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Tangut-Chinese Elements in the 12th Century Dialect of Hexi

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Abstract: The Hexi dialect of the 12th c. recorded in Tangut literature, such as *Fanhan Heshi Zhangzhongzhu*, was a Tangut-Chinese language, i.e., an ethnic variant of the ancient Chinese Northwest Dialect. Under the influence of their native languages, non-Chinese people tend to make phonemic alternations, additions and deletions when they speak Chinese. These phonetic variants have nothing to do with diachronic evolution and cannot be brought into the sequence of Chinese phonological development as real forms of dialectal evolution. In researching Ancient (Middle) Chinese on the basis of the Chinese and non-Chinese transcriptions, only by stripping out phonetic variants and by carefully analyzing phonological divergences between Chinese and non-Chinese languages can we restore ancient forms better.

Key words: 12th c. Gansu Corridor dialect, Tangut-Chinese, Northwest dialect in Tang and Five Dynasties, Ethnic variant of Chinese

1. It is well known that research on the northwest Chinese dialect in the Tang and Five Dynasties periods generally relies on several kinds of materials, such as *Qieyun* 切韻, Kan-on, *dhāraṇī* transcriptions of Amoghavajra School, Sino-Annamite transcriptions, Dunhuang Tibetan-Chinese manuscripts,¹ and Chinese transcriptional materials of Sogdian, Khotanese and Uighur discovered in the Western Regions. When scholars use these materials, they feel that phonetic features of the northwest Chinese dialect are not always consistent, even though these materials belong to the same period. For example, Tibetan phonetic notations of Chinese characters from the Rhyme Groups *Dang* 宕, *Geng* 梗, *Zeng* 曾 and *Tong* 通 in *Qianziwen* 千字文 are different from those in *Amitābha-sūtra*, *Vajracchedikā-prajñāpāramitā-sūtra* and *Dacheng Zhongzong Jianjie* 大乘中宗见解.

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¹ MASPERO 2005: 3–15.

Firstly, the loss of nasal final *-ŋ* caused the merger of the Rhyme Groups *Dang* and *Mo* 模 in *Qianziwen*. However, *-ŋ* of the Group *Dang* were kept in some other materials, such as, *-aŋ* in *Amitābha-sūtra* and *Vajracchedikā-prajñāpāramitā-sūtra*, and *-oŋ* in *Dacheng Zhongzong Jianjie* except when following palatal fricative initials. Secondly, the loss of *-ŋ* also caused the merger of the Groups *Geng* and *Qi* 齐 in *Qianziwen*. The *-ŋ* was occasionally kept in the Group *Geng*, as in *Zeng*. Moreover, in other three Tibetan dialects, *-ŋ* was kept and tended to be divided into two types. That is, *-eŋ* in the Group *Geng* and *-iŋ* in *Zeng*.² The reason for these different performances of *-ŋ* in the Group *Dang* represented by Tibetan-Chinese transcriptions in *Qianziwen* and *Dacheng Zhongzong Jianjie* was attributed to dialectal differences following the suggestion of LUO Changpei (1933: 40) that the change of *-ŋ* can be correlated with unique pronunciations in different dialects. It is clear that besides the common phonological features, “phonetic ambiguity” still existed in different dialects, even though the data were collected from the same period and the same region.

For the phonetic system of the northwest Chinese dialect of the 12th c., we have transcriptions from *Fanhan Heshi Zhangzhongzhu* 番汉合时掌中珠 (hereafter *Zhangzhongzhu*) discovered at Khara-Khoto and Sanskrit-Chinese transcriptions from newly translated Buddhist *dhāraṇīs* of the Tangut period. In addition, Chinese-Tibetan transcriptions from Buddhist fragments are also included. Phonological features represented in these materials are different from those in the northwest Chinese dialect in the Tang and Five Dynasties periods. We cannot explain some of these phenomena using the rules of phonetic evolution. For example, characters with the Initial *Yi* 疑 were transcribed by Tibetan 'g- in Tibetan-Chinese transcriptions from the Dunhuang *Qianziwen*. Thus, Chinese *yin* 银 and *yan* 言 were transcribed by Tibetan 'gen and 'gen etc. But we cannot find examples of characters with the Initials *Ying* 影, and the third and fourth division of *Yu* 喻 being transcribed by Tibetan g-.³ However, Tangut materials are different. Chinese-Tangut transcriptions from *Zhangzhongzhu* have three special characters of the Initial *Ying* 影, i.e., *wen* 嗚, *yi* 乙 and *e* 遏. Another example is that Chinese transcriptional characters for Tangut velar initials not only include *yu* 鱼, *yu* 愚, and *yu* 御 from the Initial *Yi* 疑母, but also involve *yu* 于 and *yu* 雨 from the division III with mouth rounding (*Hekou* 合口) of Initial *Ying* and *Yu*. Gong Hwang-cherng has the following explanation for this phenomenon.

² LUO Changpei 1933: 30–31.

³ LUO 1933: 24–25.

Based on the general observation of the Chinese dialect from *Zhangzhongzhu*, the glottal stop of the Initial *Ying* was lost. The first *Hekou* division of the Initial *Yi* also lost the initials. We can presume the reason for this chaotic phenomenon. The syllables which lost their initials, have a non-phonemic *ŋ-* or *ɣ-* in real-life language environment. These two phonemes were used to transcribe /ŋ/, /ɣ/ or even /g/ in Tangut (*y-* was used to transcribe *g-*).⁴

Historical linguistics tells us that disappearance of a phoneme can be easily explained by natural evolution. However, the “emergence” of a new phoneme must have some other objective reasons.

Based on ancient scriptures in different scripts from Tang-Song times, it is known that the northwest Chinese dialect presented complex phonological phenomena. As proposed by Takata Tokio,⁵ the northwest Chinese dialect in this period has some kinds of “variants”. But Takata did not analyze the causes for these variants. It is not difficult to recognize that, besides *Qieyun* and the Sanskrit-Chinese transcriptions from the *dhāraṇī* of the Amoghavajra School, other research materials for the northwest dialect in Tang-Song times come from Chinese literary works written by non-Chinese people. When people speak Chinese, under the influence of their native languages, Chinese syllables not found in non-Chinese languages tend to change. In this way, Chinese data recorded using writing systems of these ethnic languages are more or less marked with non-Chinese features. A phonetic system based on these data can only be treated as an ethnic variant of the northwest Chinese dialect. Unlike other Chinese dialects, this variant does not originate from historical evolution, but from synchronic imitation when non-Chinese people were learning this dialect. In this process, certain phonemes, found in both Chinese and ethnic languages, could be pronounced as well as a native speaker did. However, some Chinese phonemes, not found in non-Chinese languages, were usually replaced by phonemes or syllables from non-Chinese languages. A similar example is sound change, such as phonetic addition, deletion and alternation. It always occurs when foreigners start to learn Chinese. Therefore, when we use ethnic language data to research Chinese dialects, we should carefully analyze different phonological characteristics of these non-Chinese languages, focusing on the rules of sound changes in non-Chinese people’s oral speaking, and should separate sound changes with native elements. Then we can gain the real phonetic system of a given Chinese dialect.

⁴ GONG Hwang-chen 2005a: 503.

⁵ TAKATA Tokio 2012.

Obviously, with the merging of different nationalities, Chinese ethnic variants could be preserved in forms of different dialects. These variants' phonetic features are different from other nearby Chinese dialects. For instance, *wen* 文 and *wei* 卫 have the same pronunciation in Zhongwei dialect, Ningxia Autonomous Region. We identify this phenomenon as preservation of Tangut-Chinese of the Xixia period. Treating these sound changes of ethnic language variants as historical evolution of Chinese should be avoided when we analyze phonetic characteristics of relative dialects.

2. The Tangut-Chinese glossary *Fanhan Heshi Zhangzhongzhu* compiled by the Tangut scholar *Gule Maocai* 骨勒茂才 in 1190 was found in Khara-Khoto ruins in 1909 and is now kept at the Institute of Oriental Manuscripts of the Russian Academy of Sciences. Based on the publication of *Zhangzhongzhu*, Nicolas NEVSKY (1926), WANG Jingru (1930) and HASHIMOTO Mantaro (1961) reconstructed and analyzed the phonetic system and spelling rules of the northwest Chinese dialect. The materials they used include Chinese-Tangut transcriptions from *Zhangzhongzhu* and other Tibetan-Tangut transcriptions. After that, GONG Hwang-chenng (2005a, 2005b) and LI Fanwen (1994) systematically researched two types of characters from *Zhangzhongzhu*, that is, Tangut transcriptions of Chinese and Chinese transcriptions of Tangut, and achieved significant results. In addition, we also found some long paragraphs of Sanskrit-Chinese *dhāraṇī* transcriptions in Tangut *sūtras*. Comparing them with their Sanskrit originals, we found that the phonetic rules of the Gansu Corridor dialect (also known as the Hexi dialect) in these transcriptions are strikingly consistent with those in *Zhangzhongzhu*. Some of these transcriptional materials are slightly earlier than *Zhangzhongzhu*, and some are from the same period around the 12th c. With the aid of these two types of materials from the Tangut period, scholars already have a clear understanding of the phonetic features of the Gansu Corridor dialect, which was popular in the Tangut area during this period. Based on the comparison of the northwest Chinese dialect in the Tang and Five Dynasties periods with the north dialect during the Song Dynasty, distinguished features of the Gansu Corridor dialect in the 12th c. can be summarized as follows:⁶

1. Medieval Chinese voiced initials become voiceless aspirated initials.
2. Medieval Chinese nasal initials, such as *Ming* 明, *Ni* 泥 and *Yi* 疑, have two different patterns. Syllables with nasal coda *-n* in the Rhyme Group *Zhen*

⁶ GONG Hwang-chenng 2005a, 2005b; SUN Bojun 2010, 2012.

臻 and *Shan* 山 have the initials *m-*, *n-* and *ŋ-*, but syllables without a nasal coda have *mb-*, *nd-* and *ŋg-* initials.

3. Some syllables of the Initial *Ying* 影, such as *e* 遏, *ye* 谒, *wa* 嗚 and *yi* 乙, have the same initial *g-* in Sanskrit and Tibetan.

4. The nasal coda *-ŋ* in the Groups *Dang* 宕, *Geng* 梗, *Zeng* 曾 and part of *Tong* 通 is completely lost. Thus, the Groups *Dang* 宕 and *Guo* 果 merged together. *Geng* 梗, *Zhi* 止 and *Xie* 蟹 have merged. *Guo* 果, *Yu* 遇摄 and part of *Tong* 通 have merged.

5. Medieval Chinese *tu*, *thu* and *nu* were properly pronounced as *to*, *tho* and *no*.

6. Stop codas *-p*, *-t* and *-k* in the entering tone (*rushing* 入声) are lost and merged with even, raising and departing tones.

The most important phonetic phenomenon is the loss of nasal coda *-ŋ* in the Rhyme Groups *Dang*, *Geng*, *Zeng* and *Tong*. To give an example from *Zhangzhongzhu*, *huang* 黄, *gang* 刚 and *jiang* 姜 of the Group *Dang* have the same Tangut phonetic transcription as *ge* 哥, *guo* 果 and *ge* 个 of the Group *Guo* 果摄; *geng* 庚, *geng* 更, *geng* 耕 and *geng* 梗 of the Group *Geng* 梗 have the same transcription as *jie* 皆, *jie* 芥 and *jie* 界 of the Group *Xie* 蟹.⁷ Another example from Sanskrit-Chinese transcription: the Group *Dang* used to transcribe Sanskrit *o/u*, and *Geng* used to transcribe *i/e* in Sanskrit. Below are some transcriptional examples.⁸

Sanskrit	Group <i>Dang</i> 宕	Sanskrit	Group <i>Geng</i> 梗
lo	逻	te	丁
mo/mu	麽	te/ti	汀
bo	磨	bhe/bhi	喻
phu	婆	me	铭
co	左	de/dhe/dhi	宁
ko	光	he	形
rō	娘	ve	永
śo/śu	商		
tu	当		

⁷ Li Fanwen 1994: 245–246.

⁸ SUN Bojun 2007.

These transcriptions demonstrate that Tangut people did not differentiate between *Dang* and *Guo*, *Geng* and *Xie* in their speech. The nasal coda *-ŋ* is completely lost in the *Dang* and *Geng* rhyme groups.

As for the Rhyme Group *Tong*, GONG Hwang-chenng (2005b: 559–561) noticed that nasal coda pronunciations in the Group *Tong* are different from those in *Dang* and *Geng*. Characters of the Group *Tong*, such as *tong* 通, *tong* 同, *tong* 铜, *dong* 动, *tong* 桶, *tong* 统 and *cong* 葱, are usually transcribed by means of compounds such as 𑖇𑖉 *thu*¹ 𑖇𑖉 *mē*² and 𑖇𑖉 *tshji*¹ 𑖇𑖉 *swē*¹ in *Zhangzhongzhu*. That is, one Chinese character is transcribed by two Tangut ones. This indicates that these syllables have nasalized vowels. Based on *Zhangzhongzhu* and Sanskrit-Chinese transcription materials, SUN Bojun (2012) added the following conclusion: Syllables of the Rhyme Group *Tong* with *t-*, *th-*, *d-*, *ts-*, *tsh-*, *dz-* and vowel initials kept nasal codas, but syllables with other initials merged with the *Guo* and *Yu* rhyme groups. In other words, same as *Dang* and *Geng*, most syllables of the Group *Tong* in the Gansu Corridor dialect have already lost *-ŋ* and their main vowel *-u* changed to *-o* in the 12th c.

In addition, there are three characters of the Group *Zeng*, i.e. *deng* 登, *beng* 崩 and *neng* 能. In the Tangut period, *neng* 能 is used to transcribe Sanskrit *d-* or *da*. For example, 𑖇𑖉 𑖇𑖉 (二合) is used to transcribe *padme* in *Guanzizai Pusa Liuzi Daming Xinzhou* 观自在菩萨六字大明心咒 from *Mizhou Yuanyin Wangshengji* 密咒圆因往生集 edited by Zhiguang 智广 in the year 1200. 𑖇𑖉 𑖇𑖉 is used to transcribe *chedana* in *Sheng Guanzizai Dabeixin Zongchi Gongneng Yijinglu* 圣观自在大悲心总持功能依经录. These examples clearly indicate that the nasal coda *-ŋ* in *neng* 能 was lost.⁹

Gong Hwang-chenng¹⁰ compared the change of nasal coda *-ŋ* in *Qianziwen* within Tangut literary works and summarized the results in the following conclusion.

Based on Chinese-Tangut transcription materials from *Fanhan Heshi Zhangzhongzhu* (1190), we have some conclusions on the codas of the northwest Chinese dialect in the 12th c. Medieval Chinese stop codas *-p*, *-t*, *-k* in the entering tone are completely lost. Nasal codas *-m*, *-n*, *-ŋ* disappeared after causing the nasalization of the preceding vowels. Nasalized vowels of the Rhyme Groups *Dang*, *Geng* and *Jiang* 江 lost their nasalized elements and became ordinary vowels.

This sound change in the northwest dialect in the 12th c. occupied an important position in the history of phonological development of the

⁹ SUN Bojun 2010: 48, 32.

¹⁰ GONG Hwang-chenng 2005b: 567.

northwest Chinese dialect. The whole process of this change can be reconstructed as follows. First, nasal coda *-ŋ* started to change in the Rhyme Groups *Geng* and *Dang* in the mid-Tang Dynasty. Then, the loss of *-ŋ* spread to other rhyme groups. This phenomenon took place not only in syllables with the velar nasal coda *-ŋ*, but also in syllables with the bilabial nasal coda *-m* and the alveolar nasal coda *-n*. The loss of *-m*, *-n* and *-p*, *-t*, *-k*, began in the Five Dynasties period in the late 10th c. After continuous development, this phenomenon reached the stage of completion in the late 12th c. Nasalized vowels that remain in these syllables are traces of these original codas.¹¹

Obviously, according to Gong's discussion, the mixing of syllables with a nasal coda and those without a nasal coda in various non-Chinese literary texts of different periods can be treated as a result of historical evolution. That is, nasal codas caused the nasalization of the preceding vowels in the Tang and Five Dynasties periods, and then the nasalized elements in the Gansu Corridor dialect were lost in the 12th c. Frankly, "the nasalization of the preceding vowels by nasal codas" can be explained as sound change, but "the loss of nasalized elements" is hard to analyze as sound loss. At least, the reason for the loss of nasalized elements needs further investigation.

3. In modern Chinese, some Initials *Ying*, *Yi*, *Yu* changed to vowel initials. However, Tangut transcriptions for these Chinese initials in *Zhangzhongzhu* usually have velars and glottals. This phenomenon was studied in detail by Gong Hwang-chenrg.¹² The rules from his discussion can be summarized as follows.

微 all		>*w-	喻 (division III)	<i>Hekou</i>	>*w-
喻 (division IV)	<i>Hekou</i>	>*w-	影 (division I)	<i>Hekou</i>	>*w-
疑 (division I)	<i>Hekou</i>	>*w-			
喻 (division III)	<i>Kaikou</i>	>*j-	喻 (division IV)	<i>Kaikou</i>	>*j-
影 (division III, IV)	<i>Kaikou</i>	>*j-			
疑 (division III)	<i>Hekou</i>	>*jw-	影 (division III)	<i>Hekou</i>	>*jw-
喻 (division III) part	<i>Hekou</i>	>*jw-	喻 (division IV) part	<i>Hekou</i>	>*jw-
影 (division I)	<i>Kaikou</i>	> vowel initial			

¹¹ GONG Hwang-chenrg 2005b: 567.

¹² GONG Hwang-chenrg 2005a: 512–517.

Though there is no discussion about the Initial *Ying* 影 (division I), the situation is similar. The glottal stop disappeared, replaced by non-phonemic initial *y*-.

Moreover, examining Sanskrit-Chinese transcriptions in Tangut *dhāraṇī* and names of Tibetan-Tangut Buddhist translators, we noticed that some syllables with the Initial *Ying*, *Yi* and *Yu* have special transcriptions.

3.1. The syllables with Initial *Yi* are transcribed by *g*-/*k*- in Sanskrit or Tibetan. The following are Sanskrit examples:¹³

宜	养宜说啰	yogeśvara	g-
唔	唔噜	guru	g-
屹	捺麻厮屹岭（三合）胆	namaskṛtvā	k-
蛾	啰捺（入）蛾能	ratnaguṇa	g-

3.2. The *kaikou* syllables of division I and III of the Initial *Ying* are transcribed by *g*- in Sanskrit or Tibetan.

3.2.1. *E* 遏 usually corresponds to Sanskrit *ga* in Tangut *dhāraṇī*, i.e. Sanskrit *bhagavate* is transcribed by *moewodi* 末遏鞞帝, where *e* 遏 is used for *ga*.¹⁴ In addition, a Tangut translator's Sanskrit name *ānandakīrti* is transcribed by *eanannachilidi* 遏啊难捺吃哩底 in Chinese, where *e* 遏 seems to transcribe Sanskrit *a*. However, the name was translated to Tangut 𑖇𑖇𑖇𑖇𑖇𑖇 in *Ārya Prajñāpāramitā Ratnaguṇa Saṃcayagāthā*.¹⁵ 𑖇 is a velar initial syllable transcribed by Chinese 唵 in *Zhangzhongzhu*. Moreover, *yin* 银, *yan* 彦, *yan* 砚, *yan* 言 can also be used to transcribe this Tangut syllable. Gong Hwang-cherng reconstructed this syllable as *gēn*.¹⁶ Obviously, the initial of the syllable *e* 遏 is *g*-.

3.2.2. *Nayizhong* 捺乙钟, Tibetan transcription is *Nag chung*. *Yi* 乙 is used to transcribe *-g*.¹⁷

3.2.3. The Initial *Yu* (division III) are transcribed by *g*- in Tibetan.

¹³ SUN Bojun 2010: 97; DUAN Yuquan 2012: 27.

¹⁴ SUN Bojun 2010: 38.

¹⁵ DUAN Yuquan 2012: 29.

¹⁶ GONG Hwang-cherng 2005: 394.

¹⁷ *Nag chung* (?–1117), also named *Dam pa sangs rgyas* in Tibetan Buddhist history, and *Kamalaśīla* in Sanskrit. *Nag chung* means “small black” in Tibetan. This name was transcribed by *nayizhong* 捺乙钟 in Chinese *Sizi Kongxingmu Jiwen* 四字空行母记文 (TK.329) that was unearthed in Khara-Khoto.

For example, *wuyan* 乌延, another Chinese transcription is *wuerjian*_(erhe) 乌儿坚_(二合). Both are transcribed by Tibetan U-rgyan. *Yan* 延 is transcribed by *gyan*.¹⁸ Examples of Sanskrit-Chinese, Tibetan-Chinese transcriptions are given below.

<i>Chinese transcription</i>	<i>Sanskrit</i>	<i>Tibetan</i>	<i>Examples</i>
宜 (疑母, 支开三平止)	ge		yogeśvara “养宜说啰”
晤 (疑母, 暮合一去遇)	gu		guru “唔噜”
屹 (疑母, 迄开三入臻)	k-		namaskṛtvā “捺麻厮屹吟 (三合) 胆”
屹 (疑母, 迄开三入臻)		g-	bsod nams grags “萨南屹啰”
蛾 (疑母, 歌开一平果)	gu		Ratnagaṇa “囉捺 (入) 蛾能”
遏 (影母, 曷开一入山)	ga		bhagavate “末遏斡帝”
乙 (影母, 质开三入臻)		-g	Nag chung “捺乙钟”
延 (余母, 仙开三平山)		gyan	U-rgyan “乌延”

It can also be seen in Sanskrit-Chinese transcriptions that not all of the Initial *Ying* and *Yu* were transcribed by *g-*, some other syllables were still transcribed by vowel initials.¹⁹

<i>Chinese transcription</i>	<i>Sanskrit</i>	<i>Examples</i>
乌 (影模合一平遇)	-u	Uṣṇīṣa “乌实祢舍”
英 (影庚开三平梗)	ye	vairocaniye “命嚷拶祢英”
衍 (余獮开三上山)	yan	samāśvāsayantu “萨麻引说引萨衍丁六”
瑜 (余虞合三平遇)	yu	ayur “啊瑜哩 (二合)”
噀 (余清开三平梗)	e	ehyehi “噀形兮”
养 (余养开三上宕)	yo	yogeśvara “养鸡说啰”
永 (云梗合三上梗)	ve	sambhave “三末永”

¹⁸ CHEN Qingying, 2000.

¹⁹ SUN Bojun 2010: appendix 1 and 2.

The transcription -g in the Gansu Corridor dialect is the continuous development of the northwest Chinese dialect in the Tang and Five Dynasties periods. Tibetan-Chinese transcriptions in Dunhuang *Qianziwen* show that most of the characters with the Initial *Yi* are transcribed by Tibetan *g-*. For example, Chinese *yin* 银 and *yan* 言 are transcribed by Tibetan *gin* and *gen*. The “additional” initial *g-* of some syllables with the Initial *Ying* and *Yu* may be attributed to the oral sound changes of Tangut people when they speak Chinese.

4. Some *Qieshen* 切身 (self-spelling) characters are used to transcribe *tu*, *du* and *nu* in Sanskrit-Chinese transcriptions from newly translated *dhāraṇī* in the Tangut period.²⁰ Here are several examples of *Qieshen* characters.

<i>Sanskrit</i>	<i>Chinese transcriptions</i>	<i>Examples</i>
tu	丁六	bhavatu “末鞞丁六”
	寧各(切身)	śituru “西寧各(切身)嚕”
	丁各(切身)	hetu “形丁各(切身)”
	丁各(舌齿)	hetu “形(引)丁各(舌齿)”
du	寧各(切身)	duni “寧各(切身)你”
	丁六(舌上)	duṣṭanaṃ “丁六(舌上)室达捺(能)”
	丁六	durlaṅghite “丁六(吟)辣(上腭)屹叮”
nu	寧乌(切身)	manu “麻寧乌(切身)”
	寧与(切身)	anurakto “啊寧与(切身)嚕屹(二合)多”

Sanskrit *tu* and *du* are transcribed by *Qieshen* characters 丁六, 寧各 and 丁各, *nu* is transcribed by 寧乌 and 寧与. The examples show that these Sanskrit syllables did not exist in the Chinese Gansu Corridor dialect during the 12th c.

However, examination of Sanskrit-Chinese Buddhist transcriptions from Tang-Song dynasty China shows that medieval Chinese syllables *tu*, *thu* and *du*, such as *du* 睹, are used to transcribe Sanskrit *tu*. For example, Sanskrit *bhavatu* is transcribed by *Fatian* 法天 (Song Dynasty) into Chinese 婆嚩睹 in

²⁰ In transcriptions of *dhāraṇī*, translators usually use two Chinese characters together to transcribe one Sanskrit syllable when they cannot find the accurate Chinese character. In this case, one character is used for the initial and the other for the final. These pairs of characters are coined and their pronunciations come from the *fanqie* spelling, which is a Chinese traditional phonetic annotation method. This is the reason why these characters are called *Qieshen* 切身 characters.

Sarvadurgatipariśodhana Uṣṇīṣavijayadhāraṇī Sūtra (Taishō Tripiṭaka 1934: 408).²¹ This example demonstrates that *tu*, *thu* and *du* still existed in real northwest Chinese dialect during the Tang-Song Dynasty.

SUN Bojun (2012) synthesized the Tangut transcription of the first division of dental initials from *Zhangzhongzhu*. These Tangut characters, such as 𑖑 and 𑖒, usually belong to the first rhyme in *Wenhai* 文海. Chinese transcriptions for this rhyme include nasal final syllables from the Rhyme Groups *Tong*, *Guo* and *Dang*. Based on the fact that *Dang* and *Guo* are usually transcribed by Sanskrit *-o* in Tangut *sūtras*, Sun suggested that the final of medieval Chinese syllables *tu*, *thu* and *du* should be reconstructed as *-o*. Moreover, if the final of these syllables is not *-u*, we can correspondingly confirm that there are *to*, *do* and *no* in Tangut, but *tu*, *du* and *nu* are lacking.

5. These phonological characteristics of the Gansu Corridor dialect in the 12th c. can be retrieved from Sanskrit-Chinese, Tangut-Chinese and Tibetan-Chinese transcriptional materials. This is especially true for the three phenomena mentioned above, that is, the loss of nasal finals in the Rhyme Groups *Dang*, *Geng*, *Zeng* and *Tong*, the addition of initial *g-* before vowel initials, and the absence of the syllables *tu*, *thu* and *nu*. If we compare these phonological characteristics with those in the Tang and Five dynasties period, we cannot explain these changes by historical evolution rules unless we classify them under the category of Tangut-Chinese. Tangut-Chinese is the northwest Chinese dialect spoken by Tangut people in the 12th c. This dialect was spoken by a specific ethnic group, the Tangut people, whose native language was not Chinese. It is different from the dialect spoken by authentic Chinese, therefore, it should be called an ethnic variant of the northwest Chinese dialect.

According to the commonly accepted view, it is hard to have accurate pronunciation when people learn or pronounce phonemes or syllables not found in their native language. There are three types of common sound changes, that is, phonemic alternation, addition and deletion.

Phonemic alternation is the replacement of one phoneme or syllable of a source language by another phoneme or syllable of one's native language. For example, initial *f* and *z* did not exist in Middle Mongol. The Chinese word

²¹ Sanskrit-Chinese transcription of *Uṣṇīṣavijayadhāraṇī* inherited the transcriptional principle of Amoghavajra and other translators that represented the Chang'an dialect in the Tang dynasty. Based on the *Fozu tongji* 佛祖统纪 Vol. 43, “河中府沙门法进, 请三藏法天译经于蒲津, (蒲州河中府) 守臣表进, 上览之大说, 召入京师始兴译事。” *Pujin* 蒲津 (now around Xi'an area).

furen 夫人 is pronounced as *wošin* and written as *wuzhen* 兀真 and *xuzhen* 旭真 in the Yuan Dynasty.²² Manchurian word is inherited from Mongolian, and the Chinese-Manchurian transcription of this word is *fujin* 福晋. Fricative *s-* is the only front alveolar in Mongolian. Front alveolar initial characters were transcribed by fricative *s-* in *Zhangyingrui Xianying Bei* 张应瑞先莹碑, *Zhuwentai Shendao Bei* 竹温台神道碑 and *Xindu Shendao Bei* 忻都神道碑 etc. Several examples of these transcriptions are given below.²³

藏: sink	匠: sank	赠: sink	紫, 资, 集: si
左: soo	总: sonk	参: sam	钱: san
齐: si	秦: sin	全: soin	青, 清: sink

Jurchen is similar to Mongolian in this respect. Front alveolar initials are usually transcribed by *s-* in *Nüzhen Yiyu* 女真译语. To give an example from the chapter *Renwumen* 人物门, the transcription of Chinese *zongbing* 总兵 is *suwenbiyin* 素温必因. Front alveolar initial character *zi* 子(瓦子) and alveolar initial character *zao* 皂(从母) are both transcribed by Jurchen 𠵹, as is the character *si* 司(都司).²⁴ There is no velar nasal coda *-ŋ* in Old Jurchen spelling. *-ŋ* is replaced by *-n* in transcriptions. For instance, Chinese *tang* 堂 is pronounced as *taan* 塔安, *ting* 厅 as *tiyin* 替因, *shilang* 侍郎 as *shilaaŋ* 侍刺安, *dutong* 都统 as *dutaan* 都塔安 and *zongbing* 总兵 as *suwenbiyin* 素温必因 (LUO Fucheng 1933: 7, 10).²⁵ One above-mentioned example showed that *tu*, *thu* and *nu* are pronounced as *to* and *no* in the Gansu Corridor dialect in the 12th c. Since there are no *tu* and *nu* in the Tangut sound system, this phenomenon can also be attributed to phonemic alternation.

Phonemic addition is a change that involves insertion of a consonant or vowel into a word of the source language. Some phonemes are rarely placed at the beginning of a word in native language, or one's native language lacks vowel initials. Therefore, a vowel is inserted at the beginning of a word which

²² WULAN 2003.

²³ YILINZHEN 2001.

²⁴ JIN Qizong 1984: 166.

²⁵ According to a record in the Wu River Collection (*Wuxi ji* 武溪集), the chapter on the manners of the Khitan officials (*Qidan guanyi* 契丹官仪): “其东北则有挾领相公, 掌黑水等边事。” Annotations are as follows. “胡人呼‘挾’字如‘吞’字, 入声, ‘领’音近‘廩’。” Another example is from the History of Liao (*Liao shi* 辽史), the section of *Guoyuyjie* (国语解) “explanation of the national language”. The word *taling* 挾领 is written in the form *talin* 挾林 there. The annotation explains it as an official's name: “挾林, 官名。后二室韦部改为仆射, 又名司空。” Thus, *ling* 领, *lin* 林 and *lin* 廩 have the same spelling in Khitan.

starts with a consonant, or a consonant is inserted in front of vowel initial syllables when people are recording some source language. For example, Altaic languages insert a vowel at the beginning of a word which starts with alveolar trill *r*-. It happens unconsciously when people spell these words, because *r*- is rarely used word-initially. Chinese *Eluosi* 俄罗斯 (“Russia; Russian”) comes from Middle Mongol *Orus* via Manchu *Oros*,²⁶ and the phoneme *e* 俄 is an example of sound addition. The “additional” consonant *g*-before vowel initial syllables in the Gansu Corridor dialect in the 12th c. is also a case of phonemic addition.

Phonemic deletion is a change that involves omission of a phoneme or syllable not found in one’s native language when using some source language. Phonemic deletion can be found in some Tibeto-Burman languages. There are no nasal finals in modern Yi and Naxi languages. It is hard for these people to have correct pronunciations of nasal final syllables. When they learn Chinese, *an*, *en* and *in* are usually pronounced as *ai*, *ei* and *i*, or as *a*, *e* and *i*, and *ang*, *eng*, *ing* and *ong* as *a*, *e*, *i*, *o(u)*. For example, *tan* 谈 and *tai* 台, *chang* 长 and *cha* 查, *ping* 平 and *pi* 啤, *ou* 欧 and *ong* 翁, *kong* 孔 and *ku* 苦, have the same pronunciations because of the loss of nasal finals. The reason for this phenomenon is the absence of nasal finals in their native languages.

Sometimes, phonemic alternation occurs at the same time with phonemic deletion. For example, there was no nasal coda *-ŋ* in Old Japanese, thus nasal finals were usually pronounced as diphthong finals. The final *-u* is used to replace *-ŋ* after its deletion. Syllables of the Rhyme Group *Geng* are exceptions, because nasal finals change to the diphthong *ei*. E.g. (LIU Fuhua 1982):

当 ang	>	au	工 ong	>	ou
江 iang	>	au	恒 eng	>	ou
丁 ing	>	ei	永 iong	>	ei

Another similar case can be found in Sogdian literature. Nasal finals changed to diphthong finals after the loss of coda *-ŋ* in Sogdian. For example, *geng* 庚, *ding* 丁, and *bing* 丙 are pronounced as *kēy*, *tīy* and *pīy*. However, *-ŋ* in Uighur is a different case, because sometimes it was lost and sometimes it survived. This phenomenon can be illustrated by the following transcriptions from *Xuanzang Zhuan* 玄奘传 and other literature.²⁷

²⁶ Cf. CORFF 2018: 69–70.

²⁷ NIE Hongyin 1998; MASPÉRO 1920.

<i>Chinese</i>	<i>Rhyme group</i>	<i>Uighur</i>	<i>nasal coda</i>
tang 汤/唐	宕撮	to	-ø
zang 藏/奘	宕撮	tso	-ø
guang 光	宕撮	qo	-ø
ming 明	梗撮	mi	-ø
jing 敬	梗撮	ki	-ø
ding 丁	梗撮	ti	-ø
jing 经	梗撮	ki	-ø
sheng 升	曾撮	sing	-ŋ
seng 僧	曾撮	song	-ŋ
cheng 乘	曾撮	sing	-ŋ
tong 统	通撮	tung	-ŋ
cang 仓	宕撮	tsang	-ŋ

The reason for this case is that *-ŋ* existed in Uighur, but was not as commonly used as in Chinese. The change of nasal coda *-ŋ* in the Gansu Corridor dialect in the 12th c. is similar to the Japanese example. Finals of the Rhyme Groups *Geng* and *Xie* have the same spelling *ei*, because of the loss of *-ŋ*. *Dang* and *Guo* group finals have the same spelling, because *-ŋ* is replaced by the vowel *-u*.

It should be pointed out that, firstly, phonemic alternation is not random. NIE (1992) divided common consonant alternations into three levels:

The standard of the first level is the place of articulation. This is the most strict level. The phonemes from different places of articulation hardly ever replaced each other and the ancients did it only as a last resort. The standard of the second level is the tongue shape. Phonemes of different tongue shapes replaced each other with the condition of having the same place of articulation. The standard of the third level is voicing contrast and aspiration. This level is not strict. As we mentioned above, voicing contrast and aspiration are not paratactic factors in certain languages. We have to take into consideration the phonological system and then decide which one is more important.²⁸

²⁸ NIE 1992: 75.

Secondly, there are two methods to judge whether a type of sound change is historical evolution of a dialect or pronunciation change of an ethnic variant. One is to compare the differences in phonetic system between Chinese and the ethnic language, another is to analyze whether the sound change fits the rules of evolution.

Finally, when we are analyzing phonological evolution, Chinese language spoken by non-Chinese people cannot be treated as authentic Chinese and cannot be added into the sequence of Chinese phonological evolution without analysis.

The dialect of Gansu Corridor reflected in Tangut materials was called the *northwest Chinese dialect in the Song dynasty*²⁹ or the *northwest Chinese dialect in the 12th c.*³⁰ When scholars analyze this dialect, usually, some of its phonetic features are added into the Tang and Five Dynasties evolution sequence. The fact that this dialect belongs to the ethnic variant of the northwest Chinese dialect and some of its features are Tangut-Chinese was ignored. In fact, when using Tangut-Chinese transcriptional materials to research Medieval Chinese dialects, we should clarify the forms of sound change in Chinese ethnic variants which are not related to historical evolution, such as phonemic alternation, addition and deletion. Only in this way phonetic features of Middle Chinese can be accurately reconstructed.

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²⁹ LI Fanwen 1994.

³⁰ GONG Hwang-chenrg 2005a; 2005b.

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