VOICED OBSTRUENTS IN THE TANGUT LANGUAGE*

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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] 偀龍皶詂 (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

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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 (1964: 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 ŋg-, 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 ndź- 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 intial 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		須 ngɪe	姐 khɪn	𢍜 kio³	𢇁 kɪo	a
R1	𪚲 mbu	𦘒 ngu	𥞋 khu	𥝶 khu	𥾭 ku	b
R3	𥻍 su	𥾉 ngiu	𥝅 khɪu	◯	𦊈 kɪu	c
R9	反姸 kê⁴	𥾐 ngê	𢳰 khê	◯	𥲒 kê	d
R11	夊 tshi	𥾾 ngwi	𥡹 khwi	◯	𥾪 kwi	e
R20	𥎰 sa⁵	俏 nga	◯	𥎰 kha	反𥎰 ka	f

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3. See Sofronov (1968: II, 403), No. 5780 𢇁 kɪo 2.44 V-104. The reason for the reconstruction of kɪo 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 correponding to Chinese initiale *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	須	緶	剝妥	綏	a
R1 龍		(kh-) 袴苦	(kh-) 枯庫孔	(k-) 姑故股穀皷孤殺鷥	b
R3 龍	(ŋ-) 玉	(g-) 局		(k-) 鋸脚栁钁	c
R9 反行	(ŋ-) 額扼	(kh-) 客			d
R11 終	(ŋ-) 危	(g-) 葵櫃		(k-) 季癸龜桂貴歸鬼	e
R20 琵			(g-) 竭		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 莀 and 緶 . 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" 莀帝 (Chinese name: The *Wen-hai* 文海), the former has the *fan-ch'ieh* initial 緂 , and the latter has 蔴 . Both of these two Characters appear in the first edition of the dictionary

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4. Nevsky (1960: I, 136) has R29 反反. However, this must be a mistake, for the character 反反 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 反行 .

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

"The Homophones" 苂,肓(Chinese name: The *T'ung-yin* 同音) as homonyms (except for tone).[6] This is to say that both 莏 (II b) and 綫 (III b) have the same initial. Nevsky (1960: I, 137) mentions that in one variant of phonetic tables, the Tangut characters III cde (舩安 , 拔 , and 藕) 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 colums 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

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6. See Sofronov (1968: II, 166).
7. See Hwang-cherng 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 𗙫𘃧 (Chinese term the *tzu-mu* 字母), which were based on the Chinese model, have the following corresponding characters.

Velars				Dentals				Labials			
ngıe	khın	khio	kio	ndıe	thın	tho	to	mbâi	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 𗙫 ⟶ 𗙱

b 𗙱 ⟶ 𘃫

c 𗂯 ⟶ 𘁍

d 𗙱 ⟶ 𗁋

e 𘃛 ⟶ 𗙱

f 𗚩 ⟶ 𗟩

Among these *fan-ch'ieh* characters, 綏 (a) and 祇 (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 ŋg- to represent Sanskrit -b-, -d- and -g- (Examples are quoted from Maspero 1920: 30f.)

Chinese	8th century	Value of transcription	examples
誐	ŋg-	ga	婆誐嚩帝 Bhagavate
儀	ŋg-	gi	娑跢儀哩 satagiri
虞	ŋg-	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	沒弟曩 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 (ŋg-) 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 coctained ts-, tsh-, tś-, 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 transcriptons with

尼 ndź- 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	級苑	ndzιe	(珠 031)
	張	ndzιe̯	(珠 053)
□精	并苑	ndzιe̯	(珠 334)
	而ル	ndzιe	(珠 302)
□撥	菠	ndza	(珠 225)
	蕊	ndzɯ	(珠 346)
	發	ndzιə	(珠 342)
°藏	祣	ndzwon	(珠 196)

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 ndź-

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8. For instance, the first character 級苑 is transcriped as °精 in one place(珠 031) and as 尼精 in
   another (珠 086, 095). The third character 并苑 is transcribed as 嘴(珠 334) as well as 尼井 (珠
   113) and the fourth character 而ル as 嘴(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 dź– 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

Chinessese 並 b– : Tangut b–
Ch. 盤 buân 'tray, dish'
T. 嫒 ban
Ch. 敗 bwai 'defeat'
T. 莿 bei

late loans

Chinese 並 b– > ph– : Tangut ph–
Ch. 盤 buân in 涅盤 'nirvana'
T. 媛 phan in 媛媛
Ch. 稗 baï 'weed resembling grain'
T. 縤 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.

Ch. 蒲 buo 'reed'
T. 𗗙 bu
Ch. 鈸 buât 'cymbals'
T. 𗣮 ba̱

Chinese 明 m- : Tangut m-
Ch. 舞 mi̯u 'dance'
T. 𗁬 mu
Ch. 蕪 mi̯u in 蕪荑 'name of a tree'
T. 𗼝 mə in 𗼝𘝠
Ch. 糜 mjwiẹ 'rice gruel'
T. 𘞁 mɪn
Ch. 毛 mâu 'hair, fur'
T. 𗱈 mi̯a

Chinese 定 d- : Tangut d-
Ch. 地 di in 地獄 'hell'
T. 𗿟 di̯ei in 𗿟𘝺
Ch. 桃 dâu 'peach'
T. 𘘨 do
Ch. 讀 duk 'read'
T. 𗵘 do
Ch. 豆 dẹu 'bean'
T. 𗟲 dwu

Chinese 泥 n- : Tangut n-
Ch. 南 nậm 'south'
T. 𗾟 na
Ch. 膿 nuong 'pus'
T. 𗏁 nwɪ
Ch. 腦 nâu 'brain'
T. 𗑛 no

Ch. 婢 bji̯ẹ 'servant'
T. 𗉖 phi
Ch. 泊 bak 'lake'
T. 𗁮 pho

Chinese 明 m- > mb- : Tangut b-
Ch. 貓 mau 'cat'
T. 𘜶 bi̯oɯ
Ch. 帽 mâu 'hat'
T. 𗏹 ba
Ch. 墓 muo 'grave'
T. 𗒹 bu
Ch. 襪 muât in 襪肚 'stomacher'
T. 𗱕 bɔ in 𗱕𗿦

Chinese 定 d- > th- : Tangut th-
Ch. 地 di 'earth'
T. 𘝶 thi
Ch. 大 dâi 'great'
T. 𗫸 tha
Ch. 同 dung 'same, identical'
T. 𗦆 thu
T. 笛 diek 'flute'
T. 𗵛 thi

Chinese 泥 n- > nd- : Tangut d-
Ch 奴 nuo 'servant'
T. 𗬹 dʉ
Ch. 涅 niet in 涅盤 'nirvana'
T. 𗼻 di̯e in 𗼻𘘦

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Chinese 羣 g- : Tangut g-

Ch. 渠 giwo 'canal'

T. 𗹦 giu

Ch. 強 giang 'strong'

T. 𗥃 gion

Ch. 具 giu 'instrument'

T. 𗱲 𗬨 giu

Chinese 疑 ŋ- : Tangut ŋ-[11]

Ch. 臥 nguâ 'lie down, sleep'

T. 𗂃 ngiə[12]

Chinese 從 dz : Tangut dz-

Ch. 雜 dzập 'mixed'

T. 𗊱 dza

Ch. 集 dziəp 'collect, assemble'

T. 𗦳 dziə

Ch. 錢 dziän 'coin, money'

T. 𗭢 dzie

Ch. 罪 dzwei 'crime, offence'

T. 𗊱 dzwei

Chinese 澄二 / 牀二 d- / dẓ- : Tangut dź-

Ch. 長 djang 'long'

T. 𗉛 dźio

Chinese 羣 g- > kh- : Tangut kh-

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

T. 𗭢 kha in 𗡪 𗭢

Ch. 強 giang 'strong'

T. 𗱵 khion

Chinese 疑 ŋ- > ng- : Tangut g-[11]

Ch. 齧 ngiet 'gnaw'

T. 𗈈 giwe

Ch. 驗 ngiäm 'verify, examine'

T. 𗤋 gên

Ch. 鋙 ngiwo in 鉏鋙 'disparate'

T. 𗸇 giu in 𗸐 𗸇

Chinese 從 dz- > tsh- : Tangut tsh-

Ch. 雜 dzập 'mixed'

T. 𗪳 tsha

Ch. 財 dzâi 'wealth'

T. 𗋅 tshei

Ch. 全 dziwän 'complete'

T. 𗼃 tshiwan

Ch. 齊 dziei 'name of a dynasty'

T. 𗒹 tshi

Chinese 澄二 / 牀二 d- / dẓ- > tśh- : Tangut tśh-

Ch. 陳 diĕn 'old'

T. 𗃀 tśhên

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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 𗂊 tśhiwə, therefore the correct reconstruction here should be ngiwə.

Ch. 幢 ḍàng 'a kind of flag'

T. 義 dźi̯on

Ch. 助 dẓi̯wo 'aid'

T. 死 dźô

Ch. 鄭 ḍi̯äng 'place name'

T. 蘸 tśhi̯ei

Ch. 鉏 dẓi̯wo in 鉏鋙 'disparate'

T. 靴 tśhi̯ụ in 靴祣

From the above examples we see that Chinese voiced stops and affricates b-, ḍ-, g-, dẓ-, ḍ-, and dẓ- correspond to Tangut b-, d-, g-, dẓ-, dź-, and dź- 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(ɣ- or ɦ-ɟ) 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 initals, if there are any, should also be looked for in the same class.

Chinese 曉 x- : Tangut x-

1. Ch. 海 xậi 'sea'
   T. 嗄 xei

2. Ch. 花 xwa 'flower'
   T. 縱 xwâ

3. Ch. 昏 xuən 'darkness'
   T. 祝 xwen

4. Ch. 漢 xân 'Chinese'
   T. 礼 xan

5. Ch. 休 xi̯əu 'rest'
   T. 稚 xwêɯ

6. Ch. 香 xi̯ang 'fragrance'
   T. 翕 xi̯on

Chinese 匣 ɣ- > x- : Tangut x-

7. Ch. 和 ɣuâ in 和尚 'Buddhist priest'
   T. 俊 xwa in 俊翄

8. Ch. 匣 ɣap in 甄匣司 'name of a government office'

   T. 𗰷 xâ in 𗰷𗰷𗰷

Nos. 1, 2, 3, 4, and 7 have the *fan-ch'ieh* initial 𗰷, 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 𗰷, which together with 𗰷, 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 (ɣ-). 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 ɣuâ 'harmony, peaceful'
   T. 𗰷 ·wa S, Haɦ N

2. Ch. 壕 ɣâu 'moat'
   T. 𗰷 ·eɯ S, Həw N

3. Ch. 橫 ɣwɐng 'perverse, unjust'
   T. 𗰷 ·xwai S, ɣẽ N

4. Ch. 學 ɣâk 'learn'
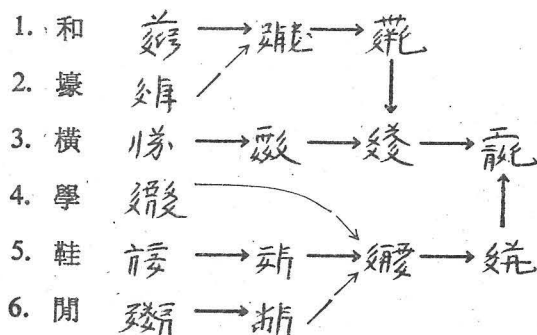   T. 𗰷 xêɯ S, ɣkew N

5. Ch. 鞋 ɣai 'boots'
   T. 𗰷 ·êi S, ɣkĭɛ N

6. Ch. 閒 ɣăn 'leisure'
   T. 𗰷 ·ân 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* intials shows that all of them have the same initial. (See Sofronov 1968: II, 92)

1. 和 〔Tangut characters〕
2. 壕 〔Tangut characters〕
3. 橫 〔Tangut characters〕
4. 學 〔Tangut characters〕
5. 鞋 〔Tangut characters〕
6. 閒 〔Tangut characters〕

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 〔Tangut character〕 is transcribed with the Chinese character 嚖 in the *Chang-chung-chu* (325). 褱 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 捋 (ts-) to represent the voiced affricate dz-. In the *Chang-chung-chu* (363) there is another Tangut character 〔Tangut character〕, which is also transcribed with the Chinese character 嚖, 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:

<div align="center">Chinese 匣 ɣ-: Tangut ɣ-</div>

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

<div align="center">

p	ph	b	m
t	th	d	n
k	kh	g	ŋ

</div>

		ɣ		x
ts	tsh	dz		s
tś	tśh	dź		s

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西夏語的濁塞音與濁塞擦音

龔　煌　城

（摘　要）

　　日人西田龍雄與俄人 Sofronov 所擬測的西夏語音韻系統裏都有鼻化濁塞音與鼻化濁塞擦音，而無普通的濁塞音與濁塞擦音。本文檢討他們擬測鼻化音的各種論據，認爲都不足以證明西夏語的濁塞音與濁塞擦音是鼻化的。相反的，藏夏對音及梵夏對音都顯示西夏語的濁塞音與濁塞擦音都不鼻化。此外本文根據西夏語裏的漢語借詞及掌中珠裏的漢夏對音，證明西夏語有 ɣ- 音，認爲 Sofronov 歸納反切上字所得喉音類反切第一連鎖卽代表 ɣ 音。按 Sofronov 對這一連鎖原來擬的是喉塞音。本文對此提出了修正的意見。