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第五十二本

慶祝中華民國建國七十年紀念專號

第一分

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中華民國七十年三月

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VOICED OBSTRUENTS IN THE TANGUT LANGUAGE*

Hwang-cherng Gong

The consonant systems of the Tangut language as reconstructed by Nishida and Sofronov have prenasalized voiced stops and affricates instead of ordinary ones. The initials common to both are listed as follows, those which are irrelevant to our discussion have been eliminated.¹

p	ph	mb	m
t	th	nd	n
k	kh	ŋg	ŋ
ts	tsh	ndz	s
tś	tśh	ndź	ś

The reconstruction of prenasalized series is based on the following arguments:

1. In the Tangut phonetic tables called "The Dissection of the Rhymes of the Five Sounds"² 五聲切韻 (Chinese name: The *Wu-sheng-ch'ieh-yün* 五聲切韻) the third columns corresponding to those of Middle Chinese initials *ping* 並 (b-), *ting* 定 (d-), *ch'ün* 羣 (g-), *ts'ung* 從 (dz-) and *ch'uang* 牀 (dź-) etc. are either left blank (actually marked with circles) or occupied by the Tangut characters with voiceless aspirated initials. This is interpreted as showing

* This paper was presented at the 12th International Conference on Sino-Tibetan Languages and Linguistics, 19-21 October 1979, Paris. I am indebted to my colleague Paul Jen-Kuei Li for his comments and suggestions for improvement.

1. For the inventory of initials reconstructed by Nishida and Sofronov, see Nishida (1964: 149) and Sofronov (1968: I, 138). Sofronov reconstructs only ŋ-, but no ŋg- for the Tangut language of the end of 12th century, but for the earlier stage he reconstructs both ŋ- and ŋg-. On this point, see Sofronov (1968: I, 103) and also Sofronov and Kyčanov (1963: 57ff.). As far as I know, none of these scholars refer to Wang Tsing-ju (1930: 184), who assumes b-, d-, g-, and dz- for the series mb-, nd-, ŋg-, and ndz-.

2. The English translation of the title of this work is based on Clauson (1954: 60)

the absence of voiced stops and affricates in the Tangut language.

2. The fourth columns corresponding to those of Middle Chinese initials *ming* 明 (m-), *ni* 泥 (n-) and *yi* 疑 (ŋ-) are a priori regarded as containing Tangut words with nasal initials. Tangut words of these groups are used to transcribe, or are transcribed by, Chinese words with nasal initials. Since in the Chinese dialect underlying the transcriptions, the Middle Chinese nasal initials m-, n-, and ŋ-, are supposed to have shifted to mb-, nd-, and ng-, prenasalized voiced stops are reconstructed accordingly. However Tibetan transcriptions show that Tangut words of these groups fall into two distinct types: nasals and voiced stops, the opposition is regarded as nasals versus prenasalized voiced stops.

3. The reconstruction of initials ndz- and ndž- is based on the Chinese transcriptions 尼則, 尼卒, 尼長, 尼追 etc. This kind of binomial transcription is interpreted as transcribing Tangut initial consonant clusters.

In order to review the above arguments point by point, I give the Tangut phonetic table cited by Nevskij (1960: 136) below. I have added the reconstruction of Sofronov (1968: II, 276-403) to make the reading easier.

V	IV	III	II	I
Rhymes	𐰚 ngie	𐰛 khin	𐰜 kjo ³	𐰝 kjo a
R1 𐰚 mbu	𐰛 ngu	𐰜 khu	𐰝 khu	𐰞 ku b
R3 𐰛 su	𐰜 ngju	𐰝 khju	○	𐰞 kju c
R9 𐰜 kē ⁴	𐰝 ngē	𐰞 khē	○	𐰟 kē d
R11 𐰞 tshi	𐰟 ngwi	𐰟 khwi	○	𐰟 kwi e
R20 𐰟 sa ⁵	𐰟 nga	○	𐰟 kha	𐰟 ka f

3. See Sofronov (1968: II, 403), No. 5780 𐰜 kjo 2.44 V-104. The reason for the reconstruction of kjo for this character is unknown to me. This character is not found in "More Pis'men, Part 2". Sofronov (1968: II, 188) lists it under words of unknown rhymes. The character is not furnished with a *fan-ch'ieh* spelling, nor has it foreign transcriptions. This would mean there is no way of knowing its pronunciation. However, since it is one of the 36 initials corresponding to Chinese *ch'i* 溪 (*kh-), Nishida (1964: 25) reasonably assumes its initial to be kh-.

The characters Ia, IIa, IIIa and IVa are names of the Tangut 36 initials corresponding to Chinese initials *chien* 見 (k-), *ch'i* 溪 (kh-), *ch'ün* 羣 (g-), and *yi* 疑 (ŋ-). From the viewpoint of traditional Chinese phonology, we should expect these Tangut initials to be k-, kh-, g-, and ŋ- respectively. But if we replace the Tangut characters with the Chinese characters they transcribe, or which transcribe them in the Chinese-Tangut handbook called *Chang-chung-chu* "The Pearl in the Palm", we shall find this is not exactly the case (I give tentatively Middle Chinese initials in the parentheses).

V	IV	III	II	I	
Rhymes	𐰚𐰏	𐰚𐰏	𐰚𐰏	𐰚𐰏	a
R1 𐰚𐰏		(kh-) 𐰚𐰏	(kh-) 𐰚𐰏	(k-) 𐰚𐰏	b
R3 𐰚𐰏	(ŋ-) 𐰚𐰏	(g-) 𐰚𐰏		(k-) 𐰚𐰏	c
R9 𐰚𐰏	(ŋ-) 𐰚𐰏	(kh-) 𐰚𐰏			d
R11 𐰚𐰏	(ŋ-) 𐰚𐰏	(g-) 𐰚𐰏		(k-) 𐰚𐰏	e
R20 𐰚𐰏			(g-) 𐰚𐰏		f

The initials in columns I and IV are clearly k- and ŋ- respectively, but in columns II and III we find kh- as well as g-. Furthermore, we notice that words in columns II and III are in complimentary distribution with each other, except in row b, where we have a contrast between 𐰚𐰏 and 𐰚𐰏. The difference between them is one of the most difficult problems in Tangut phonology. For the present we need only to point out that the difference is not in the initial. In the Tangut dictionary "The Ocean of Characters" 𐰚𐰏 (Chinese name: The *Wen-hai* 文海), the former has the *fan-ch'ieh* initial 𐰚𐰏, and the latter has 𐰚𐰏. Both of these two Characters appear in the first edition of the dictionary

4. Nevsky (1960: I, 136) has R29 𐰚𐰏. However, this must be a mistake, for the character 𐰚𐰏 belongs to R39, and not to R29, and all the three characters mentioned here belong to the ninth rhyme. Nishida (1964: 23) corrects it to R9 𐰚𐰏.

5. Nevsky has R20 𐰚𐰏. Hashimoto (1961: 14) corrects it to R20 𐰚𐰏.

"The Homophones" 牙角亡 (Chinese name: The *T'ung-yin* 同音) as homonyms (except for tone).⁶ This is to say that both 殺 (II b) and 殺 (III b) have the same initial. Nevsky (1960: I, 137) mentions that in one variant of phonetic tables, the Tangut characters III cde (殺, 殺, and 殺) are placed in the positions II cde, and the positions III cde are replaced by circles. In my opinion, this is an indication that the arrangement of words in columns II or III is arbitrary and that there is actually no distinction between the initials of columns II and III.

A study of transcriptions in the *Chang-chung-chu* shows that in the Chinese dialect underlying the transcriptions, Middle Chinese voiced initials had already shifted to voiceless aspirated consonants, regardless of tones.⁷ This is important for the understanding of the Tangut phonetic tables, for they were modeled on Chinese rhyme tables and the Tanguts must have interpreted these on the basis of Chinese dialect known to them. The Chinese initials *chien* 見 (k-), *ch'i* 溪 (kh-) and *ch'ün* 羣 (g-) must have appeared to the Tangut as k-, kh-, and kh-, so they were at a loss, where to place the words with initial kh-. The variation in the phonetic tables resulted from this. Since in the Chinese dialect g- had shifted to kh-, Chinese characters with initial *ch'ün* 羣 were used to transcribe, or were transcribed by, Tangut initial kh-. This explains why g- as well as kh- appear in columns II and III. Thus, it is not justifiable to apply Middle Chinese sound values here.

Coupled with the sound change of voiced stops into voiceless aspirated stops, there was also the shift of nasals to prenasalized voiced stops in the Chinese dialect. As soon as we compare Chinese transcriptions with the Tibetan transcriptions of the same Tangut characters, we can reach this conclusion, for the Tangut characters which are used to transcribe, or are transcribed by, Chinese characters with Middle Chinese nasal initials are transcribed *either* by Tibetan nasals or by Tibetan voiced stops. This shows that Chinese voiced stops are

6. See Sofronov (1968: II, 166).

7. See Hwang-chenng Gong: Shih-erh Shih-chi Mo Han-yü-ti Hsi-pei Fang-yin (十二世紀末漢語的西北方音) (a Chinese dialect of the Northwest China in the 12th Century). In this volume.

actually prenasalized. Thus Chinese rhyme tables would have appeared to Tangut eyes as following:

Velars				Dentals				Labials			
疑	羣	溪	見	泥	定	透	端	明	並	滂	幫
ŋg	kh	kh	k	nd	th	th	t	mb	ph	ph	p

The Tangut 36 initials 須疑 (Chinese term the *tzu-mu* 字母), which were based on the Chinese model, have the following corresponding characters.

Velars				Dentals				Labials			
須	𗵑	𗵒	𗵓	𗵔	𗵕	𗵖	𗵗	𗵘	𗵙	𗵚	𗵛
ngie	khin	khio	kio	ndie	thin	tho	to	mbai	phêi	phô	pô
12	11	10	9	8	7	6	5	4	3	2	1

Sofronov reconstructs prenasalized voiced stops for characters 4 and 8, and a nasal for character 12 (see Sofronov 1968: I, 103). However, the correspondence with the Chinese prenasalized voiced stops does not necessarily mean that Tangut voiced stops were also prenasalized. If the Tangut voiced stops were not prenasalized, in the absence of an appropriate position they would be arranged on the phonetic table according to Chinese prenasalized voiced stops. As for character 12, which is identical with IVa in the Tangut phonetic table, we can show it had the voiced initial g-. As a matter of fact, all characters in column IV can be shown to have the initial g-. The *fan-ch'ieh* initials for them are:

- Column IV a 須 → 𗵑
 b 𗵑 → 𗵒
 c 𗵒 → 𗵓
 d 𗵓 → 𗵔
 e 𗵔 → 𗵕
 f 𗵕 → 𗵖

Among these *fan-ch'ieh* characters, 𐰚𐰝 (a) and 𐰚𐰞 (d) belong to Sofronov's *fan-ch'ieh* chain No. 15, and the rest to No. 16, of the velar class (Sofronov 1968: II, 80). Both of these chains are transcribed by Tibetan g (dg-, bg-, 'g-) (Sofronov 1968: I, 102).

If the arrangement in the phonetic tables does not prove the presence of prenasalized voiced stops in the Tangut language, neither do the Chinese transcriptions of Tangut words. As early as the eighth century Chinese were already using their mb-, nd-, and ng- to represent Sanskrit -b-, -d- and -g- (Examples are quoted from Maspero 1920: 30f.)

Chinese	8th century	Value of transcription	examples
誡	ng-	ga	婆誡囉帝 Bhagavate
候	ng-	gi	娑路候哩 satagiri
虞	ng-	gu	虞盧 guru
娜	nd-	da	訖娜野 hṛdaya
努	nd-	du	吠努哩 vedūri
怒	nd-	do	麼怒得迦 (二合) 吒 madotkatā
末	mb-	ba	末隣 balim
沒	mb-	bud	沒弟囊 buddhena
冒	mb-	bo	冒馱野 bodhaya

These examples show that Chinese transcriptions with initials *ming* 明 (mb-), *ni* 泥 (nd-), and *yi* 疑 (ng-) do not necessarily mean that the transcribed words have the same sounds as in Chinese. In the absence of ordinary voiced stops in Chinese, prenasalized voiced stops might have been used to transcribe them, and vice versa in the case of Tangut transcriptions of Chinese words.

Tibetan transcriptions of Tangut words do not support the reconstruction of prenasalized voiced stops either, for it is not always Tibetan 'b, 'd and 'g (which are generally believed to represent prenasalized voiced stops) that are used for transcriptions of this group. In many instances we find b-, db-, and dbh- side by side with 'b; dh- side by side with 'd; and g-, dg-, and bg- side

by side with 'g-. Sofronov and Kyčanov (1963: 53, 56, 58), noting that these transcriptions cannot be interpreted as prenasalized voiced stops, suggest that there might be phonetic environments where mb-, nd-, and ŋg- are realized as b-, d-, and g-. In my opinion, all these transcriptions point to ordinary voiced stops in the Tangut language.

Nishida (1964: 76, 91) notes that the reconstructed Tangut *mb- and *nd- correspond to Sanskrit bh- and d- or dh- in the inscriptions at *Chü-yung-kuan* 居庸關, but interprets that Tangut mb- shifted to b- in the later period. It seems to me that one can take this as evidence for the existence of original voiced stops in the Tangut language.

The reconstruction of ndz- and ndź- based on Chinese transcriptions of the type 尼卒, 尼追 etc. seems at first sight most reliable and leaves no room for doubt. Since words with these initials are not included in the *Wen-hai*, but are found in the *Wen-hai-tsa-lei* 文海雜類 (The Ocean of Characteracters, Mixed Classes), it strengthens the supposition that we are dealing here with a type of initials different from those which are included in the *Wen-hai*, and we are naturally led to think of consonant clusters. Sofronov and Kyčanov (1963: 7ff.) distinguish two kinds of binomial transcriptions in Chinese literature: *er-ho* 二合 and *fan-ch'ieh* 反切, and classify the above-mentioned transcriptions into the former, which was designed for transcribing consonant clusters from foreign languages (See also Sofronov 1966: 151). However, if we reflect upon the phonological system of the Chinese dialect underlying the transcriptions, we shall arrive at a different conclusion. As is mentioned above, the Chinese dialect had prenasalized voiced stops mb-, nd-, ndź-, and ŋg-, and no ordinary b-, d-, dź-, and g-. We can assume that the people were accustomed to pronounce voiced initials with prenasalization. Now, the Chinese dialect contained ts-, tsh-, ts'-, and tśh-, but no dz- and dź-, Chinese would have some difficulty in pronouncing Tangut dz- and dź-. In theory, the initials ndz- and ndź- could have been used as easy substitutes, but the Chinese dialect did not contain the former (The latter is actually used to transcribe Tangut dź-). The binomial transcriptions with

尼 ndz- as the first element followed by another character with initial ts- or tsh- were a device invented to facilitate the pronunciation of Tangut dz- for the Chinese who wanted to learn the Tangut language, and the *Chang-chung-chu* was, after all, a language handbook for Chinese studying Tangut, as well as the reverse. It is from this viewpoint that we can get at the real reason of the transcriptions.

That the binomial transcriptions with 尼 as the first element do not necessarily aim at transcribing Tangut consonant clusters can be shown from the fact that in the transcriptions 尼 is not absolutely necessary. There are some instances where a diacritical mark is added to the characters with initial *tsing* 精 (ts-) or ts/ung 從 (dz>tsh). For example:

Chinese transcriptions	Tangut characters transcribed. Reconstruction is Sofronov's.
°精	<div> { 𗰪 ndzɿe (珠 031) 𗰫 ndzɿe (珠 053) </div>
□精	<div> { 𗰬 ndzɿe (珠 334) 𗰭 ndzɿe (珠 302) </div>
□撥	<div> { 𗰮 ndza (珠 225) 𗰯 ndzau (珠 346) 𗰰 ndzɿə (珠 342) </div>
。藏	<div> { 𗰱 ndzwon (珠 196) </div>

Sofronov(1968: I, 72)notes that the diacritical mark “□”shows the modification of dental sibilant ts- into dz-, and this seems to be a correct interpretation. Since these words belong to the same initial group as those transcribed by the binoms 尼精 and 尼卒 etc.,⁸ all of them can be regarded as possessing the same initial dz-.

To sum up, what has been reconstructed as mb-, nd-, ŋg-, ndz- and ndz-

8. For instance, the first character 𗰪 is transcribed as °精 in one place(珠 031) and as 尼精 in another (珠 086, 095). The third character 𗰬 is transcribed as 精(珠 334) as well as 尼井 (珠 113)and the fourth character 𗰭 as 精(珠 302) and 精 (珠 321) as well as 尼精 (珠 284) and 尼責 (珠 292)。

are in reality b-, d-, g-, dz-, and dž- respectively. The reconstruction of voiced instead of prenasalized stops and affricates would be typologically more reasonable, and we find the same system in Written Burmese, Written Tibetan and Old Chinese. Early Chinese loanwords in Tangut show the correspondences to be:

Chinese		Tangut
幫	p-	p-
滂	ph-	ph-
並	b-	b-
明	m-	m-

Only later when sound change occurred in the northwest Chinese dialect, did the correspondences change into:

Chinese		Tangut
並	b->ph-	ph-
明	m->mb-	b-

The latter is in agreement with the system of transcriptions in the *Chang-chung-chu* written in 1190. The early loans took place before the devoicing of initials in Chinese and cannot be later than A.D. 857, for in the documents before this year we already find the loss of voice.⁹

Following are examples of early and late loanwords.¹⁰

early loans

Chinese 並 b- : Tangut b-

Ch. 盤 buān 'tray, dish'

T. 𐰇𐰆 ban

Ch. 敗 bwai 'defeat'

T. 𐰇𐰏 bei

late loans

Chinese 並 b- > ph- : Tangut ph-

Ch. 盤 buān in 涅槃 'nirvana'

T. 𐰇𐰆 phan in 𐰇𐰆𐰏𐰏

Ch. 稗 bāi 'weed resembling grain'

T. 𐰇𐰏 phêi

9. See Lo Ch'ang-p'ei (1933: 15ff).

10. Chinese transcriptions are from the ancient Chinese reconstructed by Karlgren, with some amendments proposed by Li Fang-kuei (1971: 4ff.). The Tangut is the reconstruction of Sofronov. I have replaced prenasalized voiced stops and affricates with ordinary ones.

Voiced Obstruents in the Tangut Language

Ch. 蒲 buo 'reed'

T. 蒲 bu

Ch. 鈸 buât 'cymbals'

T. 鈸 bə

Chinese 明 m- : Tangut m-

Ch. 舞 mju 'dance'

T. 舞 mu

Ch. 蕪 mju in 蕪荑 'name of a tree'

T. 蕪 mə in 蕪荑

Ch. 糜 mjwię 'rice gruel'

T. 糜 mın

Ch. 毛 mǎu 'hair, fur'

T. 毛 mǎ

Chinese 定 d- : Tangut d-

Ch. 地 di in 地獄 'hell'

T. 地 dǐ in 地獄

Ch. 桃 dǎu 'peach'

T. 桃 dǎ

Ch. 讀 duk 'read'

T. 讀 dǎ

Ch. 豆 dǎu 'bean'

T. 豆 dǎu

Chinese 泥 n- : Tangut n-

Ch. 南 nǎm 'south'

T. 南 nǎ

Ch. 膿 nuong 'pus'

T. 膿 nǎu

Ch. 腦 nǎu 'brain'

T. 腦 nǎ

Ch. 婢 bjię 'servant'

T. 婢 phi

Ch. 泊 bak 'lake'

T. 泊 pho

Chinese 明 m- > mb- : Tangut b-

Ch. 貓 mau 'cat'

T. 貓 biou

Ch. 帽 mǎu 'hat'

T. 帽 ba

Ch. 墓 muo 'grave'

T. 墓 bu

Ch. 株 muât in 株肚 'stomacher'

T. 株 bǎ in 株肚

Chinese 定 d- > th- : Tangut th-

Ch. 地 di 'earth'

T. 地 thi

Ch. 大 dǎi 'great'

T. 大 tha

Ch. 同 dung 'same, identical'

T. 同 thu

Ch. 笛 diek 'flute'

T. 笛 thi

Chinese 泥 n- > nd- : Tangut d-

Ch. 奴 nuo 'servant'

T. 奴 nu

Ch. 涅槃 niet in 涅槃 'nirvana'

T. 涅槃 die in 涅槃

Chinese 羣 g- : Tangut g-

Ch. 渠 giwo 'canal'

T. 𪛗 giu

Ch. 強 giang 'strong'

T. 𪛗 gion

Ch. 具 giu 'instrument'

T. 𪛗 giu

Chinese 疑 ŋ- : Tangut ŋ¹¹

Ch. 臥 nguâ 'lie down, sleep'

T. 𪛗 ngiə¹²

Chinese 從 dz : Tangut dz-

Ch. 雜 dzâp 'mixed'

T. 𪛗 dza

Ch. 集 dziəp 'collect, assemble'

T. 𪛗 dziə

Ch. 錢 dziän 'coin, money'

T. 𪛗 dziə

Ch. 罪 dzwei 'crime, offence'

T. 𪛗 dzwei

Chinese 澄 d- : Tangut dz-

Ch. 長 djang 'long'

T. 𪛗 dzio

Chinese 羣 g- > kh- : Tangut kh-

Ch. 竭 giät in 麼竭 'a sign of the zodiac'

T. 𪛗 kha in 𪛗 𪛗

Ch. 強 giang 'strong'

T. 𪛗 khion

Chinese 疑 ŋ- > ŋg- : Tangut g¹¹

Ch. 齧 ngiet 'gnaw'

T. 𪛗 giwe

Ch. 驗 ngiäm 'verify, examine'

T. 𪛗 gên

Ch. 鋸 ngiwo in 鋸鋸 'disparate'

T. 𪛗 giu in 𪛗 𪛗

Chinese 從 dz- > tsh- : Tangut tsh-

Ch. 雜 dzâp 'mixed'

T. 𪛗 tsha

Ch. 財 dzai 'wealth'

T. 𪛗 tshei

Ch. 全 dziwän 'complete'

T. 𪛗 tshwan

Ch. 齊 dziei 'name of a dynasty'

T. 𪛗 tshi

Chinese 澄 d- > tsh- : Tangut tsh-

Ch. 陳 diën 'old'

T. 𪛗 tshên

11. Sofronov reconstructs ŋ- for both groups. I distinguish between ŋ- and g- according to his discussion on this point in his op. cit. p. 102f.

12. The *fan-ch'ieh* final of this character is 𪛗 tshiwə, therefore the correct reconstruction here should be ngiəwə.

Ch. 幢 dǎng 'a kind of flag'

T. 𐰚𐰆 dzion

Ch. 助 dǒwo 'aid'

T. 𐰚𐰆 dzô

Ch. 鄭 dǐäng 'place name'

T. 𐰚𐰆 tshiei

Ch. 鉏 dǒwo in 鉏鋤 'disparate'

T. 𐰚𐰆 tshiu in 𐰚𐰆

From the above examples we see that Chinese voiced stops and affricates b-, d-, g-, dz-, ḍ-, and ḍz- correspond to Tangut b-, d-, g-, dz-, ḍz-, and ḍz- respectively in the system of early loanwords. We will now try to make use of such correspondences to test whether there are any other voiced initials in the Tangut language.

In middle Chinese there is a contrast of voicing between initials *hsia* 匣 (ḡ- or fi-ḡ) and *hsiao* 曉 (x- or h-). In Chinese rhyme tables both of them are placed in the glottal class (喉音類). Chinese loanwords in Tangut with these initials, if there are any, should also be looked for in the same class.

Chinese 曉 x- : Tangut x-

1. Ch. 海 xâi 'sea'

T. 𐰚𐰆 xei

2. Ch. 花 xwa 'flower'

T. 𐰚𐰆 xwâ

3. Ch. 昏 xuən 'darkness'

T. 𐰚𐰆 xwen

4. Ch. 漢 xân 'Chinese'

T. 𐰚𐰆 xan

5. Ch. 休 xiəu 'rest'

T. 𐰚𐰆 xwêu

6. Ch. 香 xiäng 'fragrance'

T. 𐰚𐰆 xion

Chinese 匣 ḡ- > x- : Tangut x-

7. Ch. 和 ḡuâ in 和尚 'Buddhist priest'

T. 𐰚𐰆 xwa in 𐰚𐰆

8. Ch. 匣 γ ap in 𪚩匣司 'name of a government office'T. 𪚩 $x\bar{a}$ in 𪚩𪚩𪚩𪚩𪚩𪚩

Nos. 1, 2, 3, 4, and 7 have the *fan-ch'ieh* initial 𪚩, which belongs to Sofronov's *fan-ch'ieh* chain No. 10 of the glottal class. Nos. 5 and 8 have the *fan-ch'ieh* initial 𪚩, which together with 𪚩, the *fan-ch'ieh* initial for No. 6, belong to Sofronov's *fan-ch'ieh* chain No. 9 of the glottal class. Since Nos. 7 and 8 are connected with Nos. 1 to 6, there is no doubt that both groups have the same voiceless initial.

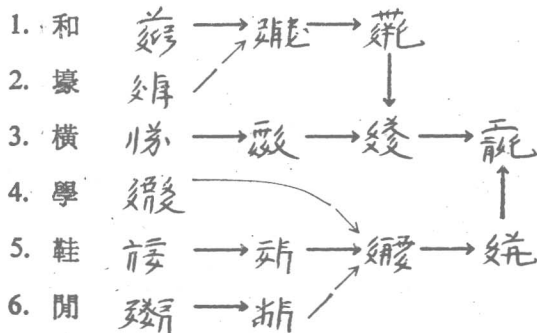
Following are further examples of loanwords from Chinese initial *hsia* 匣 (γ -). Since I am going to propose a new solution for the reconstruction of this group of words, I quote the reconstructions of Nishida (abbreviated below as N) as well as Sofronov (abbreviated below as S) in the following.

1. Ch. 和 $\gamma u\bar{a}$ 'harmony, peaceful'T. 𪚩 $\cdot wa$ S, Hafi N2. Ch. 壕 $\gamma\bar{a}u$ 'moat'T. 𪚩 $\cdot eu$ S, Həw N3. Ch. 橫 $\gamma w\bar{e}ng$ 'perverse, unjust'T. 𪚩 $\cdot xwai$ S, $\gamma\bar{e}$ N4. Ch. 學 $\gamma\bar{a}k$ 'learn'T. 𪚩 $x\bar{e}u$ S, $\gamma k\bar{e}u$ N5. Ch. 鞋 $\gamma\bar{a}i$ 'boots'T. 𪚩 $\cdot \bar{e}i$ S, $\gamma k\bar{i}\bar{e}$ N6. Ch. 閒 $\gamma\bar{a}n$ 'leisure'T. 𪚩 $\bar{a}n$ S, ? N

"H" in Nishida (1964, 1966) stands for a sound belonging to the glottal class, but the exact sound value cannot be determined yet. Nishida did not seem to have *fan-ch'ieh* material at his disposal when he published his books.

Sofronov reconstructs initial x - for Nos. 3 and 4, but a glottal stop for the

rest. However, the study of their *fan-ch'ieh* initials shows that all of them have the same initial. (See Sofronov 1968: II, 92)



All the *fan-ch'ieh* initials of the above Chinese loanwords in Tangut belong to Sofronov's *fan-ch'ieh* chain No. 1 of the glottal class. For this group Sofronov reconstructs a glottal stop. But words of this group are normally transcribed by Tibetan g-, and since these words belong to glottal class and not to the velar class in the T'ung-yin, the sound value ɣ- would be the best choice.

Character No. 3 𐰚 is transcribed with the Chinese character 𐰚 in the *Chang-chung-chu* (325). 𐰚 is read ɣwai in Middle Chinese, but since at the time of transcription, the initial ɣ- was already devoiced to x-, a diacritical mark □ was added to show the voicedness. This is parallel to the case, where □ is added to 精 (ts-) and 𐰚 (ts-) to represent the voiced affricate dz-. In the *Chang-chung-chu* (363) there is another Tangut character 𐰚, which is also transcribed with the Chinese character 𐰚, and which also has the *fan-ch'ieh* initial belonging to this group. This shows that the use of diacritical mark □ is not arbitrary, but has a special purpose, and that Sofronov's *fan-ch'ieh* chain No. 1 definitely stands for the voiced fricative ɣ-. Thus the six Chinese loanwords can be regarded as early loanwords, and we can set up the correspondence:

Chinese 𐰚 ɣ-: Tangut ɣ-

The system of initials discussed in this paper turn out to be:

p	ph	b	m
t	th	d	n
k	kh	g	ŋ