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THE VELAR AND UVULAR CONSONANTS IN MIDDLE MONGOLIAN

0. Introduction

The history of the velar and uvular series of consonants in Mongolian is not yet clear. In his *Vergleichende Grammatik der altaischen Sprachen,*[1] Nicholas Poppe outlines the development of the Altaic voiceless velar stop **k* and voiced velar stop **g* through a split in Proto-Mongolian into the voiceless velar stop **k* and voiceless uvular stop **q* and the voiced velar stop **g* and voiced uvular stop **ɢ* (IPA small capital G)[2] respectively, with subsequent voicing of the **k* and **q* intervocalically under certain conditions and spirantization resulting in eventual loss, of **g* and **ɢ* intervocalically under certain other conditions. One of the facts that Poppe fails to explain is that, in Middle Mongolian in Arabic script, in 'Phags-pa script, and in transcription into Chinese characters, dating from the thirteenth and fourteenth centuries, the spirantization and loss of intervocalic voiced velar and uvular stops, characteristic of most modern Mongolian dialects, is a process already well underway, whereas these voiced velar and uvular stops are preserved in writing in monuments in Uigur script dating from the first quarter of the thirteenth century right up to the present time; Middle Mongolian written in all but Uigur script would thus appear to be at a more advanced stage of phonological breakdown than the Classical Mongolian of a later period.

The voiced velar and uvular stops which appear in writing in intervocalic position in Uigur script were either actually pronounced or they were not. If they were pronounced, then the monuments in Uigur script must represent a different dialect than those of the Middle Mongolian monuments in other scripts. The language of the monuments in Uigur script might be ancestral to any number of modern Mongolian dialects and the language of the monuments in other scripts might be ancestral to any number of dialects but, because of the difference in onset date of the spirantization with subsequent loss of the voiced velar and uvular stops, they cannot be ancestral to the same dialect or dialects.

It is also possible that the representation of those voiced velar and uvular stops in intervocalic position was purely a matter of orthographical convention, that they were not actually pronounced or pronounced only when reading from texts, not in the corresponding colloquial language. At the outset, written symbols would have had to represent real sounds, but the conservativeness of the writing system would have obscured many sound changes, making it almost impossible to trace the process; variant spellings representing reduced forms do occur, however, and these show that the written language was to a certain extent conventional and that it could be contaminated by the spoken language.

1 Nikolaus Poppe, *Vergleichende Grammatik der altaischen Sprachen* (Wiesbaden: Otto Harrassowitz, 1960), §§ 10–12, pp. 16–20; § 16, pp. 23–25, §§ 37–45, pp. 53–62.

2 At the risk of confusion, a special symbol *ɢ* has been chosen as the uvular counterpart of *g* rather than the IPA symbol G because capital letters are widely used in Mongolian studies and in Altaic studies for the *archiphoneme*, a cover symbol representing an alternation of sounds.
A less idiosyncratic usage would be to place a chevron (>) after *g* to indicate a retracted tongue position, as is done in current phonological literature, but this solution has been precluded by the frequent use of the symbol g, with the chevron facing in the opposite direction, to indicate a sound produced with retracted tongue position, in certain modern Mongolian dialects. The inverted apostrophe in Poppe's symbol g for this sound recalls this practice.

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1. Phonological specification of the velar and uvular series in Mongolian

As mentioned above, Poppe derives these two series in Proto-Mongolian from a single velar series in Altaic. The uvular consonants occur in the neighborhood of back vowels, the velar consonants in the neighborhood of front vowels. As he observes, pairs of sounds, one from the velar series and one from the uvular series, are not separate phonemes but allophones of a single phoneme.[3] The alternation $k \sim q$ may be represented by the archiphoneme K and the alternation $g \sim \gamma$ may be represented by the archiphoneme G.

Laying aside for the moment the question of the aptness of the terms *velar* and *uvular*, it is obvious that the alternations of these pairs of allophones is linked to vowel harmony rules. The old issue of whether the consonants are conditioned by the vowels or whether the vowels are conditioned by the consonants is irrelevant here; these alternate pairs of velar ~ uvular consonants participate in the vowel harmony process in the same way the alternating pairs of vowel allophones do. A case of true sound conditioning is when K or G occurs before the neutral (non-alternating) high front vowel /i/, where the alternation of $k \sim q$ and $g \sim \gamma$ is

3 *Op.cit.*, § 6, p. 10.

neutralized; the variants of *k* and *g* which occur in this position may range from postpalatal to palatal. The actual point of articulation for *k* and *q*, *g* and *γ* in other environments is non-significant and may vary because contrasting pairs of words involving these consonants contrast over the full range of the words, and at an abstract level[4], not by only one segment to one segment.

Phonemically speaking, these velar/uvular consonants may be a calibrated spread of sounds determined by vowel harmony and *i*-mutation rules but, in order to show the relationship between sounds and orthography, the point on the scale will have to be determined with as high a degree of accuracy as possible. Point of articulation also interacts with the other major coordinates such as source features (voicing or voicelessness) and manner of articulation features (obstruency or fricativeness) in complex ways that can obscure the original positional oppositions. The solution of the problem of the loss of voiced intervocalic velar and uvular sounds in 13th- and 14th-century Mongolian in 'Phags-pa script, Arabic script, and transcription in Chinese characters but not in the Mongolian of the same period in Uigur script requires a close study of these sounds; it may turn out that this loss is more apparent than real. While it may seem like a hopeless task to come up with precise phonetic information for sounds that were spoken and vanished over six hundred years ago, we do have concrete *viva voce* transcriptions dating from the period. We assume that those who recorded the language transcribed what they heard as best they could; it becomes, then, a matter of interpretation and reconstruction.

2. The velar and uvular consonants in Classical Mongolian

2.1 The voiceless velar stop /k/

SCHMIDT says nothing about this consonant other than the fact that it occurs only in words with front vocalism.[5] HAMBIS, calls it a voiceless

4 Two words which have exactly the same phonological shape (and which include, of course, only the neutral vowel /i/), may have two different underlying vowel harmonies. This difference will become apparent only when suffixes are added to the two words.

5 I. J. SCHMIDT, *Grammatik der mongolischen Sprache* (St. Petersburg: Buchdruckerei der Kaiserlichen Akademie der Wissenschaften, 1831), p. 9.

guttural stop, more specifically a *prepalatal* or 'weak' guttural.[6] According to POPPE, it is a strong velar plosive.[7]

2.2 The voiced velar stop /g/

This consonant is treated together with its voiceless counterpart /k/ in SCHMIDT's description. HAMBIS observes that the voiced prepalatal stop in Classical Mongolian often represents in medial position a hiatus in ancient Mongolian.[8] POPPE states that this sound is a weak velar plosive.[9]

2.3 The voiceless uvular stop /q/

According to SCHMIDT, this consonant is a fricative, the same uvular fricative [χ] represented by the spelling *ch* in German (in the words *machen*, *Sache*, and *Pracht*).[10] HAMBIS uses the general term *guttural* for this consonant and its voiced counterpart /ɣ/ as well as the velar stops /k/ and /g/, but /q/ and /ɣ/ are more specifically *postpalatals* or 'strong' gutturals.[11] POPPE states that /q/ is a deep velar consonant which "was in Ancient Mongolian a plosive but now is pronounced as a deep velar spirant corresponding . . . to *ch* in Scottish *loch*".[12] GRØNBECH and KRUEGER call this a *velar* consonant, a back *k* "which in nearly all dialects has passed into the corresponding fricative *χ*".[13]

2.4 The voiced uvular stop /ɣ/

SCHMIDT transcribes this consonant *gh* and says that it is generally pronounced like an aspirated *g*.[14] It is not clear whether this remark is to be interpreted as meaning that the consonant is a fricative, i. e. /γ/, but he does not call it a voiced form of German *ch*, as might be expected if this

6 Louis HAMBIS, *Grammaire de la langue mongole écrite* (Paris: Adrien-Maisonneuve, 1945), sound chart on p. xii; § 22, p. xvii.

7 Nicholas POPPE, *Grammar of Written Mongolian*. First published 1954 (Wiesbaden: Otto Harrassowitz, 1974), p. 14.

8 *Grammaire de la langue mongole écrite*, p. xix.

9 *Grammar of Written Mongolian*, § 52, p. 14.

10 *Grammatik der mongolischen Sprache*, § 12, p. 9.

11 *Op.cit.*, § 22, p. xvii.

12 *Op.cit.*, § 49, p. 14.

13 Kaare GRØNBECH and John R. KRUEGER, *An Introduction to Classical (Literary) Mongolian* (Wiesbaden: Otto Harrassowitz, 1955), p. 17.

14 *Op.cit.*, § 13, p. 9.

were the case. POPPE states that it is a deep velar plosive,[15] but GRØNBECH and KRUEGER believe that in Classical Mongolian this consonant was a fricative, "an open back *g*, the voiced equivalent of the *ch* in German *acht*".[16]

The remarks that HAMBIS has made about the use of the letters for voiced gutturals /g/ and /γ/ as signs for intervocalic hiatus are so insightful that they deserve particular attention. He states that "celui-ci a pu être à une période ancienne un vrai -γ-, un -β- ou un -δ- et même un vrai hiatus", and reconstructs the Middle Mongolian forms *ma*^{w}*ui* 'bad' (in Classical Mongolian *mayui*) and Middle Mongolian *qala*^{w}*un* (in Classical Mongolian written *γalayun*) as **maβui* and **γalaβun*, respectively. He gives examples, too, of words that originally had /γ/ or a true hiatus (but not for the proposed /δ/!) and concludes that "Le -γ- répresente donc à l'heure actuelle dans la langue écrite plusieurs sons qui se sont réduits soit à un -'-, soit à un véritable-γ-".[17] In other words, the letter γ in Classical Mongolian has two values: the one a spelling for an actual voiced uvular stop or fricative, the other a purely conventional sign, with no phonological value, used to mark the hiatus between vowels, and this holds true for the letter *g* as well. The groups of letters of the form -VgV- or -VγV- (where V = any vowel), now pronounced as long vowels or diphthongs, may very well have been in Written Mongolian orthographic devices for precisely that, long vowels and diphthongs, as HAMBIS implies.

2.5 Coalescence of -VCV- groups containing voiced velar and uvular consonants

The sound change of the groups -V*g*V- and -V*γ*V- in Classical Mongolian, phonetically [VgV] and [VγV] respectively, involves fricativization and then loss of the intervocalic consonants and this results in hiatus and eventual coalescence of the neighboring vowels into one long vowel. This process is generally in the last stage of development in the modern Mongolian dialects.

Examples from New Written Mongolian are particularly instructive,

15 *Op.cit.*, § 50, p. 14.
16 *An Introduction to Classical (Literary) Mongolian, loc.cit.*
17 *Op.cit.*, § 23, p. xix.

since the traditional orthography has been maintained but pronunciation rules parallel those in other modern Mongolian dialects:[18]

1) Pronunciation before change

Orth.	Primary group	Secondary group	Present pronunciation
		after:	
-aγa-	/-aga-/		/ā/
-iγa-	/-ɯga-/		
-iya-	/-ɯya-/		
-uγa-		/ʊ/ . . . /-ʊga-/	/ā/
		/a/ . . . /-ʊga-/	
-ege-	/-ege-/		/ē/
-ige-	/-ige-/		
-iye-	/-iye-/		
-üge-		/u/ . . . /-uge-/	/ē/
		/e/ . . . /-uge-/	
-igi-	/-igi-/		/ī/
-igi-	/-ɯgɯ-/		/ū/
-oγo-	/-ɔgɔ-/		/ɔ̄/
-oγa-	/-ɔga-/		
-aγa-		/ɔ/ . . . /-aga-/	/ɔ̄/
-iγa-		/ɔ/ . . . /-ɯga-/	
-iya-		/ɔ/ . . . /-ɯya-/	
-uγa-		/ɔ/ . . . /-ʊga-/	
-aγu-	/-agʊ-/		/ʊ̄/
-uγu-	/-ʊgʊ-/		
-iγu-	/-ɯgʊ-/		
-ögö-	/-ogo-/		/ō/
-öge-	/-oge-/		
-ege-		/o/ . . . /-ege-/	/ō/
-ige-		/o/ . . . /-ige-/	

18 This chart has been taken from ČENGGELTEI, *Odo üye-yin Mongγol kelen-ü ǰüi (Study of the Modern Mongolian Language)*. Third edition (Hohhot, Inner Mongolia: Öbör Mongγol-un Arad-un Keblel-ün Qoriy-a, 1981), pp. 14–16, with slight modifications in phonetic symbols: /e/ has been used for his /ə/, /ɯ/ for /ɤ/, and /ʊ/ for /ɷ/.

-iye-		/o/ . . . /-iye-/	/ō/
-üge-		/o/ . . . /-uge-/	
-egü-	/-egu-/		/ū/
-ügü-	/-ugu-/		
-igü-	/-igu-/		

The secondary groups in this schema are those which have developed differently than otherwise because they are preceded by certain vowels; they can, of course, occur only as the second and third syllables of a word or after.

This coalescence began as early as the Middle Mongolian period, at least sporadically, as attested by exceptional spellings. In Classical Mongolian the process spread, for there are numerous examples of words with -V*g*V- and -V*γ*V- groups having variant spellings, one with the intervocalic consonant, one without:

2) buγudai ~ buudai /būdai/ 'wheat'
bürkügül ~ bürkül /bürkūl/ 'cover'
čaγadu ~ čadu /čādu/ 'beyond'
doγudu ~ doudu /dōdu/ 'lower'
egedem ~ edem /ēdem/ 'dregs'
kögebür ~ köbür /kōbür / 'quagmire'
nabtaγar ~ nabtar /nabtār/ 'low'
šibegene- ~ šibene- /šibēne-/ 'whisper'
uγuta ~ uta /ūta/ 'bag'
yaγaki- ~ yaki- /yāki-/ 'how to act?'

The spellings without intervocalic -*g*- and -*γ*- might be attributed to dialect contamination, but it remains to be demonstrated that the standard language represented by written Mongolian was more conservative with respect to this sound change than the other dialects; it is more likely that they are scribal divergences from conventional orthography, divergences that reflect more accurately the spoken language.

There are in Mongolian a small number of words with intervocalic -*g*- or -*γ*- borrowed from other languages, in which the consonants -*g*- or -*γ*- can have no possible phonetic value. These are: *basang* ~ *baγasang* 'Friday' < Tib. *pa-saṅs*; *bir* ~ *bigir* 'brush' < MC 筆 **py+t* (Northern **py+r* or **py+δ*, cf. Kor. *phil*); *šimnanča* ~ *šibaγanča* 'nun' < Uig. *šmnanč*, *šimnanč* < Sogd. *šmn'nč*; *tour* ~ *toγur* 'peach' < Old Mandarin 桃兒 **t'au-γ*; *toγus* 'peacock' < Pers. *tāus*. In these words, -*g*- and -*γ*- are used in intervocalic position, apparently as part of a group of letters expressing long vowels or diphthongs.

The writing system of Classical Mongolian carries on most of the orthographic conventions of the Uigur writing system on which it was based, but as time went on and Mongolian scribes became familiar with the conventions of the Tibetan writing system through their translation from Tibetan, they began to imitate Tibetan scribal practices and adapted some of these conventions into Mongolian, especially for greater accuracy in rendering Sanskrit words. Mo. *šimnanča* is faithful to Uig. *šmnanč* or *šimanč*, but the variant *šibaγanča* reflects new influences. In Tibetan, the letter འ *'a* (or *ha*) is used at the end of syllables of the form CCV to insure correct syllabification; in this case, it has no phonological value. It is also used after vowels to indicate an extra vowel mora (i. e. a long vowel) in Sanskrit words,[19] and as the medial element between two vowels which form a diphthong.[20] It is this practice which the use of -*g*- and *γ*- in certain instances approximates. Mongolian usage differs from Tibetan usage, in the case of long vowels, in placing -*g*- or *γ*- between two vowels (as in the case of diphthongs) rather than at the close of a syllable, as in Tibetan. This may be because Mongolian translators regarded the letter *'a* (*ha*) as having its own inherent vowel in such combinations; just as the group of letters ཁཱ *kha*^{i} and ཁཱུ *kha*^{u} represent *kahi* /kai/ and *kahu* /kau/, so *kha* should represent *kaha* /kā/.[21] Once these spelling conventions are documented in dated manuscripts, it will possible to establish approximately the period when they were adopted into the Mongolian writting system.

3. The velar and uvular consonants in Middle Mongolian

Michael Weiers has described in detail the values of these sounds at different stages of their development in Middle Mongolian and early Classical Mongolian in his meticulous study on the grammar of Middle

19 Herbert Bruce Hannah, *A Grammar of the Tibetan Language*. First edition, 1912. Reprint (Delhi: Motilal Banarsidass, 1978), p. 3.

20 I. J. Schmidt, *Grammatik der tibetischen Sprache* (St. Petersburg: Kaiserliche Akademie der Wissenschaften, 1839), p. 9.

21 The presence of intervocalic -γ- in the variant *baγasang* < Tib. *pa-saṅs* cannot be accounted for unless we know that in preclassical Tibetan *'a* (*ha*) was as a rule written when the syllable ended in a vowel, even when that vowel was not long (Schmidt, *Grammatik der tibetischen Sprache, loc.cit.*).

Mongolian.[22] He divides the sources into two provenances, East and West, the former including Mongolia, Turfan, and China, the latter including the realm of the Il Khans and territory of the Kipchaks. He divides the monuments of Eastern provenance into four periods and those of Western provenance into two periods:

East
1. Oldest period: 1227–1257 (Uigur script)
2. First stage of development: *Secret History*, ca. 1228–1264 and *Hua-yi Yi-yü*, 1389 (Transcription in Chinese characters)
3. Second stage of development: 1276–1365 and later ('Phags-pa script)
4. 14th century (Uigur script)

West
1. 13th/14th centuries: *Muqaddimat al-'Adab* (Arabic script)
2. 13th/14th centuries (Uigur script)

These comprise what WEIERS calls the *first period*. The *second period* consists of the 15th–17th centuries, and he documents the development of the velars and uvulars through this period as well. Because of the contrast in scribal conventions for Uigur script, on the one hand, and for the other writing systems, on the other, the difference between scripts is often of greater apparent significance than that between periods.

3.1 The velar stops /k/ and /g/

The voiceless and voiced velar stops will be treated together because of the interchange of voiced and voiceless values in Middle Mongolian. Sporadically, the voiced velar stop is substituted for its voiceless counterpart in certain word in initial and medial positions.[23] There must be certain conditioning factors, as yet unexplained, for these alternations, but a more vexing problem is the systematic usage of Chinese characters with voiceless velar initials to transcribe syllables in Mongolian beginning with voiced velar stops. On the surface, this is no problem at all, it is merely the substitution of Chinese aspirated voiceless stops for Mongolian fortis (voiceless) stops and Chinese plain voiceless stops for Mongolian lenis (voiced) stops but, in order to determine more precisely the phonological values of sounds in Middle Mongolian, the Chinese characters of the period must first be reconstructed as accurately as possible, and one of the

22 Michael WEIERS, *Untersuchungen zu einer historischen Grammatik des präklassischen Schriftmongolisch* (Wiesbaden: Otto Harrassowitz, 1969), pp. 17–45.

23 WEIERS documents these instances in the foregoing work, pp. 37–43.

important factors that must be taken into account in this reconstruction is the transcriptional values these characters have for Mongolian.

Unfortunately, there is little evidence outside of the corpus transcribed in Chinese characters to confirm voiced and voiceless values for the velar series in Middle Mongolian. In Uigur script, no distinction is made between ***k*** and ***g***. In the monuments in Arabic script, the situation is not much better; the letter ك *kāf* /k/, a voiceless postpalatal (or velar) occlusive,[24] is used in Zamaḫsarī's *Muqaddimat al-'Adab* and in the Leiden manuscript to transcribe both /k/ and /g/ in Middle Mongolian, but Ibn al-Muhannā distinguishes the voiced stop from the voiceless stop by placing three inverted dots under the *kāf*, thus ڭ, to indicate the former.[25] It is only in 'Phags-pa script that voiced and voiceless velar stops are clearly differentiated by letters of individual form: the letter  *k'* represents the aspirated fortis (voiceless) velar stop /k'/ and the letter  ***g*** represents the lenis (voiced) velar stop /g/.[26] Because the 'Phags-pa alphabet is based on the Tibetan alphabet with known phonological values, the same values that obtained for the Tibetan of the mid-13th century may be assumed to apply to the 'Phags-pa alphabet. This, is turn, will help in determining the sound system of Mongolian of the same period.

In the *Meng-ku Tzu-yün*, a rhyme dictionary dating from 1308,[27] all Chinese characters are provided with a pronunciation key in the form of a transcription into 'Phags-pa script at the head of each column of Chinese characters. In the introduction to this dictionary, the letters of the 'Phags-pa alphabet are given together with their equivalent initials from traditional Chinese rhyme tables. The letters for the obstruents of the velar series, together with their equivalent values in Tibetan and the corresponding initials in Chinese,[28] are:

24 Henri FLEISCH, *L'arabe classique* (Beyrouth: Dar El-Machreq Éditeurs, 1968), p. 19.

25 Examples are كوكه kᵘkᵃ' /göge/ 'blue; heaven'; كمدرك kᵘmdᵘrk /gömdürük/ 'breast strap'; كر kr /ger/ 'house'. Cited in Nicholas POPPE, "Das mongolische Sprachmaterial einer Leidener Handschrift", first published 1927. In POPPE, *Mongolica* (Westmead: Gregg International Publishers, 1972), pp. 67–69.

26 Nicholas POPPE, *The Mongolian Monuments in ḥP'ags-pa Script* (Wiesbaden: Otto Harrassowitz, 1957), pp. 19; 22.

27 Kansai Daigaku Tōzai Gakujutsu Kenkyūjo, *Eiin Daiei Hakubutsukan zō Kyūshōhon Mōkojiin* 影印大英博物館藏舊鈔本蒙古字韻 (Osaka: Kansai University, 1956).

28 The values for the initials in Chinese were established by KARLGREN and have been generally followed by other scholars. For details, see Bernhard KARLGREN, *Compendium of Phonetics in Ancient and Archaic Chinese* (Göteborg: Elanders Boktryckeri Aktiebolag, 1970), especially pp. 218–230.

3) 'Phags-pa	ཀ	ཁ	ག
Tibetan equivalent value	k	k'	g
Chinese initial	群	溪	見
value	g-	k'-	k-

What is immediately notable is the mirror-image effect between the values for the 'Phags-pa script and those for the initials in Chinese: the positions of *k* and *g* are reversed. In the introduction, the letters of the 'Phags-pa alphabet are given in precisely this order, which is the same order as that of the Tibetan alphabet, but this causes an interchange in position between the initials **見** *kien-mu* /k-/ and **群** *ch'ün-mu* (in the *Ch'ieh-yün*, **郡** *chün-mu*) /g-/, which are traditionally given in the order **見** /k-/, **溪** /k'-/, **郡** /g-/, also the same order of values as in Tibetan. In the body of the dictionary, however, the order of the initials of Chinese rhyme tables is restored but there the positions of 'Phags-pa ***k*** and ***g*** have been interchanged. This apparent inversion of values for unaspirated voiceless stops and voiced stops in Chinese extends as well to the other obstruent series and to the affricate series.

If the 'Phags-pa readings for Chinese characters in the *Meng-ku Tzu-yün* are compared with reconstructed readings from another rhyme dictionary of the period, the *Chung-yüan Yin-yün*, dating from 1324, and their equivalent transcriptional values for the Mongolian of the *Secret History of the Mongols,*[29] evidence for this inversion of values will be clear:

4)	**見**	**溪**	**群**	
	k	k'	g	
	ག	ཁ	ཀ	
	g	kh	k	
	汲	**乞**	**劇**	
MKTY	gi?	k'i?	ki?	
CYYY	ki+?	k'i+?	(ki+?)	MC kĥiæk
SH	gi	ki	–	
	鬼	**魁**	**逵**	
MKTY	guè	k'uē	kuē	
CYYY	ku+ì	k'u+ī	k'u+ī	MC kĥyu+ī
SH	gui	kui	–	

29 The values given by Erich HAENISCH in his *Untersuchungen über das Yüan-ch'ao Pi-shi* (= *Abhandlungen der Philologisch-Historischen Klasse der Sächsischen Akademie der Wissenschaften, XLI Band, Nr. IV* (Leipzig: Verlag von S. Hirzel, 1931), pp. 76–78; *Wörterbuch zu Manghol un Niuca Tobca'an* (Wiesbaden: Franz Steiner Verlag GmbH, 1962), pp. 185–87.

	古	**窟**	
MKTY	gú	k'u?	–
CYYY	kù+	k'u+?	–
SH	gu	ku	
	見	**溪**	**群**
	k	k'	g
	ག	ཁ	ཀ
	g	kh	k
	該	**凱**	
MKTY	gāi	k'ài	–
CYYY	kōi	k'òi	–
SH	gai	kai	–
	格	**客**	
MKTY	giai?	k'iai?	–
CYYY	kai?	k'ai?	–
SH	ge	ke	–

What is of particular interest here is that the initials of Chinese characters spelled with a voiced velar stop in the *Meng-ku Tzu-yün* have the same value when used for transcribing the Mongolian of the *Secret History*; this differs from the value the initials of these characters have in the reconstructed Old Mandarin of the *Chung-yüan Yin-yün*.

If the dialect of the *Meng-ku Tzu-yün* really did possess voiced velar obstruent initials, why are these not grouped under the **群** *ch'ün-mu* initial? If the **群** *ch'ün-mu* initial was in Middle Chinese a voiced velar stop, why were characters with this initial not used to transcribe syllables in Mongolian beginning with this sound?

It may be observed from the data that no examples of characters occur under the initial **群** *ch'ün-mu* in several of the rhyme groups; this is typical of the entire *Meng-ku Tzu-yün*. The unavailability of characters with a voiced velar obstruent initial in certain rhyme groups might necessitate the use of a character with a less appropriate unaspirated voiceless velar obstruent initial but with a final closely matching the coda of a syllable in Mongolian. This appears not to be the real reason, however, why characters with **群** *ch'ün-mu* initial were not used to transcribe syllables in Mongolian beginning with /g-/, for it may also be observed from the data that the character **逵**, transcribed *kūē* in 'Phags-pa script, is reconstructed *k'u+ī*, with a voiceless aspirated initial, for the language of the *Chung-yüan Yin-yün*. This is corroborated by further evidence:

ASIO ORIENTA

5)

	見	溪	群
	k	k'	g
	ཀ	ཁ	ག
	g	kh	k
	斤		勤
MKTY	gīn	–	kīn
CYYY	kī+n	–	k'í+n
SH	gin	–	kin
	揈	銜	虔
MKTY	gēn	k'ēn	kēn
CYYY	–	–	k'ián
SH	–	–	ken
	金	欽	琴
MKTY	gīm	k'īm	kim
CYYY	kī+m	k'ī+m	k'í+m
SH	–	kin	kin

In every case, words which in the *Ch'ieh-yün* had the 郡 *chün-mu* initial, or the voiced velar stop /g-/, in the language of the *Chun-yüan Yin-yün* now have the aspirated voiceless velar stop /k'/.

KARLGREN outlines this change from Middle Chinese to Old Mandarin. According to his reconstruction, the voiced stops of Middle Chinese were 'aspirated'. Prior to the Old Mandarin period the voiced stops preserved this aspiration in words with *p'ing sheng* (level tone) but lost the aspiration in words with other tones. Following this, all voiced stops were devoiced.[30] This sound change had already taken place by the early part of the 13th century in the Chinese dialect of the *Secret History*, for characters with 群 *ch'ün-mu* initial in the *Meng-ku Tzu-yün* are used to spell syllables in Mongolian with a voiceless velar stop, and we know from the Mongolian written in 'Phags-pa script that this voiceless velar stop was aspirated. What the actual value of this initial was in the *Meng-ku Tzu-yün*, however, depends upon the interpretation of the 'Phags-pa script used as a pronunciation guide for Chinese characters.

In Mongolian, there is only a two-way opposition between stops, fortis : lenis or voiceless : voiced. In both Chinese and Tibetan there was originally an three-way opposition between stops, voiceless : voiced and, for the voiceless stops, plain (unaspirated) : aspirated, but this does not mean that the three-way sound system of Chinese and Tibetan were at parallel stages of development at the period during which these transcriptions

30 Bernhard KARLGREN, *Études sur la phonologie chinoise* (Leyden: E. J. Brill, 1915–1926), p. 359; *Compendium of Phonetics in Ancient and Archaic Chinese*, p. 221.

were made; there is evidence that Tibetan evolved more slowly than Chinese.

To the ears of 'Phags-pa *bla-ma*, the fortis stops of Mongolian sounded like the voiceless aspirated stops of Tibetan, and the lenis stops of Mongolian sounded like the voiced stops of Tibetan; to the ears of the Chinese scribes who transcribed the Mongolian of the *Secret History* and the *Hua-yi Yi-yü*, the fortis stops of Mongolian sounded like the aspirated voiceless stops of Chinese and the lenis stops of Mongolian sounded like the plain voiceless stops of Chinese. A third possibility exists if we postulate that the Chinese dialect of the *Secret History* was the same as that of the *Meng-ku Tzu-yün*, and that is that the fortis stops of Mongolian could also sound like the third order of sounds, whatever their exact phonetic value, that developed from the Middle Chinese voiced plosive initials; it is assumed, from the very nature of the work itself, that there was a real phonetic difference between this third order and the other two in the *Meng-ku Tzu-yün* and that it was not simply a duplicate of the voiceless aspirated order. The problem at this point is not so much in establishing the sound values for Middle Mongolian in transcription as in interpreting the exact values of the 'Phags-pa letters in the *Meng-ku Tzu-yün*.

The plain (unaspirated) voiceless stops in Tibetan are termed *masculine* sounds and are said to be pronounced with a certain 'compactness' and 'emphasis'.[31] They have also been described as *voiceless mediae*, "eine Spur weniger stark als etwa die der stimmlosen unaspirierten Verschlußlaute im Französischen", and transcribed /b̥/, /d̥/, /dz̥/, /dʒ̥/, and /g̊/.[32] The use of the word 'emphasis' to describe these sounds recalls the *emphatic* or fortis unaspirated stops of Korean, which are produced with tense voice and a slight lag in voicing.[33] The lag in voicing is possibly what is meant by the description of these sounds as *mediae*.

The voiced stops in Tibetan are termed *feminine*, and they are described as being produced with lax vocal organs, with a soft articulation; the primary difference between these sounds and the unaspirated voiceless stops is that the unaspirated voiceless stops are followed by a high tone (in present-day Tibetan), whereas the voiced stops are followed by a low tone. Without this tonal distinction, *g* sounds like *k*.[34] This description

31 HANNAH, *A Grammar of the Tibetan Language*, pp. 39–41.

32 Michael HAHN, *Lehrbuch der klassischen tibetischen Schriftsprache* (Bonn: Michael Hahn, 1981), p. 3.

33 Peter LADEFOGED, *Preliminaries to Linguistic Phonetics* (Chicago: The University of Chicago Press, 1971), pp. 20–21; 24–25.

34 HANNAH, *op.cit.*, pp. 1–2; 40; Hahn, *loc.cit.*

might be either of stops with *lax voice* (in LADEFOGED's terms) or of *murmured* stops. The former have no special phonetic symbol, but are written as simple voiceless stops; the latter, which are characterized by *breathy phonation*, are common in various languages of India, and may be written as voiced consonants with a diaeresis below or above the symbol: /b̤/, /d̤/, /j̈/, or /g̈/.[35] A possible notation for *lax* stops would be to use this same diaeresis as a diacritic mark on the symbols for voiceless stops to distinguish them from simple voiceless stops. Since murmured stops and lax voiced stops are contiguous on the scale proposed by LADEFOGED, this device would serve to point up their similarity. The phonetic interpretation of the Tibetan velar stops then would be:

6) transcription	***k***	***kh***	***g***
value	g	k'	g̈
			(k̤)

According to PULLEYBLANK, the development of the velar series of stops from Early Middle Chinese to Late Middle Chinese is:

7) Early Middle Chinese	k	k'	g
Late Middle Chinese	k	k'	kɦ

Here the symbol /kɦ/ represents a voiced 'aspirate',[36] but, as LADEFOGED points out, the intersection of voicing with aspiration is an articulatory impossibility; this might, however, be a voiced stop with breathy phonation, the same murmured stop that occurs in Tibetan.

If the reconstructed values for the velar obstruent initials in Late Middle Chinese (with the one modification just mentioned) are matched with the revised phonetic values of the corresponding 'Phags-pa letters, the margin of difference between them narrows:

8) initials in LMC	見	溪	群
value	k	k'	g̈
'Phags-pa equivalents	ꡂ	ꡃ	ꡄ
value	g̈	k'	g̊
	(k̤)		

The existence of three distinct orders of occlusive initials in each series in the *Meng-ku Tzu-yün* places this work in the Late Middle Chinese period rather than the Old Mandarin period, but this evidence alone does not

35 LADEFOGED, *Preliminaries to Linguistic Phonetics*, pp. 12–13.

36 Edwin G. PULLEYBLANK, "Stages in the transcription of Indian words in Chinese from Han to Tang", in: Klaus RÖHRBORN and Wolfgang VEENKER, *Sprachen des Buddhismus in Zentralasien* (Wiesbaden: Otto Harrassowitz, 1983), pp. 90; 96.

establish what dialect it is; the restitution of a third order of velar stops in the *Meng-ku Tzu-yün* adds little information to what we know about the sound system of Middle Mongolian but it does seem to indicate, because there is no distinction in the way Chinese characters with 群 *ch'ün-mu* initial and 溪 *ch'i-mu* initial are used to transcribe Mongolian in the *Secret History*, that the Chinese dialect of this monument is less conservative than that of the *Meng-ku Tzu-yün* in this respect, despite its presumed earlier date.

3.2 The uvular stops /q/ and / /

In Uigur script the voiced uvular stop may be distinguished from its voiceless counterpart by the placement of two diacritic points next to the letter for the voiceless stop, but in the earliest period these points are seldom used on letters in initial position and only slightly more frequently in medial position; as time goes on, use of the points grows more frequent.[37] The infrequency of the diacritic points in the earliest period is probably due to the fact that in Uigur, the same letter with points and without points has opposite values than in Mongolian: ***q*** = /ɣ/ and ***q̈*** = /q/;[38] after the adoption of Uigur script for written Mongolian, there would have been a period of adjustment during which there were uncertainties in usage before orthographic conventions were determined.

In Arabic script, both the voiceless and voiced uvular obstruents are rendered regularly by Arabic ق *qāf* /q/, a voiceless velar obstruent;[39] this consonant may be considered the *emphatic* or velarized counterpart of the velar stop /k/.[40] The voiceless uvular stop of Mongolian is also written sometimes with Arabic خ *xā* /x/, a voiceless velar fricative, and the voiced uvular stop of Mongolian is written with غ *ġayn* /ɣ/, a voiced velar fricative.[41] Both of these fricative consonants are characterized by the same emphatic quality of the other emphatic consonants, presumably because of the concomitant velarization involved in their production, and both have a spirant *r*-like coloration. The voiceless velar fricative is pro-

37 WEIERS, *op.cit.*, pp. 24–27.

38 Anne-Marie VON GABAIN, *Alttürkisch Grammatik* (Wiesbaden: Otto Harrassowitz, 1974), p. 17.

39 Or 'uvulovelar' obstruent. The Arabic grammarian Sībawayhi mentions a voiced allophone of *qāf* (FLEISCH, *op.cit.*, pp. 18, remark; table on p. 19).

40 Antonio ARYDA, *Institutiones Grammaticae Arabicae* (Vienna: Typis Joannis Bartholoaei Zweck, 1831), p. 4.

41 FLEISCH, *op.cit.*, p. 19.

nounced like Greek χ or German *ach-Laut*,[42] and the voiced velar fricative is its voiced counterpart.[43] The use of Arabic velar fricatives to transcribe Mongolian uvular stops anticipates the changes these uvular stops undergo in the modern Mongolian dialects, the voiceless stop in all positions, the voiced stop in medial position.

In 'Phags-pa script, there is also a conflation of voiceless and voiced uvular stops, both of which are written with the letter ᠺ ***q***, a voiceless uvular stop.[44] In two Mongolian words, only in medial position and only after *-r-*, is the voiced velar stop written with a distinct letter, ᠻ γ, a voiced uvular fricative[45]. The Tibetan letter ཀ ***k*** served as the model for both the 'Phags-pa letter ᠺ ***q*** and the 'Phags-pa letter ᠺ ***k***, the latter with certain modifications; there are no uvular stops in Tibetan. The letter ᠻ γ is an innovation; the fact that the Tibetan letter ག ***g*** was not adopted for this sound indicates that ᠻ represents a fricative. The absence of a voiced counterpart to ***q*** in the 'Phags-pa script does not imply that 'Phags-pa *bla-ma* intended the fricative ᠻ γ to be used in initial position as well as medial position, it simply suggests that he could not distinguish between voiceless and voiced uvular stops in Mongolian. It is curious that after he went to the trouble to invent this letter, it was used so seldom; probably the scribes who wrote in the 'Phags-pa script were even less able to distinguish differences in the uvular consonants.

In Middle Mongolian written in Chinese characters, there is a similar conflation of voiced and voiceless uvular consonants. The initials of the

42 "Ċ Pronunciatur uti χ Graecum, seu potius veluti germanicum *ch* vocalem *a* subsequens; tamen adhuc majori cum vehementia, elicito ejus sono a media gutturis parte, cum uvae faucium tremulatione, ut appareat quasi cum litera *r* simul commixta" (Aryda, *Institutiones Grammaticae Arabicae*, p. 9).

43 "Ġ Est emphatica, proprie contraposita literae latinae *g* conjunctae cum *a*, *o*, *u*, quam Germani qua talem ubique pronunciant; haec enim latina pronunciatur ab initio palati, deprimendo vocis sonum in prima oris parte; illa verô pronuncianda ab initiali gutturis parte, ampliando, uti caeteris emphaticis, vocis tonum in infima oris parte, ut quasi appareat, esse illi immixtam literam *r* blaesam, quae tamen minime sentiri debet" (Aryda, *op.cit.*, p. 10).

44 Or, according to Poppe, a "deep velar stop" (*The Mongolian Monuments in ḥP'ags-pa Script*, p. 22).

45 Again, according to Poppe, a "deep velar" sound. If a new manner of articulation opposition *obstruent : fricative* has been introduced into the sound system of Mongolian at this period, then the old point of articulation opposition *velar : uvular* need not have been maintained for the voiced uvular stop in mid position, and so this consonant was probably exactly equivalent to the Arabic voiced velar fricative *ġayn*.
The two words written with this letter *γ* are *purγan* 'Buddha' and *supurγan 'stūpa'* (Poppe, *loc.cit.*).

Chinese characters used to transcribe these sounds are written in the *Meng-ku Tzu-yün* either with the letter ᠻ γ or another letter ᠬ which has generally been assigned the value /h/[46] on the basis of the way the corresponding letter in Tibetan is transcribed. The sound of Tibetan ཧ, however, is sharper and more foreceful than /h/;[47] while not necessarily a velar fricative in 13th-century Tibetan, it may have been close enough to /x/ to use the corresponding letter in 'Phags-pa script to transcribe this sound in Chinese and Mongolian. In the introduction to the *Meng-ku Tzu-yün*, the 'Phags-pa letter ᠬ is equated with the initial 曉 *hsiao-mu*, which Karlgren reconstructs for Middle Chinese as /x/, and the 'Phags-pa letter ᠻ is equated with the initial 匣 *hsia-mu*, which Karlgren reconstructs for Middle Chinese as /γ/.[48] The letter ᠬ in the *Meng-ku Tzu-yün*, then, may be assigned the value /x/.

In the *Chung-yüan Yin-yün*, the initials 曉 *hsiao-mu* /x/ and 匣 *hsia-mu* /γ/ have merged in a single initial which Stimson has reconstructed as /h/; this sound change may be considered characteristic of the Old Mandarin period. The initials of the Chinese characters that are spelled with the letter ᠬ /x/ in the *Meng-ku Tzu-yün* Haenisch has transcribed with /h/, but this is based on modern readings. Characters with 曉 *hsiao-mu* /x/ and 匣 *hsia-mu* /γ/ are used in initial position in the transcription of a group of words in the *Secret History* and the *Hua-yi Yi-yü* which have an initial derived from Proto-Altaic **p-*, now lost in most modern Mongolian dialects; Pelliot wrote this sound as *h-* in his transcription of the *Secret History*[49] and he reconstructed it as /h/ for Middle Mongolian, but several of the dialects which have retained a reflex of Proto-Altaic **p-*, including Monguor, Shiringol, and Dagur, have initial /x/ rather than /h/ either in all cases or before most vowels. This initial was probably /x/ rather than /h/ in the dialect of the *Secret History*.

In the 古今韻會舉要 *Ku-chin Yün-hui Chü-yao*, a rhyme dictionary

46 Thus Poppe, *loc.cit.* Other authors who have proposed the same value for this letter are: A. Dragunov, "The *h*Phags-pa script and Ancient Mandarin", *Izvestiya Nauk Akademii Nauk SSSR*, 1930, L. Ligeti, "Le *Po kia sing* en écriture 'phags-pa", *Acta Orientalia Scientiarum Hungaricae*, 1956, and Gerard Clauson "The hP'ags-pa alphabet", *Bulletin of the School of Oriental and African Studies*, 1959.

47 Schmidt says it is "das hartaspirierte *h*" (*Grammatik der tibetischen Sprache*, p. 11); Csoma de Körös, too, calls it a "hard aspirated *h*" (Alexander Csoma de Körös, *Grammar of the Tibetan Language*. First published 1834. Reprint. Budapest: Akadémiai Kiadó, 1984, p. 6); Hannah says it is "well aspirated" (*op.cit.*, p. 3).

48 Karlgren, *Compendium of Phonetics in Ancient and Archaic Chinese*, pp. 219; 226–27; 230.

49 Paul Pelliot, *Histoire secrète des Mongols* (Paris: Adrien Maisonneuve, 1949).

based upon an earlier dictionary called the 古今韻會 *Ku-chin Yün-hui*, compiled in 1332 by Huang Kung-shao but now lost, there is another initial, 合 *ho-mu*, in the same series. The *Meng-ku Tzu-yün* was supposedly based upon the *Ku-chin Yün-hui*,[50] but the characters grouped under 匣 *hsia-mu* /ɣ/ in the *Ku-chin Yün-hui Chü-yao* are spelled with either ᠺ /ɣ/ in the *Meng-ku Tzu-yün* or with another letter ᠣ which, judging from its form, must be the voiced counterpart of the voiceless glottal fricative, or /ɦ̂/; and the characters grouped under the third initial, 合 *ho-mu*, are spelled with the letter ᠺ /ɣ/ in the *Meng-ku Tzu-yün*:

9) *Ku-chin Yün-hui Chü-yao* 匣 *hsia-mu* 合 *ho-mu*

Meng-ku Tzu-yün ᠣ /ɦ̂/ ᠺ /ɣ/ ᠺ /ɣ/

The change attested by the introduction of a new initial in the *Ku-chin Yün-hui Chü-yao* and the *Meng-ku Tzu-yün* and by another letter in the *Meng-ku Tzu-yün* is the same as that which has taken place in the Shanghai dialect, where Middle Chinese /ɣ/ has become /ɦ̂/.[51]

We would expect the value of 匣 *hsia-mu* to be /ɣ/, the same as in the *Ch'ieh-yün* but, apparently the original initial was retained for the majority of characters even though the initial of those characters had already undergone the change of /ɣ/ > /ɦ̂/ (which took place as a rule before yod /i̯/), and the new initial was used for the residue that hat not yet undergone the change. This leaves us with the values /ɦ̂/ for 匣 *hsia-mu* and /ɣ/ for 合 *ho-mu*. Characters spelled with initial ᠣ /ɦ̂/ in the *Meng-ku Tzu-yün* were not used to transcribe Mongolian.

The place of articulation for the initials 曉 *hsiao-mu* /x/ and 匣 *hsia-mu* /ɣ/ might have been either velar or uvular.[52] The diacritic mark (in form of a small character 中 *chung* 'middle') placed to the left of characters with these initials when they are meant to transcribe Mongolian uvular consonants might be interpreted as indicating a change in place of articulation from velar to uvular, but it is more likely it is meant to indicate an obstruent consonant rather than a fricative one. This would bring the

50 Miyoko NAKANO, *A Phonological Study in the 'Phags-pa Script and the Meng-ku Tzu-yün* (Canberra: Australian National University Press, 1971), p. 82.

51 KARLGREN, *Compendium* pp. 226–27.

52 KARLGREN calls them simply by the cover term 'guttural' (*Études sur la phonologie chinoise*, 380–84; *Compendium*, p. 227); PULLEYBLANK says they are 'laryngals' ("Stages in the transcription of Indian words in Chinese from Han to Tang", "91).

Chinese transcriptions of Middle Mongolian more in line with the renderings in other script systems.

4. Loss of the voiced velar and uvular stops in medial position

Fricativization of intervocalic voiced velar and uvular stops with resultant loss of the consonant and coalescence of the neighboring vowels into one long vowel in the modern Mongolian dialects is the rule. WEIERS breaks down this process into four stages and charts the stages for the Middle Mongolian period in Chinese transcription, 'Phags-pa script, Arabic script, and Uigur script, and for the 15th–18th centuries in Uigur script. The four stages are: 1) retention; 2) dissimilation; 3) elision; and 4) contraction. By *dissimilation* WEIERS means the change of /g/ and /ɣ/ to /y/ after a high front unrounded vowel and to /w/ after a high rounded vowel; by *elision* he means the loss of the intervocalic consonant, generally indicated in the literature by a mark of elision (’); by *contraction* he means the coalescence of the two vowels.

Aside from the scattered examples of dissimilation and contraction in the Mongolian monuments is Chinese transcription and in Arabic script, the predominant pattern that emerges is elision (in Chinese transcription, 'Phags-pa script, and Arabic script) or retention (in Uigur script)[53]:

10) Group	Chin.	'Phags.	Arab.	Uig.	15th–18th cent.
aɣa	a'a	a'a	a'a	aqa	aqa
					aɣa
ege	e'e	e'e	e'e	ege	ege
igi	igi		ī	igi	igi
	iyi				
uɣu	u'u	u'u	u'u	uqu	uqu
					uɣu
ügü	u'u	u'u	u'u	ügü	ügü

As mentioned above, the spellings in Uigur script are possibly only a convention for representing long vowels; on the other hand, the mark of elision used presently in transcribing the Mongolian written in other writing systems might also be a convention which obscures some real phonological presence.

In Arabic script, elision may be said to occur when two vowels follow in sequence; there is no overt marker between them. The first vowel may be one of the three *ḥarakāt* or *matres lectionis*, superscript or subscript vowel

53 WEIERS, *op.cit.*, pp. 22–23.

signs, or it may be one of the three consonant symbols *'alif* /'/, *wāw* /w/, or *yā* /y/ used for vowels, but the second vowel is always represented by one of these true consonant symbols. If the two vowels in sequence form a falling diphthong, the slight transitional gesture of the articulatory organs between the vowels may be said possibly to constitute the point of elision, but this is not of enough consequence to justify writing a mark of elision here.

In the 'Phags-pa script, the vowels are subscript symbols that must be attached to a consonant letter; if no vowel symbols are attached, the consonant letter in fact constitutes a syllable with the inherent vowel *a*. When a vowel occurs in word-initial position, it must have a graphic support; for this purpose a special letter is used at the head of the word, like Arabic *'alif*, the Semitic phonological zero (∅). This symbol is not used in the interior of a word; when two vowels in sequence occur in medial position and "do not constitute a diphthong", another symbol is used which POPPE transcribes by a point raised above the line (˙).[54] It has been suggested that this symbol ꡂ, derived from the Tibetan letter ཨ, is a glottal stop, but POPPE denies the existence of a glotal stop in Tibetan or Mongolian. Written between two vowels of the same value, it forms part of a group representing a long vowel; it may even be used before a single vowel to indicate a long vowel.[55] In fact it is impossible to write *a* + *a* without using the letter ꡂ, for it carries the value of the second *a*, and it is orthographically impermissable to write a sequence of any two vowels without using this letter between them, for the joining of two vowel symbols in sequence constitutes a ligature which may signify a different vowel (e. g. *e* + *o* = *ö*, *e* + *u* = *ü*). The equivalent letter in the Tibetan alphabet is said to represent a *spiritus lenis*[56] and, judging from the way in which it is used, this is an accurate description of the 'Phags-pa letter in most positions.

Apart from a handful of exceptions, the Chinese characters that occupy an analogous position in transcribing Mongolian have the initial 影 *ying-mu*; KARLGREN reconstructs this as a glottal stop or *Knacklaut*. In the modern Chinese dialects, there is no reflex of this sound, but KARLGREN needs to reconstruct some *voiceless* consonant in this position to account for the tonal distributions in modern Chinese from the Middle Chinese

54 POPPE, Mongolian Monuments, § 28, p. 23.
55 POPPE, *op.cit.*, p. 23.
56 HANNAH, *Grammar of the Tibetan Language*, p. 3.

p'ing sheng group.[57] These characters in the *Meng-ku Tzu-yün* are classified under the same initial 影 *ying-mu* and are spelled with the letter ꡂ. At the opposite end of the glottal stricture scale from the glottal stop is a sound produced with the glottis wide open; any consonant produced with the glottis in this state will be voiceless. Simply releasing the air with the glottis wide open and with no other articulatory activity will produce a voiceless glottal fricative /h/. From the point of view of naturalness and universality, it would be odd if neither Old Chinese nor Middle Chinese possessed an /h/ when the sound occurs so freely in the modern dialects. In intervocalic position /h/ tends to become voiced /ɦ/, and this would be phonetically close to the weakened /γ/ or /ɣ/ sound it was meant to transcribe in Mongolian. The initials 曉 *hsiao-mu* /x/ and 匣 *hsia-mu* /ɣ/ without the diacritic 中 *chung* occur in the initial position of Mongolian words to transcribe the /x-/ from Proto-Altaic **p-* but they do not occur without the diacritic in medial position; they were not used to transcribe weak /γ/ or /ɣ/ presumably because their sound was too strongly fricative. With the diacritic 中 *chung*, these characters were used medially to transcribe ***q*** (phonetically /q/ or /x/) or the **γ** (phonetically /g/ or /γ/) which was retained in medial position in the modern Mongolian dialects.

5. Conclusion

A detailed account of the origin and development of the Uigur alphabet and the orthographical conventions of the alphabet as used for Uigur, Mongolian, and Manchu, remains to be written. The introduction of Islam into Eastern Turkestan, beginning with the conversion of Satuq Bughra Khan, ruler of the Western Qarakhanid state at Kashgar, by tradition in 960,[58] and the Qarakhanid conquest of Khotan, around 1006 or 1008,[59] would eventually lead to the displacement of Uigur script by Arabic script for writing the Uigur language, but the traditional script gave ground very slowly; throughout the period from the 10th–13th centuries, Uigur script flourished, and even in the 14th and 15th centuries was still being used

57 *Compendium*, p. 228.
58 W. BARTHOLD, *Histoire des turcs d'Asie Centrale* (Paris: Adrien-Maisonneuve, 1945), pp. 62; 64.
59 William SAMOLIN, *East Turkestan to the Twelfth Century* (The Hague: Mouton, 1964), p. 81.

fairly frequently for Turkic languages,[60] not only for Uigur but for Chagatay.[61]

At the other end of the cultural continuum in which the Uigur script prevailed, written Manchu persisted as the official language of the Ch'ing Dynasty up until the end. At present there is a population of some 4,300,000 Manchus in China, but they are completely Sinicized and the Manchu language as such may be considered moribund or dead.[62] A large community of Sibo (or Xibo), a people ethnically close to the Manchu, live in the Ili valley on the western border of Sinjiang Province; these people, descendants of frontier guards who were stationed there in 1764, reportedly still speak and write a dialect of Manchu,[63] possibly an archaic form of the language, but it is not known if they have preserved the Manchu writing system.

It is in the heart of this area, in Inner Mongolia, that the Uigur script is still alive, and many of the orthographical conventions that are followed in the modern written language are presumably the same that pertained in the Preclassical and Classical periods; thus, intervocalic *-g-* and *-γ-* in the older language would have functioned either as a full consonant or as a coupler (equivalent to phonological zero, ∅) for two successive vowels, as in the modern language. The current pronunciation of words in Modern Written Mongolian, in comparison with the other modern Mongolian dialects, may serve as a guideline for the reading of Classical Mongolian.

The adoption of the Uigur alphabet by the Mongols took place after the

60 Marcel Cohen, *La grande invention de l'écriture et son évolution* (Paris: Imprimerie Nationale, 1958), p. 171.

61 Manuel Aguirre, *La escritura en el Mundo* (Madrid: Libreria Reliex, 1961), p. 302. Aguirre, following M. A. Ščerbak, calls this latter language 'Old Üzbek', but in Ščerbak's usage, 'Old Üzbek' is a general term for the language ancestral to modern Üzbek from the 10th to 18th centuries; 'Chagatay' he reserves for the period from the 14th to the 17th centuries (János Eckmann, *Chagatay Manual*. The Hague: Mouton & Co., 1966, p. 8).

62 Denis Sinor, *Inner Asia* (The Hague: Mouton & Co., 1969), p. 49; S. Robert Ramsey, *The Languages of China* (Princeton: Princeton University Press, 1987), p. 216. Sinor gives the number of Manchus for the year 1953 as 2,418,931.

63 Ramsey, *The Languages of China*, pp. 215–16. Ramsey gives no information about the writing system of the Sibo.

defeat of the Naiman in 1204[64] or 1206,[65] when Tashatun[66] or Tatàqun,[67] the Uigur chancellor of Tayang, the Naiman Khān, was captured by Chinggis Khān and appointed to the same position. Juwaynī states that the new Uigur alphabet was first used for the writing of the *ǰasaγ* (or law) and ordinances, which were written on rolls and "kept in the treasury of the chief princes".[68] None of these rolls have survived, however, and the earliest Mongolian monument we have in Uigur script is the stele erected in 1224 or 1225 to commemorate the victory of Chinggis Khān's nephew, Yisüngge, in an archery contest.[69]

The differences in orthography between the preclassical period and the classical period, in Uigur script, are minor when compared to the significant differences that exist between the Mongolian monuments in Uigur script, on the one hand, and those in Arabic script, 'Phags-pa script, and Chinese transcription, on the other; these are: the presence of intervocalic *-g-* and *-γ-* in Uigur script where the other writing systems appear to have a hiatus (or zero); and the absence, in Uigur script, of initial *h-* (or *x-*) from Proto-Altaic **p-*, where the other writing systems have a reflex of this sound. This problem cannot be resolved unless we assume that the orthography of Mongolian in Uigur script was from the very first conventional; these conventions were present already in the stele of Prince Yisüngge and they must have been present two decades earlier when the Uigur alphabet was adopted for Mongolian.

There are several reasons why certain scribal practices should have carried over from Uigur when writing Mongolian in Uigur script, while

64 René Grousset, *L'empire mongol* (Paris: E. de Boccard, 1941), p. 267; Howorth gives no date for this event but places it in sequence before the first expedition against the Tangut in 1205 (Henry H. Howorth, *History of the Mongols*. London: Longmans, Green, & Co., 1876, vol. i, p. 63). Abūl-Ghāzi Behādur Khān gives the date as 600 A.H. (1203 A.D.), *Histoire des mongols et des tatares* (First published 1871–74. Reprint. Amsterdam: Philo Press, 1970), p. 89.

65 W. Barthold, *Turkestan down to the Mongol Invasion*. Fourth edition (Philadelphia: Porcupine Press, 1977), p. 387.

66 Barthold, *Turkestan down to the Mongol Invasion, loc.cit.*

67 Howorth, *History of the Mongols, loc.cit.* He appears in Chinese sources as T'a-t'a-t'ong-a. A biographical note was drawn from these sources by Abel-Rémusat and appears in his *Nouveaux mélanges asiatiques* (Paris, 1829), vol. 2, p. 61, quoted by d'Ohsson, *Histoire des mongols* (First published 1834. Reprint. Tientsin, 1940), pp. 88–89, and Grousset, *loc.cit.*

68 'Ala-ad-Din 'Ata-Malik Juwainī, *The History of the World-Conqueror,* trans. by John Andrew Boyle (Manchester: Manchester University Press, 1958), vol. 1, p. 25.

69 Louis Ligeti, *Monuments préclassiques I* (Budapest: Akadémiai Kiadó, 1972), pp. 17–18; Ramsey, *The Languages of China*, p. 207.

renderings into Arabic, 'Phags-pa, and Chinese writing systems were more on the order of phonetic transcriptions. In the first place, the phonemic system of Uigur matched that of Mongolian much more closely than those of Arabic, Tibetan, or Chinese did, thus permitting maximal usage of the Uigur alphabet with virtually no readjustments[70]; in the second place, Tataqun (or Tashatun) was ordered to employ the Uigur alphabet to write Mongolian, not to devise a new alphabet. This meant that he was free to drop letters that were not needed but not to invent new ones; and, because of the similarity between the Uigur and Mongolian sound systems, the Uigur alphabet could be transferred easily to Mongolian, with all its limitations. It was to rectify these limitations that the 'Phags-pa alphabet was developed; its fine phonetic calibration was a conscious attempt at accuracy (a *prescriptive* approach), unlike the *ad hoc* transcriptions into Arabic or Chinese writing, which aimed simply to reproduce what was heard (a *descriptive* approach), but the result was the same: they uncovered distinctions which the Uigur script masked.

There is no real evidence that the language of the Middle Mongolian period in Uigur script was a different dialect; therefore, we must assume that initial *h-* existed in the language represented by the existing monuments in Uigur script from the period, even if it was not written. It is not necessary to suppose that Tataqun (and other Uigur scribes) did not hear this *h-*; at the very outset, the decision would have been either to represent the sound with *q* (and thus risk confusion with words beginning with *q-*) or to suppress it, given the fact that no new letters were to be added to the alphabet. Once that decision was made, the convention would have been not to write it.[71]

Because the Uigur alphabet has long been out of use for any Turkic language, possible orthographic conventions can only be inferred from

70 There were three adjustments: the omission of the Uigur letter *z*, unnecessary in Mongolian; the use of Uigur *y* for Mongolian *y* and *ǰ* (though Uigur *č* continues to represent both *č* and *ǰ*, as in Uigur); and the addition of double points to Uigur *s* to represent Mongolian *š* (a device borrowed from Uigur, however, where *z* with double points, *ž*, represents *ž*).

71 Not so remarkable considering the evanescent nature of this sound; more frequently (and this is simply because there is an overt marker to alert the observer what is happening), *h* is written but not sounded; Latin is a case in point, as is French (where there are two types of initial *h-*, 'silent' and 'aspirate', but neither of them pronounced). But, in other cases, for example Cockney English, words without an *h-* in writing acquire an *h-* in the spoken language (at the same time the written *h-* is dropped).

variant spellings and by comparison of written forms in Uigur script with transcriptions of modern Turkic languages.

It is a well-known fact that intervocalic *-g-* in many Turkic languages becomes a spirant and that both *-g-* and *-γ-* are weakened to a labial spirant *-v-* or a palatal glide *y-* (depending on environment) and eventually disappear.[72] There must have been a tendency for intervocalic *-g-* and *-γ-* to weaken in certain Turkic dialects, at least sporadically, as far back as the Old Turkish/Uigur period. This tendency is attested by occasional variant spellings, e.g.: Uig. *qaγuq* ~ *qavuq* 'bladder'; *qoγša-* ~ *qovša-* 'smooth'; *su* (< *suγ*) ~ *suv* 'water'; *süglin* ~ *süvlin* 'pheasant'; *egir-* ~ *evir-* 'turn'; *yaγut-* ~ *yavut-* 'bring near'. By the fourteenth and fifteenth centuries such changes had become more frequent: Oguz *düg-* ~ *düy-* 'knot'; *ög-* ~ *öv-* 'praise'; *evet* 'yes' (Uig. *ögüt* 'counsel'); Koman *aγïz* ~ *avuz* 'mouth'; *boγum* ~ *buvun* 'member, limb'; *igine* ~ *ine* (*īne* < *iyine*) 'needle'; *yaγ* ~ *yav* 'fat'; *kögüs* ~ *kövüs* 'breast'; *oγul* ~ *ovul* 'son'; *ög-* ~ *öv-* 'praise'; *saγ* ~ *sav* 'well, sound'; *taγ* ~ *tav* 'mountain'; *teg-* ~ *tey-* 'reach'; *toγ-* ~ *tov-* 'be born'.

Where there is a difference between the two vowels which flank the original *-g-* or *-γ-*, a trace of this consonant in the form of a fricative or glide would persist longer than between like vowels, where it would tend to coalesce into one long vowel. Even after this change took place, there would be a tendency to preserve the old spellings; thus Uig. *qaγan* (Altai *qān*, Kom. *qan*) 'khan'; *quγu* (Alt. *qū*, cf. Mo. *qun*, *qung*) 'swan'; and *uγuq* (Koibal *uq*) 'leggings', may have come to be conventional spellings for long vowels by the beginning of the thirteenth century, when the Uigur alphabet was adopted for Mongolian.

In the Oguz Nāme, a work in the Oguz language but written in the Mongolian script, dating from the thirteenth century, this convention of using the sequence *-VγV-* to represent long vowels is used for several words which are not spelled with *-γ-* elsewhere: *qaγar* (Uig., NUig. *qar*) 'snow', in *ol bäg qaγardan sarunmïš ärdi* (242–43) "the prince was wrapped in snow"; and *taγam* (Uig., NUig. *tam*) 'wall', in *bu üynüng taγamï altundan ärdi* (248–49) "the walls of this house were of gold".[73] In the classical period of Mongolian, such spellings were widespread; they were used for those words which in Middle Mongolian have elision between vowels.

72 Jean Deny, *Grammaire de la langue turque*. First published 1921. Reprint (Wiesbaden: Martin Sändig oHG, 1971), § 47, p. 53; §§ 54–56, pp. 59–61; § 62, p. 65.

73 *Qedïmqï Uyγurlarnïn Tarïxïy Dastanï: Oγuz Name* (Beijing: Mïlletler Nesrïyatï, 1980), p. 35.