r-tuñs$ 'to make short': $thuñ-ba$ 'short'

$r-ten-pa$, $b-r-ten$, $b-r-ten$, $r-ton$ 'to adhere to, to depend on': $q-then-pa$ 'to lean, to repose on (in W.)'

$b-r-tan-pa$ 'firm, steadfast': $q-than-pa$ 'firmness'

30. $rts- < r-tsh-$

$r-tsis$ 'counting', secondary form $tshis$

$r-tsi$ 'all fluid of somewhat greater consistancy, paints, varnish':
 $tshi-ba$ 'tough, viscous, sticky matter, clammy dirt'

31. $rdž- < r-ž-$

$r-džed-pa$, $b-r-džed$, $b-r-džed$ 'to honor, reverence': $že-sa$ 'reverence'

Conclusions

Above is but a preliminary study of the sandhi rules which govern the prefixes and the root initials. I have limited myself solely to Tibetan, without going into comparisons with other related languages. For I believe that thus far the comparisons of words made among this group of languages have unfortunately been less rigorous and less systematic than modern linguistics would like to demand. Words that have been suggested for comparison show at their best that they are in some way related but the exact line of correspondence and the exact relation have so far remained beyond our comprehension. This is not accidental for we have no good phonology for each of these languages to serve as control in making our etymologies. In Tibetan, however, where word-formation and derivation seem quite transparent, there is the possibility that certain phonological problems can be tackled from those words whose etymology is clear, and unless linguistic experience leads us astray, we are certain to find the phonetic reactions when different prefixes and initials are put together. The result of such a preliminary study has been given above and it is hoped that this will serve as a basis for further phonological study and if possible for comparison with other languages.

One feature comes out distinctly from the above study, namely, the consonantal alternation. It is true that change of consonant has been observed long ago, and Conrady has even definitely stated that $g-$, etc. are

originally intransitive and *k-* and *kh-*, etc. transitive in force. We shall have to modify his observation both as to the consonants themselves and their functions. In the first place, the distinct consonantal alternation is sonant: aspirate, the unaspirated surd does not come in. Conrady's transitive *k-* derived from *s-k-*, *b-k-*, *d-k-* etc. are shown to come from *kh-* through a purely mechanical influence of the prefix. It is interesting to observe that in the schemes of transitive and intransitive initials he has only *g-* and *kh-* for the intransitive and although he gives *k-* in addition for the transitive, the *k-* is invariably preceded by *s-* (given in his scheme as *s-k-*) or *b*, rarely *d-* (not stated in his scheme) (p. 54). Such *k-* is all tracable to *kh-*. Further if *kh-*, an original transitive initial, can be used as an intransitive, why *k-* does not figure at all in the intransitive scheme? Conrady has given some forms with *k-* which seems to alternate with *kh-* or *g-*, but such cases are rare and seem to be largely adjectives and particularly associated with reduplicating adjectives such as *koñ-koñ* 'concave, excavated': *khoñ* 'inside', *kor-kor* 'round': *kho-ra* 'circle', *kyag-kyag* 'thick, run into clots': *khyags-pa* 'frozen, ice', *kyag-kyog* 'curved': *khyog-po*, *kyom-kyom*: *khyom-khyom* 'of irregular shape', *tob-tob smra-ba* 'to talk confusedly': *dob-dob smra-ba* 'to talk nonsense', *tsoñ-tsoñ*=*tshoñ-tshoñ* 'straight', etc. It is conceivable that some phonetic peculiarity may be connected with the reduplicated forms of descriptive words such as these¹ and from this creep in other forms of *k-*, etc. alternating with *kh-*, etc. On the whole the unaspirated surds do not as a rule take part in the derivation of words in Tibetan. The alternation is between *g-* and *kh-*, *d-* and *th-*, *b-* and *ph-*, *dz-* and *tsh-*, *dz-* and *tsh-*.² Conrady's transitive *k-* initial does not exist.

Now as to the functions of such consonantal alternation. Whether *kh-* is a really transitive and *g-* an intransitive initial, no sufficient evidence can be offered from Tibetan alone, and I can hardly agree with Conrady in thinking that the nominal *kh-* forms are all of transitive origin. Tibetan material abounds in *kh-* intransitives and *g-* transitives and it is hardly necessary to think that such simple nouns or adjectives as *tshu* 'water', *khu* 'liquid', *thuñ-ba* 'short', *tshod-mo* 'vegetable', etc. are transitive in origin while *gañ-ba* 'full', *gad-mo* 'laugh', *gegs* 'obstacle', *gor-mo* 'round', *riñ-ba* 'long' represent the original substantival initial. Denominatives can be formed from both types with the same prefixes *s-*, *r-*, etc. and moreover strictly according to the phonetic rules formulated above. If *kh-* really represent the transitive and *g-* the intransitive, we

1). Cf. the reduplicated forms in Colloquial Pekinese with a change of tone, 好(3):好(3)好(1)的, 快(4):快(4)快(1)的, etc. It seems that reduplication has a peculiar phonetic feature different from the usual tone-sandhi.

2). We may add some rare instances of *z-*: *ś-*, *l:lh-*, etc., such as *a-dzig-pa* *b-śig* *g-śig*, *b-śig* 'to destroy; to be ruined' (*śig*: *śig*), *lugs* 'the casting of metals' *lhug-pa* 'to pour', etc.

should have *a-kheis-pa* meaning 'to fill' and *a-gens-pa* meaning 'to be full' instead of just the reverse as found in Tibetan. Conrady's roundabout way of explain these is distinctly unsatisfactory.

But he has gone a step further and maintains that *kh-* comes really from *sk-* or *sg-* without, however, giving how and under what phonetic conditions *kh-* arises while *sk-* and *sg-* are found still existing. It is plain that we have to guard against all such over-simplifications. In the first place we are not justified to assign a transitive function to *kh-* and an intransitive function to *g-*, and, secondly, we have equally no evidence to show that *kh-* really comes from *sk-* or *sg-*. Colloquial Tibetan may present such a type of *g-*: *kh-* as intr.: tr. (Jäschke, *Tib. Gr.*, *Addenda* p. 139-140) as well as some other languages, but before the phonological problem is cleared up, we are not to conclude that such has been the original state of affairs.

Such an alternation of sonant and aspirate appears most clearly in the transitive verbs with *a-* in the present. The present and the future have sonants and the perfect and imperative have aspirates, for examples see 7-10. There are some other formal distinctions which seem to favor such a classification: both the perfect and the imperative take the negative *ma-*, while the sonant group takes *mi-*; and both of them sometimes take the suffix *-s*. The difference in meaning of these two groups as suggested by Francke and Simon is that the sonant group is more durative in force and the aspirate group represents more the active part of the verb. But such a distinction is only observed from transitive verbs of this particular type and cannot be generalized for all initials in the Tibetan language.

For this type of verb, Bacot's observation on the prefix *b-* is important. This prefix, according to him, denotes perfect active but present passive. This is but two modes of looking at the same fact; looking at it actively, we get, for instance, 'one has filled up something', and at it neutrally (or medio-passively) 'something is in the state of being filled up'. It happened that for transitive verbs a passive translation 'something is filled up' corresponds to the active. But this is equally true of the intransitive active verbs, where the active perfect is also taken to denote a mere state—neuter voice—, and therefore largely used as an adjective or as a substantive, for example:

khol perf. of *a-khol-ba* 'to boil, intr.', taken in the active voice means 'it has boiled', but taken in the neuter voice (=an adjective or substantive), we have *khol-pa* 'boiled, bubbling', *khol-ma* 'anything boiled'. The actual trend of thought is that something having boiled is therefore in the state of being boiled, and it is not correct to derive *khol-pa* as a passive from *s-kol-ba* 'to boil, tr'.

gril perf. of *q-gril-ba* 'to be twisted' (the original idea is probably to get twisted, not passive). Cf. *gril* 'a roll, rolled' denotes as a neuter the state of being rolled up, not as a passive to *s-gril-ba* 'to wrap, to wind'.

grib perf. of *q-grib-pa* 'to grow dim, to get dark', also used as a noun 'shadow' (<what has become dark).

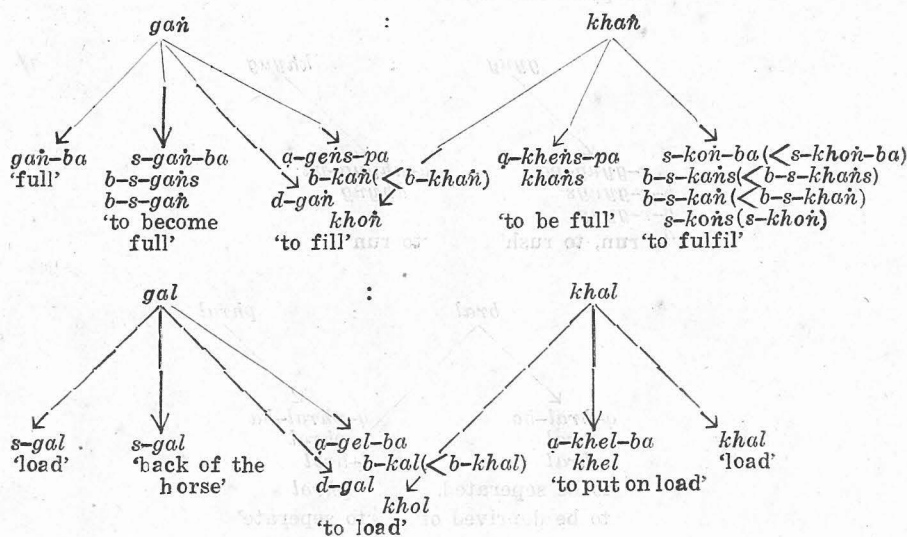
tšhad perf. of *q-tšhad-pa* 'to be cut, to decay', *tšhad-po* 'torn, rent'.

tshogs perf. of *q-tshogs-pa* 'to assemble', used as a noun 'an assemblage' (=what has gathered together).

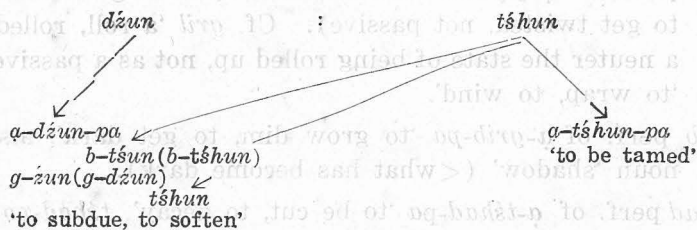
These examples can be readily increased, but it seems clear that not only in the transitive verbs but also in the intransitives the perfect functions in two ways either as the perfect in the active voice or as an adjective or substantive in the neuter voice. This distinction of voice is more fundamental than that of the active and the passive, for we can hardly speak of a passive of the intransitive. The active or passive in Tibetan is largely determined by the meaning of the verb and by the so-called case particles (really postpositions) but the active or neuter function belongs to the perfect proper and not, as indicated by Bacot, to the prefix *b-*, which probably represents an acting subject as suggested by Wolfenden.

Further, the prefixless perfects and substantives, it seems certain, represent the primary form from which a verbal or a substantival idea can be developed, and there it makes no distinction of sonant or aspirate. The function of this interchange of consonants remains still in the dark, but from this investigation we shall be able to trace the rather complicated derivation of words. The following types can be observed:

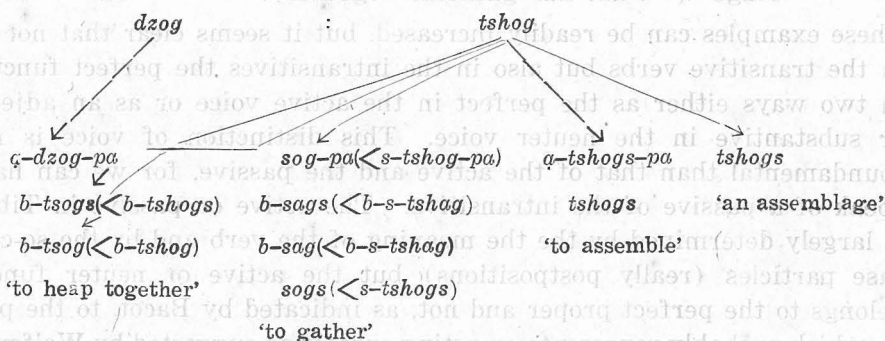
Type I. *g-* : *k-* (<*kh-*) : *kh-*



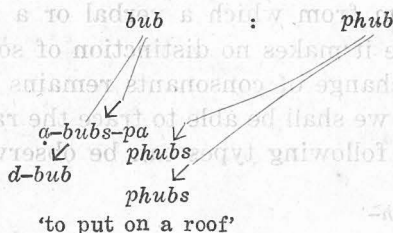
Sub-Type a.



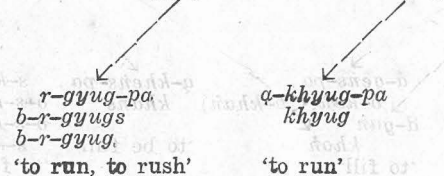
Sub-Type b.



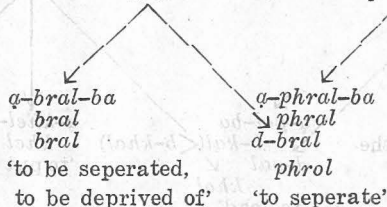
Type II. g : kh-

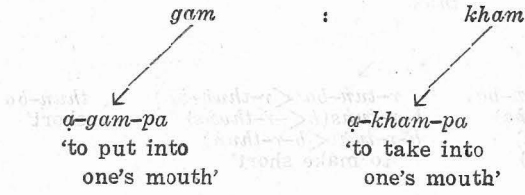


gyug : khyug

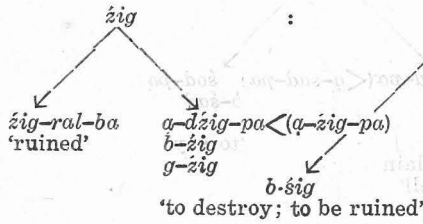


bral : phral

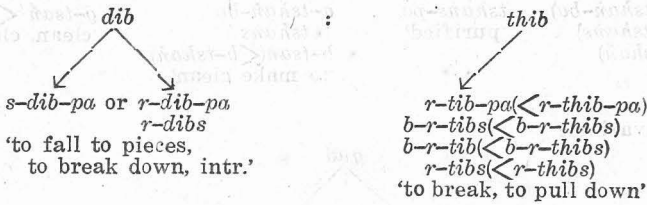




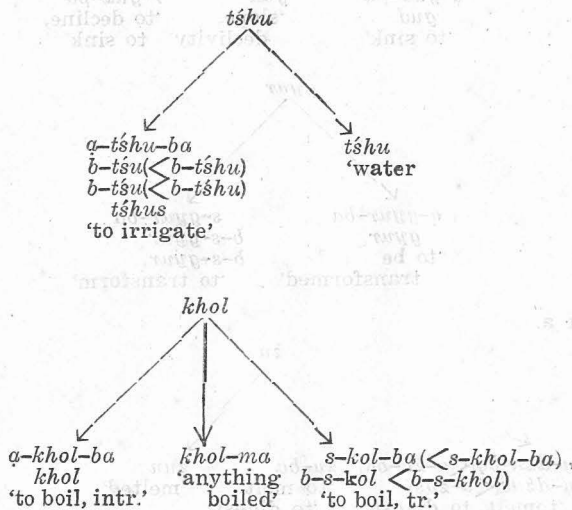
Sub.-Type a.

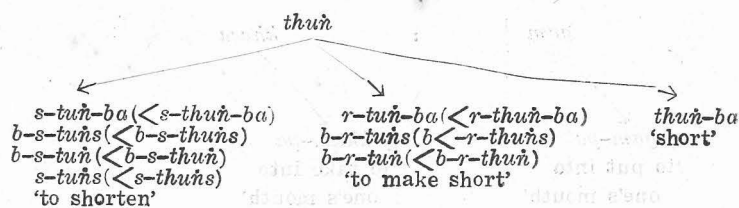


Type III. g- : k- (<kh-)

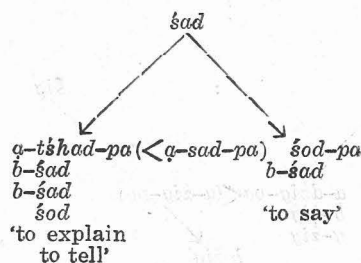


Type IV. k- (<kh-) : kh-

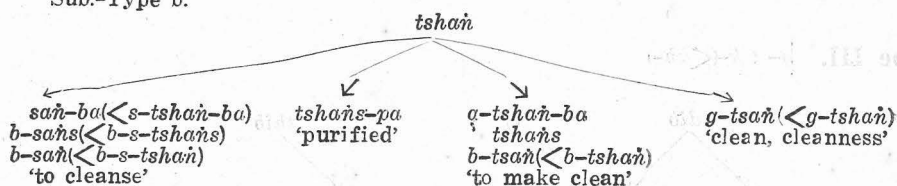




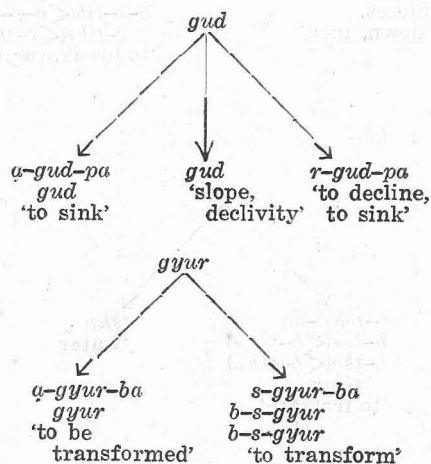
Sub.-Type a.



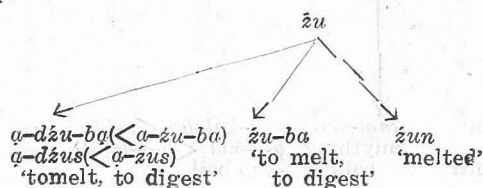
Sub.-Type b.



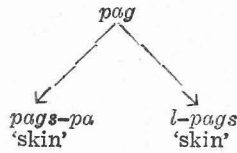
Type V. g- invariable



Sub.-Type a.



Type IV. *l-* invariable



In the above types only the initials are taken into consideration, the suffixes, the *da-drag*, and the vocalic changes are temporarily left out. It is clear that in the first three types the stem shows an alternation of the initial consonant and its appearance in Tibetan as having a sonant, an unaspirated surd, and an aspirate as in type I, or as having only sonant and unaspirated surd or aspirate as in type II and III, depends upon mere chance. Type I represents more or less the complete set of derivation, while type II and III have certain forms of initials missing. In the last three types although they may present certain change of initials, the stem goes back to an invariable initial. I have also listed some of the words with affricative or sibilant initials under sub-types because of certain special sandhi changes which these initials have undergone.