VOICED PLOSIVES AND AFFRICATES IN ANCIENT TIBETAN

By A. Dragunov.

I. ག, ད, བ as prefixes

II. ག, ད, བ, ཇ, ཛ as root consonants

III. ག, ད, བ, ཇ, ཛ as root initials combined with various prefixes.

The phonological system of Ancient Tibetan as reflected in Tibetan spelling is in its main features tolerably well known. It has, however, a number of dubious points which, if they are not all of them in need of revision, should nevertheless in some particulars be subjected to a more detailed analysis. One of these is the problem of the exact phonetic values of the letters ག, ད, བ, ཇ and ཛ which will be treated in the present paper.

I. ག, ད, བ as prefixes.

It is well known that although the prefixes ག, ད, བ are now silent in the dialects of Central Tibet, they are still pronounced both in the Eastern and the Western areas and have as a rule the value of spirants.

In the dialects of Kham (Eastern Tibet)(1) the prefix ག is pronounced as the voiced labial spirant [v] and both ད and བ as the voiced velar spirant [γ].

E. g.	AT (2)	Kham
	**bgo-ba* (3)	*vgo-wa*
	**dkar-po*	*γ kar-po*
	**gtam*	*γ tam*

(1) Unless specified, the Tibetan dialects are quoted from Jäschke's *Tibetan-English Dictionary*, London, 1881.

(2) In the present article the following abbreviations are used. A = Ancient; M = Modern; Ch = Chinese; T = Tibetan; C = Central; W = Western; D = Dialect (s); G= Glossary.

(3) Whenever the traditional interpretation of ག , ད , བ is provisionally made use of, the transliterated forms are marked with an asterisk.

In the dialects of WT the prefixes ད and ན have both the value of the spirantized uvular ག (1) (2)

E. g.	AT	WD
	**dgu*	*གgu*
	**gsum*	*གsum*

Neither the fusion of **d* and **g* into *γ* nor the substitution of *ག* for **d* is confined to the MTD, but both may be supposed to have taken place as early as the XI c. (3) I can add that in the Leningrad copy of the Tibetan-Chinese Glossary belonging to the so called Hua-i-i-yü series the prefixes **d* and **g*, if not left altogether untranscribed, are usually rendered by the character 黑.

E. g.		AT	TChG
	(a)	**dman*	*χman*
		**dp'id*	*χpi*
		**dkar-po*	*χkar-po*
		**dgon-ste*	*χkon-ste*
	(b)	**lo-gsar*	*lo-χsar*
		**gser*	*χser*
		**gter*	*χter*

Along with the spirantic pronunciation there are some, though less frequent instances of plosive *b* and *g* as prefixes. These are found not only within compounds (cf. CT *tšug-sum* < AT *tšu-*gsum* ; CT. *tšub-ši* < AT *tšu-*bži*), but also in the Anlaut. A regular feature of the TChG is a plosive *b* by the side of **d* changed into a velar spirant. As for **g*, the Glossary contains two instances of a plosive used for transcribing this prefix.

---

(1) See S. Wolfenden's valuable article "On the Prefixes and Consonantal Finals of Si-Hia as evidenced by their Chinese and Tibetan Transcriptions." JRAS, 1934, p. 758-9.

(2) According to Francke, prefixed **d*, **g* and even **b* are often pronounced as *r* (ར) and *s* in the dialect of Ladak. See his Sketch of Ladakhi Grammar JASB, vol. LXX, part 1, Extra No. 2, 1901, p. 3. Cf. the peculiar alternations of **g* and *s* in AT (**gtim-pa // stim-pa; *gtor-pa // stor-ba*) adduced by Prof. Th. Ščerbatskoj in his "Opredeliteli kornej v tibetskom jazyke." (*Sbornik statej posvjaščennych Lamanskomu.* St-Petersburg, 1907, p. 644).

(3) See Wolfenden, op. c. p. 751-9.

E. g.	AT	TChG
(a)	**bži*	*pži*
	**bla-ma*	*pla-ma*
	**bdag-po*	*pta-po*
	**bsil*	*psir*
(b)	**gdan-khri*	*ktan-khli*
	**gdugs*	*ktukhs*

Jäschke, too, mentions sporadic cases of *b* instead of *v* in Kham: AT. **btum-pa* > Kham *btöm-pa* ; AT. **bkra-šis* > Kham *bṭa-šī*.

That is how matters stand with the reflexion of these prefixes in the TD. and in the TChG.

It is now perfectly natural to ask how they were pronounced in AT. On the ground of the letters ད, ད, ག being derived from the Sanskrit letters for *b*, *d*, *g*, the former are usually given the values of the voiced plosives. Jäschke is to my knowledge the only scholar to have expressed a doubt on this point. In his works he renders ག by *γ* and leaves undecided the question of the pronunciation of ད and ད, rendering them provisionally by *b* and *d*.

The traditional interpretation of ད , ད , ག as *b* , *d* , *g* seems to answer the practical requirements, but theoretically it is unsatisfactory, as it is unable to explain all the data of the Tibetan dialects.

This assumption does, of course, account for the pronunciation of **b* and **g* as plosives; so it might for the pronunciation of **b* as *v* and of **g* as *γ* , but the transition **d* > *γ* is difficult to explain. One might suppose with Jäschke that the sound in question had a ð (i.e. an interdental voiced spirant) for its intermediary stage, but this remains a mere guess, as we have no evidence for the pronunciation of **d* as ð. Nor does Jäschke insist on this suggestion.

If, therefore, it is not easy to explain comprehensively the data of the dialects on the ground of the assumption that **b* **d*, **g*, were voiced plosives, we should meet with no lesser, if not with greater difficulties, were we to interpret them as *γ*, ð , *v*. Besides the just mentioned lack of evidence for **d* being ð, the voiced spirants theory does not account for the instances of a plosive pro-

nunciation of the prefixes *b and *g, nor, again, for the fusion of *g and *d into a single γ (ɣ). Jäschke's interpretation of the prefix *g as γ is not due to the data of the modern dialects so much as to the circumstance that, assuming ག to be g, there would be no difference left between such graphic pairs as གྱ and གཡ. This obstacle is easy to overcome. Walleser has shown (1) that there are some reasons to suppose the j subscriptum not to have been pronounced separately, but merely to have represented a palatalized pronunciation of the consonant, the difference between གྱ and གཡ thus amounting to the former being pronounced *g'u and the latter *gju, something of the kind of what we have in Russian e.g. in *сел* [*s'el*] and *съел* [*s'jel*].

Since neither the values of *b, d, g* nor those of *v*, ð, γ can thus be assigned to the letters བ, ད, ག when used as prefixes, the idea suggests itself that we have here to deal with consonants combining the characteristics of both kinds, viz. with *voiced plosives accompanied by a voiced aspiration.* Consonants of this kind are in no way unprecedented even within the Sinitic languages, since they existed in ACh and are extant in the Wu dialects. (2)

The interpretation of བ, ད, ག as *bɦ, dɦ, gɦ* allows us to explain satisfactorily all the data of the Tibetan dialects. As *dɦ* and *gɦ* have a final element in common, namely, the voiced aspiration, it is no wonder that they should have fused into one phoneme consisting simply of a voiced aspiration eventually strengthened into γ or ɣ. The presence of an aspiration can also account for *bɦ* becoming *v* in Kham as well as for certain cases of *bɦ, dɦ, gɦ* pronounced as *r* (ɣ) and *s* in Ladak. On the other hand, the plosive element contained in *bɦ* and *gɦ* can just as easily explain all the cases of their being pronounced as *b* and *g*.

There is a further important argument in favour of our *bɦ, dɦ, gɦ*. It is known that the prefixes *b, *d, *g as well as *s, r, l* can only be followed by pure *p, t, k, ts, tš*, and not by the corresponding aspirates. This phenomenon has lately been analysed by F. K. Li (3), who by comparing prefixed forms with prefixless ones arrived at the important conclusion that *p, t, k, ts, tš*, when found

(1) *Zur Aussprache des Sanscrit und Tibetischen.* Heidelberg, 1926.

(2) See Karlgren "Etudes sur la Phonologie Chinoise." Leiden. 1915-26, and Y.R. Chao "Studies in the Modern Wu-Dialects." Peking, 1928.

(3) See his stimulating article "Certain phonetic influences of the Tibetan prefixes upon the root initials." Academia Sinica Bulletin. Shanghai, 1933. Vol. IV p.2. p. 135-57.

after the prefixes **b*, **d* **g*, *s*, *r*, *l*, are derived from the aspirated *ph*, *th*, *kh*, *tsh*, *tšh* i.e. *st* is derived from *sth*, *sp* from *sph*, *ltš* from *ltšh*, *rt* from *rth*, *bk** from **bkh*, **gt* from **gth* etc.

In the case of the prefix being *s* it is very easy to explain the appearance of *sp*, *st*, *sk*— instead of *sph*, *sth*, *skh*— as the result of the dissimilatory influence of *s*, and the parallel with the English *tone* [*thoun*] ~ *stone* [*stoun*] drawn by Li is excellent. Now, just as *s* exercised its influence on the aspirated element of *ph*, *th*, *kh*...., dissimilating these consonants into *p*, *t*, *k*, it was the same with the aspiration in *bh*, *dh*, *gh*, which influenced the aspiration of *ph*, *th*, *kh*...., thus making these consonants unaspirated. Hence the absence of *dhkh*, *ghth*, *bhth*.... by the side of *dhk*, *ght*, *bht*.... .

In this connexion it may not be out of place to say a few words about the phonetic values of *r* and *l* when used as prefixes. Judging from the fact that after *r* and *l*, just as after *s*, only unaspirated consonants are found and that the latter are shown by Li to have been derived from the corresponding aspirates, we cannot but raise the question whether in the ATD on which the spelling was based these sonants did not contain a spirantic elęment. Without entering into particulars, I shall only mention that the data both of the TChG and TD also seem to point towards such a suggestion. In the TChG the prefix *l* is as a rule rendered by š . There are also two instances of the use of š for rendering the prefix *r* which is usually transcribed by the character 兒.

E. g.		AT.	TChG
	(a)	*lta-bu*	*šta-pu*
		ltže	*štše*
	cf.	*lham*	*šlan*
	(b)	**gduŋ-rten*	*tuŋ-šten*
		** ⁿdžig-rten*	*ᵊⁿtši-šten*

It is the same in the MTD. As stated by Francke (op. c. p. 4.), in the dialect of Ladak "prefixed *r* often becomes *s* , and *s* becomes *r* ; both can become sh " [i.e., š]. The prefix *l* is notably also pronounced as š or *γ* . (1)

(1) see Wolfenden op. c. p. 760.

There is an objection, rather considerable at first sight, that may be raised against our supposition. If, indeed, བ, ད, ག were pronounced as *bɦ, dɦ, gɦ*, it would be most natural for the Tibetans to have rendered the Sanskrit voiced aspirates by these letters. That, however, is not the case. Tibetan བ, ད, ག are known to correspond to the Sanskrit letters for the voiced unaspirated plosives, while Sanskrit *bɦ, dɦ. gɦ* were rendered by the Tibetans by means of the same བ, ད, ག, but with an *h* subscriptum added. To this point I shall return further on, and therefore I may be allowed to leave it for the moment unexplained.

II. བ, ད, ག, ཞ and ཟ as root-consonants.

In so far as the letters བ, ད, ག occur both as prefixes and as root initials, it may reasonably be supposed that the values *bɦ, dɦ, gɦ* just assigned to them can be extended to the instances of their use as root initials.

From the point of the MTD there is nothing to contradict this. On the contrary, their data rather tend to corroborate our interpretation.

There are two ways in which AT *bɦ, dɦ, gɦ* (and, *dzɦ džɦ* as well) are reflected in the MTD: while in those of W Tibet the aspiration of these consonants has been lost and the actual pronunciation is simply *b, d, g*, those of C Tibet (and among them that of Lhasa and its environs), have kept the aspiration to our days.(1)

E. g.	AT	CT	WT
	gɦan	*ghan*	*gan*
	dɦa	*dha*	*da*
	bɦa	*bha*	*ba*
	džɦa	*džha*	*dža*

(1) Y. R. Chao has shown that *bɦ, dɦ, gɦ, dzɦ, džɦ* in the pronunciation of Lhasa belong to the voiceless aspirated consonants of low pitch of the type lenes, easily becoming voiced (see *Academia Sinica Monographs*. Series A, No. 5. pp. 4—5 and 26). This coincides perfectly with the results of my own experimental work on the Tibetan pronunciation, begun several years ago, but unfortunately broken off through the untimely death of my Tibetan friend.

A good parallel to this phenomenon is found in MCh, with ACh *bɦ, dɦ, gɦ* retaining their aspiration in the Wu dialects, but having lost it and thus become *b, d, g* in those of Central China, viz, in the Hunan province.(1)

That the aspirated pronunciation of **b, *d, *g, *dz, *dž* really existed in AT is also evidenced by the following:

In the article quoted above Li gives a series of initial consonants occurring alternately in semantically cognate roots:

E. g.	**g // kh*	**gaŋ-ba // khaŋs*
	**dž // tšh*	** ^{n}džun-pa // ^{n}tšhun-pa*
	**dz // tsh*	** ^{n}dzog-pa // ^{n}tshogs-pa; tshogs*
	**b // ph*	**bubs-pa // phubs*, etc.

One cannot help wondering why voiced unaspirated consonants should alternate with voiceless aspirates, since a far more natural interchange would be one between voiced and voiceless pure consonants (*g // k; b // p...*) or between aspirated and unaspirated surds (*kh // k; ph // p...*), Our assumption simplifies matters very much. It was not **g // kh, *b // ph...* that alternated in AT, but phonemes considerably more homogeneous: *gɦ // kh; bɦ // ph; dzɦ // tsh* etc. Thus we have gɦaŋ-bɦa // khaŋs rather than **gaŋ-ba // khaŋs; ^{n}dzɦog-pa // ^{n}tshog-pa* rather than ** ^{n}dzog-pa // ^{n}tshogs-pa.*

Li has further shown that AT *^{n}tšh, ^{n}tsh* come from *^{n}š, ^{n}s* (cf. ** ^{n}tšhad-pa // šod-pa; ^{n}tsho ba // sos*) and AT ** ^{n}dž* and ** ^{n}dz* from *^{n}ž* and *^{n}z* (cf. **^{n}džig-pa // žig-ral-ba; * ^{n}dzad-pa // zad*). One may ask how it comes about that by the side of *^{n}š* and *^{n}s* becoming aspirated voiceless affricates (*^{n}tšh* and *^{n}tsh*), *^{n}ž* and *^{n}z* instead of in their turn also giving rise to aspirated affricates, should nevertheless be found in the form of ** ^{n}dž* and **dz*. Here again our *džɦ* and *dzɦ* explain everything. Just as *^{n}š* and *^{n}s* have resulted in aspirated affricates, it was the same with *^{n}ž* and *^{n}z*; they also have become aspirated consonants, with the only difference of these being voiced, namely:

^{n}ž > *^{n}džɦ* like *^{n}š* > *^{n}tšh*

^{n}z > *^{n}dzɦ* like *^{n}s* > *^{n}tsh*

---

(1) For particulars see Karlgren op. c.; Y.R. Chao "Studies in the Modern Wu Dialects"; E. et A. Dragunov. "Les Dialectes Siangt'an et Siangxiang (Hounan)." Bulletin de l'Academie des Sciences de l'URSS. 1932. p. 239-269. (In Russian).

It remains to say a few words on the pronunciation of ད, ད, བ as finals. In the M T D these finals, if pronounced at all, have the value of *p, t, k* (*b, d, g*) respectively; so there is no evidence in favour of their having been in any way aspirated in AT. As stated by Y. R. Chao, (1) the final *g* is sometimes pronounced as a very slight *γ* (ɣ) but this does not necessarily presuppose any aspirated finals in AT.

III. ད, ད, བ, ཇ and ཛ as root initials combined with various prefixes.

We now proceed to investigate the instances of the initial voiced aspirates *bɦ, dɦ, gɦ, džɦ, dzɦ* coming into contact with different prefixes.

When these consonants were preceded by the prefixes *m* and *ⁿ* (2), their pronunciation remained unchanged, i.e. their aspiration was preserved as in the case of *ph, th, kh, tšh, tsh.* E. g. *mdɦag-pa*; *ⁿdɦad-pa.* cf. *mtho*; *ⁿkhod-pa.*

Matters are more complicated in those instances where the consonants in question were preceded by the prefixes *s, r, l, bɦ, dɦ, gɦ.* As stated above, this kind of prefixes influenced the aspirated voiceless initials, dissimilating them into pure (unaspirated) consonants. It would be rather strange to suppose that this influence were restricted to the voiceless group of aspirates and did not include the voiced ones as well. We may safely suggest that in such cases the voiced aspirates similarly lost their aspiration and became pure consonants in AT. E. g. *s* + *dɦ* was pronounced *sd*; *gɦ* + *dɦ* was pronounced *gɦd* etc.

---

(1) See *Academia Sinica Manographs*, Series A, No. 5. p. 6.

(2) It must be pointed out that in AT the phoneme denoted by the letter ཧ must have had two different shades of phonetic realization, according to whether it was found before a vowel or a consonant. In the former position it was pronounced as a very slight voiced laryngal aspiration, [^{ɦ}] (s. O. Schrader in Asia Major 1, p. 56), whereas in the latter, on the basis of this laryngal articulation, there developed in AT an element of nasalization, [^{n}]. Judging from the fact that the prefix in question did not exercise any dissimilatory influence on the aspiration of the root initials, we can infer that the laryngal aspiration of this prefix, which even by itself was very slight, was practically annihilated by the nasal element. That is why in the numerous transcriptions of the T'ang period the Chinese consonants *mb, nd, ndz, ndz, ŋg* are regularly rendered by the corresponding Tibetan consonants preceded by a *ⁿ*. The value *ⁿ* also explains the reflexion of this prefix as *n* and *m* in the MTD (Kham)

A parallel to this is found in the MTD. We have already seen that in the CTD the aspiration of AT *bɦ, dɦ, gɦ, džɦ, dzh* is as a rule preserved to the present day. If, however, there was a prefix before the consonants in AT, no aspiration is heard in the dialects in question.

E. g.	AT		CT
	gɦay	=	*gɦay*
but	*sgo*	>	*go*
	dɦgu	>	*gu*

To sum up, we see that the AT prefixes were of two sharply defined kinds as regards their influence upon the following root-initials.

The first group of AT prefixes consists of the nasal unaspirated prefixes *m* and ^{n}, after which only aspirated plosives and affricates are found.

The second group comprises the rest, i. e. the non-nasal prefixes, which are all of them to a greater or lesser extent either spirantized or aspirated. These are *s, l, r, bɦ, dɦ, gɦ* after which only unaspirated (or rather disaspirated) root-initials are found.

This correlation between the AT prefixes and root-initials, forming as it does an integral part of the AT phonological system, may be represented as follows:

FIRST GROUP.

Prefixes:	Root-initials:
m, (1) ^{n}	*bɦ, dɦ, gɦ, džɦ, dzɦ* *ph, th, kh, tšh, tsh*

SECOND GROUP.

Prefixes:	Root-initials:
s, r, l, bɦ, dɦ, gɦ.	*b, d, g, dž, dz* (< *bɦ, dɦ, gɦ, džɦ, dzɦ*). *p, t, k, tš, ts* (< *ph, th, kh, tšh, tsh*).

(1) And even *mgɦ* > $^{(n)}g$. This loss of aspiration is here seen to have taken place independently of the kind of prefix, but I am not in a position to determine to what this inclusive treatment is due.

Unlike the distinction between *ph* and *p*, *th* and *t*, *kh* and *k*, that between *bĥ* and *b*, *dĥ* and *d*, *gh* and *g*, was not reflected in the spelling. The reason for this is obvious. Both *p* and *ph*, *t* and *th*, *k* and *kh* were independent phonemes, capable of acting as initials in prefixless forms (cf. *ko-bĥa*, *tib-ril*, *pags-pa* and *kho*, *thib-pa*, *phag*) and were for that reason kept apart by means of different letters(1). As for the distinction between *bĥ* and *b*, *dĥ* and *d*, *gĥ* and *g*, it was one of phonetics and not of phonology. The aspiration or non-aspiration of these consonants was determined by their function as initials or finals (e. g. *dĥod pa*), and in the former, again, by the phonetic environment (e. g. *sdug-pa* but *ⁿdĥug-pa*). Prefixless forms could only begin with *bĥ*, *dĥ gĥ* and not with *b*, *d*, *g*, and there was no need to represent *bĥ* and *b*, *dĥ* and *d*, *gĥ* and *g* by separate letters.

The twofold pronunciation of the letters ད, ན, བ affords us an explanation of the seeming contradiction mentioned above p. 170. Inasmuch as the Tibetan phonemes *b*(*ĥ*), *d* (*ĥ*), *g*(*ĥ*) were according to their phonetic surroundings either aspirated or not, their constant element being the voice and not the aspiration, it was ད, ན, བ, corresponding to the Sanskrit letters for the voiced unaspirated consonants, that were chosen for their representation. But in those instances where the Tibetans had to render the Sanskrit voiced aspirates (which in that language were phonemes altogether independent from the corresponding unaspirated voiced consonants), they had recourse to an *h* subscriptum, thus emphasizing the constant and phonological character of this aspiration as distinct from its combinatory character obtaining in their own language.

---

(1) It must be noted, however, that the aspirated voiceless phonemes were far more independent than the unaspirated ones. It is only the former that took part in word-derivation by alternating with the voiced aspirates.