KHITAN STUDIES I. THE GRAPHS of THE KHITAN SMALL SCRIPT

1.General remarks, dotted graphs, numerals

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Abstract

In the first part of this series of papers the author investigates the pecularities and structure of the graphs of the Khitan Small Script. The graphs are polyvalent, and their phonetic values are based on, and reflects the understanding of the Chinese phonetical system of the period. The list of graphs includes allographs and variants, further graphs with the same value but having different form(s). Some graphs have dotted and undotted pairs. The Romanization of the graphs is a convention by modern Chinese and European scholars. In same cases the phonetic value of a given graph is unknown, but its meaning is known, they are called logographs. Dotted forms and the numeric system are investigated.

Keywords: Khitan Small Script, graph, logogram, Old Mongolian, Proto Mongolian, Mongilic numeric system

Abbreviations

BaoD=Dahejia (or Jishishan) Baoan (after HN)

BaoŃ=Ńantoq subdialect of Tongren Baoan (after HN)

C= Chinggeltei (2002),

Ch= Chinese,

D = *Xiao Dilu* inscription in WJ,

Da =Dagur according to Martin 1961,

DaE =Dagur according to Enkhbat (in HN),

Dgx =Dongxian (after HN)

EMCh=Early Middle Chinese according to Pulleyblank (1991),

EX = *Eulogy for Empress Xuanyi*, ed K 214-223

EYu= Eastern Yugur

Gu = the *Gu Yelü shi mingshi* Inscription AD 1115 (in K).

HN= H. Nugteren (2011),

K=Kane (2009),

Kgj = Kangjia (after HN)

Kh = Khalkha Mongol (Luvsandendev 1957)

KSS= Khitan Small Script

KLS = Khitan Large Script

L= The *Langjun* inscription in K, L2=The Langjun inscription according to Sh2,

List = List of KSS graphs as in WJ

LMCh=Late Middle Chinese according to Pulleyblank (1991),

Mo =Literary Mongolian according to Lessing (1960),

Mgr =DeSmedt-Mostaert (1933)

MgrH=Huzhu dialect of Monguor (after HN)

MgrM=Minhe dialect of Monguor (after HN)

QG = The Qinghai and Gansu Mongol languages acc. to HN,

PKh =Proto Khitan,

Rykin = Rykin (2014)

Sh=Shimunek (2011),

Sh2 =Shimunek (2014),

SH=The *Secret History of the Mongols* (cited after Rachewiltz 2004)

SJL= Sun Bojun –Jing Yongshi – Li Yang (2010)

TMR = *Tibeto-Mongolica Revisited* (Róna-Tas 2014)

Tib= Tibetan

WF =Witfogel- Feng (1949) ,

WJ = Wu Yingzhe – J. Janhunen (2010),

WOT= Róna-Tas – Berta (2011),

X=the *Yelü Xiangwen* inscription in WJ

Y=the *Yelü Dilie* inscription in K.

Introduction[1]

The state-of-the-art of Khitan studies has been summarized in the last time by Chinggeltei (2002), Kane (2009), Wu—Janhunen (2011), Janhunen (2012) and others. The great outlines of the scripts and the language of the Khitans are now clear, and we have to enter a new phase. This includes a minute work on the details and on the structure of the script and the language. The following work is based on the achievements of the former research and the Khitan material published mainly by Kane (2009) and Wu – Janhunen (2011).

General remarks

The graphs of the Khitan Small Script are drawings, which may represent one phonetic unit or a section of phonetical sequences. For the Khitan scribe a graph had a reading and he was not aware of its phonematic structure and value. The Romanization of a graph realizes our concept of the reading. We know of graphs representing one, two, three and exceptionally four phonetic units. The situation is complicated by the fact that a graph may have more than one phonetic value or reading. For instance the graph (311) 𘮩 <b> may represent /b/, /bV/ and /VbV/:

bas(a) 𘮩𘍿(311.174)<b.as> 'again' (K:32, 72, 84, D6-5, 19-18, 21-6 33-6, 35-18, 40-18, X11-10, 27-12, 32-38, 33-10, 37-26, 44-18)[2]. (174) may here denote [as] or [asa] | Mo *basa*, Da *base,* HN *basa* , DaE *bas* 'again, also'.[3]

baka 𘮩𘍼 (311.168)<ba.qa>'son', pl. 𘮩𘊴𘌽(311.151.290) <ba.hu.án> 'sons' (K:72, 118, D13-11, 15-20, 26-7, 26-16, 16-24, X 8-4, passim)), <bαgαsα> 'children' (C:107) | Mo *baga* 'young, childhood', *bagačud* 'youth', Da *bage* 'little, young', *bage.cude* 'youth, young men', HN *baga*

[1] This work has been carried out within the framework of the Turkological Research Group of the Hungarian Academy of Sciences and the University of Szeged. I owe special thanks to Professor Juha Janhunen for his help. The paper is the first part of a longer one.

[2] The Khitan data beginning with a Khitan word in **bold face** are from my unpublished Khitan-English word list. The „reading" is followed by the Khitan graph(s). In parentheses are the current number(s) in the List, in <> the Romanization of the graph, between ' ' stands the meaning in English, in parenthese the sigla of the sources where the word occurs, that is followed by eventual remarks on the reading. After | follow the Mongolian data, after || the discussion if necessary.

[3] I cite only the most relevant comparative Mongolian data The literary Mongolian form from Lessing (1960) (L), and the archaic Mongolian languages after Hans Nughteren (HN). Dagur after Martin (Da) and after Enkhbat (1984) (DaE) mostly from HN, but if necessary from the original.

'small', DaE -- || The vowel after <b> may be either [a] or [o], the word was earlier read as *boqo*. only Chinggeltei read *baγa*. The second syllable appears in **ńoqa 伏 力** (222.168) <ń.qa> 'dog', Liao shi *niehe* 捏褐 and in **teqa'a 令 力 为** (247.168.189) **<**te.qa.a> 'chicken', its reading as [qo] is less probable.

Abogiń 付 几 伏 (311.334.222) <b.g.ń> 'a name, *Abogin'(YX 4-29/31)| in Ch *Abaojin* 阿保謹 [ʔa-puaw-kin].

This type of multiple reading has been mentioned earlier by Toyoda, Aisin Gioro and Kane (32). There can be no doubt about its existence, the question is, that is this systematic, or only a casual usage? We should not forget that the inventors and those who developed the KSS were not linguist. Their work was a practical one for practical purposes.

The readings of the graphs were in most cases ascertained by Chinese syllables which they used to transcribe. There are three types of graphs. Graphs which were used only for the transcription of Chinese syllables, graphs which were used for transcription of both Chinese and Khitan syllables or phonetic units, and graphs which were used, according to our present knowledge, only for transcription of Khitan phonetic units. The correct reading of some graphs may have been helped by the fact that they are used in the same word in the same position as another graph already known. I quote such cases as G_1/G_2, that means graph1 and graph2 have the same phonetic value in the same word.

The Romanization, that is the Latin letters used in the transcription of the graphs, was first adapted to the phonetic character of the Chinese texts transcribed by KSS. That means that the accepted transcription of KSS graphs is far from reflecting a phonetic reality, not to speak of phonemes. Nevertheless, as we shall see later, the system is very useful for reconstructing the Khitan phonemic system.

At the present moment we can put aside the phonetic peculiarities of the Khitan sound system --- Khitan is a dead language, though we will come back to some of its features. It is more interesting to analyze the graphemic part of the question. In the first period of the deciffering of the KSS all new graphs were put into a list with raising numbers. If a new graph came up in a new text it got a new number. It can be predicted that as the volume of the corpus is growing, the number of the new graphs will decrease. Untill the summer of 2000, 32 greater texts were known and a few smaller ones as bronze mirrors, a seal, inscriptions on various objects and coins (WJ25-29, SJL, Wikipedia). At present (2015) we know of 39 major inscriptions. The total number of the preserved graphs may reach 100.000. In 2010 Wu Yingzhe (Oyunchu) and Juha Janhunen published two newly found inscriptions, Nos 33. and 34. The *Xiao Dilu* (D, No 33.) inscription is dated 1114, it was discovered in 2002 and acquired in May of 2007, the *Yelü Xiangwen* inscription(X, No.34) was dated 1091 and acquired in June of 2007. The two inscriptions contain 79 graphs not listed before (Nos 381-459). Out of these 79 graphs about 20 are identical with, or allographs of graphs in the earlier lists. That means that the new two inscriptions provided about 60 new graphs. This is a shoking high number.

There exist different lists, organized according to the stroke structure of KSS as that of Jiruhe and Wu Yingzhe (2009) and that of Sun Bojun, Jin Yongshi and Li Yang (2010). The first comprise 437 the second 448 graphs.

In the List we find 65 logographs, graphs of which we know their meaning, but not their pronunciation as 𘍿 (006) MOUNTAIN. Further there exist about 145 graphs of which we know neither their pronunciation nor their meaning. The high number of totally unknown graphs, which comprise the almost 38% of the total number is a great challenge.

At the bottom line 173 graphs remain, the pronunciation of wich is given in several lists. As we shall see even the reading of some of these graphs are uncertain. I will quote the list of WJ with capital as *the List*. On the other hand these hundredseventy-odd graphs seem to be the most frequent ones.

On the whole we have to keep in mind that the pronunciation given by several scholars for a given graph is at the best an approximation, or a hint to a possible pronunciation and closely bound to the Chinese syllables for which it was used. In other cases the Romanization follow earlier conventions..

Kane gave a detailed description of the problems connected with the separate Khitan graphs (Kane 2009: 26-30).

The script reflects a syllabic structure. We find the following structures of the graphs: V, C, CV, VC, CVC, VV, CVV, logographs and graphs of which we don't know their pronunciation and meaning.

Some Khitan syllables are represented by one graph, other by two or more similar graphs. It is very difficult to distinguish between two graphs which are written with a small difference, due to the hand of different scriptors, or simple mistakes or small but meaningful(?) differences, in a few cases the facsimile is not well readable. For practical purposes we call them *allographs*::

ai <ai> 𘊱 (122), <ai$_3$> 𘍏 (395)

bai < bai> 𘌽 (061), < bai$_2$> 𘍽 (060)

em 𘍾 (257), <em$_2$ > 𘍼 (256)

In general such allographs are distinguished in the transcription by subscribed indexes.

In other cases the same Khitan syllabic unit is written with different graphs. In such cases the vowel of the transcription got a diacritic sign, the form of which has no relevance. We find also cases where allographs and different graphs existed for transcription of the same syllabic unit:

au <au> 𘌦 (161), <aū>[4] 𘍐 (125), <aú> 𘍑 (210)

[4] I use <ō> instead of <ô> and <ń> instead of <ñ>

da <du> 𘰾 (237), <dú> 𘰿 (179), <dū> 𘱀 (249),

iu < iu> 𘰰 (019), <iū> 𘰱 (138), <iū$_2$> 𘰲 (382), <iú> 𘰳 (289),

en <en> 𘰴 (140), <én> 𘰵 (361), < én$_2$> 𘰶 (100), <én$_3$ > 𘰷 (219), < én$_4$ > 𘰸 (399).

Special attention is in order for the so called “dotted pairs”.

Dotted and not dotted pairs of graphs.

Kane mentions 12 pairs of graphs in case of which one of the pairs is dotted the other is not dotted. According to Wu-Janhunen (43) there exist 29 such pairs. Kane mentioned that this feature has been observed by several scholars. Wu (2005a) suggested, that the dot indicates grammatical gender. Kane added: „The texts do not contradict that interpretation” (K27). This is true. The marking of gender in case of numerals or other attributives is one of the most interesting features of Khitan Small Script. The marked pair is always the male, the unmarked the female in the opposition. Wu and Janhunen have dealt with the dotted pairs on pp. 42-43 of their work. In case if there exists a dotted form already deciphered and its undotted pair is yet not deciphered Wu and Janhunen use a raised small *x*, e.g. 𘰹(047) <hor>, 𘰺(046) <hor^{x}>, while if the undotted is not yet deciphered, they use a smal circle, as in: 𘰻 (184) <am>, 𘰼 (185) <am^{o}>. They also realized that the dot is not only used for gender specification.

Kane is citing the following 12 pairs (K27)

004-005	𘰽	WHITE. 𘰾	WHITE°,
007-008	𘰿	EIGHT 𘱀	EIGHT°
026-027	𘱁	ONE 𘱂	ONE°
029-030	𘱃	tau 𘱄	tau° (FIVE)
033-034,	𘱅	is 𘱆	is° (NINE)
081-082,	𘱇	MONTH 𘱈	üe
085-086	𘱉	SIX 𘱊	SIX°
134-135	𘱋	TWO 𘱌	TWO°
166-167	𘱍	THREE 𘱎	THREE°
265-286	𘱏	GOLD 𘱐	GOLD°
326-327	𘱑	ie^{x} 𘱒	ie
368-369	𘱓	FOUR 𘱔	FOUR°

To the above we can add now the graphs for ‘seven’

141-441	𘱕	SEVEN	𘱖 SEVEN°

It is a bit more complicated with nine :

is 𘰾(033) <is> 'nine, feminine', the masculine form is 𘰿 (034) (K24, 109, D49-9. 51-8, X4-21, 6-8, 28-10), <is> (C107).

We have to suppose, that also in those cases where we hitherto did not find a dotted pair it existed in case of adjectives, or nouns used as attributives. Later I will come back to the numerals in a separate section. Let us see some functions, which are not or not only connected with gender specificarion,

The first of the pair <y> (020) 𘰀 and <m> (021) 𘰁 is used when it occurs as an initial to represent [y] and [ye]. If it figures as a final then it represents [ei]. It occurs *i.a.* in the clan name of the Khitan rulers, the Yelü. The second graph <m> (021) 𘰁, is most probably not a dotted pair of (211). It is read as [mo] and identified, based on the glossary of the Liaoshi, as *mo* 'mother, female person'. In <mo.ba.qa> it has the meaning 'daughter', i.e. female child (ba.qa). Enyhow the dotted pair should be the male and this is here surely not the case. Further dotted pairs are <ra> 𘰂 (084) and <ra> 𘰃 (397). both occur in the transcription of the same clan name:

Yärüd 𘰀𘰂/𘰃 𘰉𘰇 (020.084/393.131.344) <y.ra.u.ud> (D1-14) 'Yelü, 耶律 clan name of the Khitan Emperors', LMC *jia lyt* may give back a pronunciation like [yarüd] or [yärüd]. (K22, 23, K37: *ei* =Ch *ye*, K259). The origin and the variants of the clan name of the ruling Khitan clan has been discussed by Wittfogel and Feng (WF59n). One of the other forms used instead was Yi-la 移 剌. The LMCh reading of Yi 移 was *ʔjiaj*. The first sign was written sometimes with yi 亦 which was read in LMCh as *jiajk*. All these transciptions suggest a Khitan syllable /yä/.The second syllable of the clan name 𘰂/𘰃 (084/393) occurs also in word initial position:

𘰂𘰉(084.131.273) <ra.u.un> (X39-3) ' a personal name or a part of it'.

One has the impression, that in these cases (084) has to be read /ar/ or /ara/ and the name has to be read *Aruun*, and perhaps can be connected with Mo *arigun, argun* 'clean, pure, holy', see the Mongolian name of the Ilkhanid ruler Argun (1284-1294). The graph 𘰃 (397) did not yet show up in word initial position.

As we see the correct Romanization of 𘰀𘰂/𘰃 𘰉𘰇 (020.084/393.131.344) is <y.r.u.ud>. Taking into account the Chinese transcriptions, the name may have been slightly palatalized.

Whether this clan name has anything to do with the name of the Jarud tribe in Inner Mongolia is a topic for further investigation.

The undotted pair <š> (028) 𘰇 transcribes Chinese /š/ and occurs in the Khitan word

šen 𘰇𘰈 (028.073) <š.ēn> 'new' (K:38, 188, Sh2) <ʃen> (C:107) | Mo *sine*, Da *šinken*, HN *sini*, DahE *šiŋ-kən, šəŋ-kən* .

The pair graph has the dot above the graph <ž> 戈 (330). It is used only for transcription of Chinese /ž/. In this case the dot has a diacritic function.

In case of <hor> 冇 (046) and <hor> 冇 (047) we have most probably another type. The Khitan word *ġor*, written also as <hor.u> 冇 夃 (046/047.131)[5] has the meaning according to Aisin Gioro (K40) 'people'. The initial is either a stop /ġ/ or a fricative /γ/.

ġor 冇 (047), **ġoru** 冇 夃 (047.131) <hor.u>, also 冇 为 (047.189) <hor.a> 'people' (K57, 111, 202, X5-31) 冇 夃 火 (047.131.273) gen.<hor.u.un>(D28-13, 28-10,43-18), plural (047.254) 冇 公 <hor.d> (X29-12). The comparison with MMo *haran* pl. *harad* as suggested by Vovin 2013:624 ← OT *här, härä,* can be excluded, the initial which became in Mo *h-* > Zero was in Khitan /p-/. The initial was either a guttural stop /ġ/ or a fricative /γ/. The word reminds Tibetan *Hor* 'Mongol' but the connection is not clear.

Whatever the Proto Mongol origin of the Khitan word *ġor/ġoru* is, the dotted form has to mark male and the not dotted form female members of the group of people. In this case it seems to occur with a noun.

Graph (100) <én[2]> 与 has an allograph (361) 当 and an allograph (399) 卡 and is mostly used as a marker of the genitive case in front vocalic words. The ordinal numbers (K143-144) quantifying feminine nouns, have a suffix <én> 与. The ordinal numbers used with masculine nouns have among others the suffix <er> 爻 (269) an allograph of which is (341) 公. The opposition <er>:<en> male:female **ere* : **ene* has to go back to nominal origins, and in this case **ene* may have been a noun denoting a female being. Finally we have to mention that *er* (341) 公 is also used as the suffix of the past tense in front vocalic words.

Graph (101) <deu> 为 has a dot. Its meaning 'younger brother' would fit into the pattern:

dew 为 (101)<deu> 'younger brother' (K104, 119, X2-20, 3-14, 8-8, 9-2, 9-33, Sh2: *dəw*)| <ia deu> 'brothers', <du> (C:107) |Mo *degü*, Da *deü,* HN *deü,* DaE *dəu* 'younger sibling'. (101) has an allograph 为 (072) with the meaning 'EAST'. If (101) and (072) are only allographs, that is, they denote the same phonetic unit, then we have to suppose *deü* 'East'. Can we connect this word to Mo *degedü* 'higher, upper etc.' the root of which is **dege*, but this is going back to **degü,* see *degüji-* 'to be hung'. However that 'East' would be the 'upper' can be ascertained only in the system of cardinal points, on which see later.

An other question is that, if (101) has a dot, does there exist an undotted pair? Is this (453) 万 with a hitherto unknown pronunciation and meaning. The graph is said to be an allograph of 乃 (129) with also no pronunciation or meaning. One would expect a word for 'younger sister'. In the Mo languages LM *degü* denotes both the male and female younger

[5] slash / is used in cases where both graphs on the left and right side of the slash may appear on each other's place.

siblings. If this is also here the case than (453) 万 has also the pronunciation **dew** and the meaning 'younger sister' while the graph (129) may be an allograph.

Graph 丈 (118) <qú^{x}> is a dotted graph, while 丈(117) <qú> does not have dot. Graph 余(246) should have the same pronunciation /qu/ and is alternatively used with (118) in the same word as in <s.iau.qu> 'blue'. In the corpus of WJ neither (118) nor (117) occur as initial syllables. One has the impression that (117) and (118) are suffixes, or also used as suffixes marking female and male gender. The words <m.as.qú> 又冬丈 (133. 174.118) and <m.as.qu> 又冬余 (133.174.246), have both the meaning „first" (K48). In the *Yelü Xiangwen* inscription (line 10) <m.as.qu> 又冬余 (133.174.246) is the attributive of <ba.qa> 'son'. This proves that (246) is an allograph of (118) and not of (117).

Graphs <m> 又(132) and <m> 又 (133) are also pairs. Interestingly enough (132) does not occur in word initial position, while (133), the dotted form, is frequent as word initial. It occurs in the WJ corpus in more than 30 different words. It occurs also in word internal and final positions. It props up also in the word <m.$\bar{o}_2$.qu> 又公丈 (133.253.118) 'first or eldest son, or the greatest son', that means that in this case two dotted graphs would signalize the male gender of the noun. Most probably the dot of the graph (133) lost its specific function.

The graphs 夂(172) and 夂 (173) both <uh> are not occurring in word initial position. The transcription is conventional, it reflects an *–uγ* final in transcriptions of Chinese words, which had originally a final *–k* as in Khitan <l.uh> Chinese .祿 *lu* < LMCh *ləwk* (K55). On the use of <h> in Liao Chinese transcriptions see K254.

The graphs <ku> 几 (178) and <ku^{o}> 凡 (427) are also dotted pairs. The first has the meaning 'man'. This graph can hardly be separated from <g> 凡 (334), the difference is in voicing, but "voioced" and "not voiced" readings are alternating, see the third part of this series of papers.

kü 几 (178), <ku> 'man, person', genitive **küwün** 几尺火 (178.372.273) <ku.u.un> (K56-57, WJ75)|Mo *kümün* > *küwün* > *kün,* Da *huu*, dial *kuu* 'person', HN *küün,* DaE *xu*, Sh 101: *küwün*|| The Dagur data show that the Khitan word has been shortened to **kü.* (427) seems to be a pleonasm, pointing to the male character of the concept. This may have importance, because the word may have had the original meaning human being, person, and the female form was later formed with a diminutive, see Mo *keüked* 'child', *keüken* 'girl, daughter'.

The graphic pairs <car> 犬 (183) and <car> 犭 (431) are also pertaining to this group. The graph (431) is ocurring only in names, sometimes written as <car.a> 犭为 (431.189) (X15-3, 1910, 38-21, 46-23, D13-8).

The graphs <am> 乃 (184) and <am> 乃 (185) occur in word initial position.We find

amilagai 乃小虫牛(184.261.051.122)<am.l.ha.ai> 'to give life, give birth' (X26-11) | Mo *amila-* and in X34-20 <am> 乃(185) as a first part of the name of a mountain.

The graphs <lu> 𗼇 (208) and <lu> 𗼈 (209) represent the cyclical sign 'dragon' or 'serpent'. According to Kane the form with the dot (209) „seems to be a misinterpretation" (K60). There does exist also an allograph <lu$_2$> 𘍞 (064).

The graphs 𗴲(221) and 𗴳 (222) represent the palatalized /ń/ (in other transcriptions *ñ*). (222) frequently occurs in word initial position, while (221) hitherto did not crop up as such. In word initial position in many cases 𗴳 (222) has to be read /ni/ or more probably /ńia/ or /ńio/ as in <nia.qa>𗴳𗿋 (222.168).

ńiaka 𗴳𗿋 (222.168) <ńia.qa> 'dog' (K:2, 19, 93), <noxi> (C107), Liao shi *niehe* 捏褐 MCh *niat.xhat* |Mo *nokai* < **ńokai*, Da *nohe*, HN *nokai*, DaE *nɔɣ*^{w} |see Tabgach **ńaxan* < **ńiak +gan*<**kan* 若 干 (Vovin 2009:203), Sh (105 *ńaq*).

More complicated is the question how the graph has to be read if it is in final position. In many cases it represents a simple palatalized /ń/, in other cases /-in/, but Khitan second names ending in 𗴳 (222) are transcribed with Chinese syllables having the rhyme *–iŋ* and transcribed by Kane (2009, 61) as <iń>. One has the impresson, that 𗴳 in final position if ending a Khitan word has a morphological function: <a.am.an> (D35-6) and <a.am.ń> (X28-39, 45-9).

The graphs 𗼻 (223) and 𗼻 (224) represent both a syllable like /mu/. (224) occurs also as word initial (X32-4) in the complex <mu.u.ji$_3$.en> which seems to be the genitive case of *muji.*

muji 𗼻𘓐𗹦/𗹦/𗹦 (224.131.152/153/337) <mu.u.ji> 'great, sacred, holy > emperor' (X32-4), and in a unit where the last two graphs are not readable (X36-1), but most probably the same word. Also **mo muji** 𘓐𗼻 𗼻𘓐𗹦 (133.186.224.131.152) <m.o. mu.u.ji> 'the great sacred, holy' (K50). In his work on the Tabgach language Ligeti (1970, 304) has dealt with the title *moti bi* 莫 堤 比, which he reconstructed as **modi bi* 'chef militaire de province' and connected it with Mo *muji* 'province, region', supposing the change *–di- > -ji-*, while *bi* occurs in many other titles as well, but its identification has not been done yet. The text of X23-4 runs as: <...mu.u.ji$_3$.en eu.uni...> where *muji* has the genitive marker. The word <eu.uni> 𘓱 𗾞 (067.059) has to be a title, something like *ewüni.* Further research is needed, to accept or to reject the idea that the Tabgach word and its LMo form *muji* 'region, province' and the Khitan word *muji* in the above cited texts are the same words[6].

In case of the graphs <pu> 𗼺(241) and 𗼺<fu> (242) the dot seems to mark a foreign /f/. According to Kane (K63) Khitan did not have /f/ as initial, and thus transcribed Chinese /f/ sometimes by <p> in other cases by <f>. This may be the case e.g. in

püšin 𗼺𗾔𗴲 (241.033.221) <pu.ši.ińˊ> 'madame, Chin 夫人 *furen*' EMCh *puă*, LMCh *fjyă, fuă* + EMCh *ɲin*, LMCh *rin* (K:23, 39, 62, 104), <pu.ši.ń> (Sh 106, WJ 53, D8-19/21, D9-1/4)| MMo

[6] By the way 'holy, sacred' is in Chinese *shèng* 聖 while 'province' is also *shĕng* 省 with a different tone.

SH *hüǰin* || Sh is right, (033) is here not /is/ but / *ši/*. (033) and (221) have dotted forms (034) 𗴲 and (223) 伏 resp. In this case the dot in 𗴲<fu> (242) is marking a phonetic peculiarity, existing in Chinese but not in Khitan as in the case of 戈 (330) above..

The graph <ui> 火 (262) can occur independently as a word representing Khitan:

üyi(l) 火 (262) <ui> 'matter, affair' (K:106, 111, D5-1,17-15, 32-3, 34-4, 37-20, X3-4, 5-23, 14-21, 26-14, 37-1, 44-6) and has a dotted pair <ui°> 𗴴 (263) used only in Chinese transcriptions for several Chinese forms of *wei* (see WJ191-192), in names, and in titles as *taiwei* 太尉 'grand commandant' (X18-30). We have to mention that in this cases *wei* is a part of a name or a title of a male person.

The graph<ie>文 (326) is occuring as word initial and 文 (327) is not occurring in that position. However (327) occurs in the Khitan transcriptions of Chinese *–ien* rhymes and also in Khitan words in non initial positions, most probably with the main vowel [a] (K74), because the syllables co-occurring with it contain an /a/ vowel. But this is the same case with (326), which is followed by <l.ha> and <l.un> (WJ357).

The graphs <hong> 王 (381) and <hong$_2$> 主 (328) pertain also together, the second is dotted, though the dot is above the graph. (381) is not occurring in word initial position, (328) is occurring as an independent word. The latter has an allograph <hong> 主 (075), and both have the meaning 'emperor' as in *hongdi* or only *hong*.

hongdi 主 王 (328.037) <hong.di> 'Emperor' (K 95, D3-23/27)|← Ch *huangdi* 皇帝 LMCh xɦuaŋ tiaj. The LMCh [xɦ] evolved from an EMCh [ɣ] and this or a voiced χ is the value of *h-* in the Khitan transcription of this title.

Theoretically (381) should be the female counterpart, the Empress or Queen, but it is posssible, that the graph 王 is a simple miswriting.

The graphs 火(344) <ud> and 𗴴 (345) <ung> seem to differ only in one dot or a small dash, while for **ung** we find also 𗴳(346) <ung$_2$>, 太(106) <ung$_3$> and <úng> 𗴵 (357). In these cases (344) most probably has nothing to do with the graphs (346,106).

The graphs 𘍞(370) and 𘍟(371) both have the menaing REGION, but it is not clear what the distinction is between the dotted and not dotted forms.

As we see most of the dotted pairs are used for gender differenciation, but not all. One has the impression that dotting is a relatively late feature in the history of KSS. It is in any case significant that the marked pair is the masculine.

2. Graphs denoting numerals.

There exist a realtively rich literature on the numerals of Proto Mongol and Khitan[7]. I will not go here into the discussion of the former research.

Table of the graphs denoting numerals

Number	graph (No. in List)	reading	cardinal numbers in KSS	ordinal numbers in KSS	ordinal number reading	pronun-ciation	Mongolian simple /decade
ONE, m	𘖵 (027)			𘖵𘕿 (132. 186) 𘖵𘍞𘜶/𘜶 (132.124.169/246) 𘜶 (332)	<m.o> <m.as.qo/qu> <nai> 'first, head'		**nigen**
ONE, f	𘖵 (026)			𘖵𘍞𘜼 (132.124.117)	<m.as.qú>		
TWO, m	𘝀 (135)	**jür**	**jür** 𘜘𘜶 (162.236) <či.ur>	𘜘𘜶𘜼 (162.236.269), 𘜘𘜶𘜼 (104.236.269)	<c.ur.er> <dz.ur.er>	**jürer**	**jirin, qoyar/ qorin**
TWO, f	𘝀 (134)			𘜘𘜶𘜋 (162.236,161)	<c.ur.én>	**jüren**	
THREE, m	𘜋 (167)	**ġur**	**ġur** 𘜋 (259)	𘜋 𘜼 (259.269) 𘜘𘜶𘜼 (151.236.269)	<hur.er> <hu.ur.er>	**ġurer**	**ġurban/ gučin <*gurčin**
THREE, f	𘜋			𘜋 𘜋 (269.361)	<hur.én>	**ġuren**	

[7] See among others Laufer 1921, Poppe 1955, Ji Shi 1986d, Liu Fengzhu1988a, Toyoda Goro 1992, Chen Naixiong 1992, Chinggeltei 1997b, Kara 1997,Toyoda Goro 1998a, summarized by Kane 2009 and lately Janhunen 2012, pp. 12-13.

	(166)		<hur> /ġur/	𗍫𗅆𗎭 (151.236.361) 𗅋𗅆𗎭 (340.236.361)	<hu.ur.én> <x.ur.én>		
FOUR, m	𗍪 (369)	dür	dürü 𗴢𗥃𗏁 (254 .097.131) <d.úr.u>	𗄊𗅆𗍫 (247.236.269), 𗴢𗅆𗍫 (254.236.269)	<t.ur.er> <d.ur.er>	dürer	dörben/ döčin <*dörčin
FOUR, f	𗍪 (268)			𗄊𗅆𗎭 (246.236.361) 𗴢𗅆𗎭 (254.236.361)	<t.ur.én> <d.ur.én>	düren	
FIVE, m	𗍯 (030)	taw, LSh *tao* 討		𗄊𗏴𗂧𗋒 (247.016.186.076) 𗄊𗱮𗂧𗋒 (246.099.186,076)	<t. od.o.ho> Sh: <*t.ow.o.ho> <t.ad.o.ho>	todoġo	tabun/ tabin
FIVE, f	𗍯 (029)			𗄊𗱮𗂧𗍊 (246.099.186.018)	<t.od.o.in>	todoin	
SIX, m	𗍰 (085)						jirġuġan. <*jirgurban /jiran
SIX, f	𗍰 (086)						
SEVEN, m	𗍲 (441)	dalo	dalo 𗅲𗍲 (171.313) <da.lo>				dologan/ dalan
SEVEN, f	𗍲 (141)						
EIGHT, m	𗍴 (008)						nayiman/ nayan
EIGHT, f	𗍴 (007)						
NINE, m	𗍵 (034)	iši					yisün <*yersün/ yeren
NINE, f	𗍵(033)						

TEN, m	𐲎(422)	para	para 𐲱 𐲚 (295.397) <p.ra>				(h)arban
TEN, f	𐲎 (240)		para 𐲱 𐲚 (295.084) <p.ra>				

Remarks on the numerals.

The ordinal numbers were treated by Kane (K143-144). There is a miswriting in his table, in place of <úr> the consistent transcription is <ur> of 𐲖 (236).

One 𐲓 (026), 𐲔 (027)

In most languages the numeral for 'one' is a newcomer. This is due to the different uses of the numeral in the syntax. There are different words in Khitan which seem to fill the function of the numeral 'one'

nai 𐲛 (332) <nai>'first, head; official' (K75, 109, D4-4/6, Sh2), naid 𐲛𐲱 (332.350) <nai.d> , gen <nai.en> 'officials' (K:101) ||the function of nai may be similar as OT *baš* 'head, leader, the first one'. In LMo *nai* has the meaning 'friendship', but it may be a different word.

mas 𐲓, 𐲔 (026, 027)<mas> 'one' (K:110,) <mɑsɑi> (C:107), or the graphs are simply logographs, with unknown pronunciation. According to Kane in the emended sections of the *Dazong* inscription 𐲖𐲘𐲜𐲁 224.257.244.334 <mu.em.se.gi> was rewritten as 𐲓𐲜𐲁 <ONE.se.gi> suggesting that 𐲓 was pronounced the same as <mu.em> or perhaps **mem* (K110)| see perhaps Mo *emüne* or more probably *emünesi* 'front, anterior', the latter is in MgrH *muśi*, and in MgrM *meši.* However see masku.

masku 𐲏𐲡𐲜/𐲣 (133.174.246/118) <m.as.qu/qú- 'first' (K:48, K:50, X10-20).

The logograph ONE is also used as general subject: 𐲓𐲙𐲝 (026.238.100) <ONE BORN.en...> 'One is born into [disasters and good fortune]' (K155).

Two 𐲟(134), 𐲠 (135)

The cardinal numeral for 'two' is:

jür 𐲤𐲖 (162.236) <či.ur> 'two'(K:50, Sh2, D16-12, 24-20, X9-15, 15-2, 17-1, 19-30 and passim) | Mo *jirin* 'two (women)', *jirin sedkiltü* 'disloyal, i.e. who has a double soul', *jirmüsün*

'pregnant', *jirim* 'either one of the two lether straps on the left side of the saddle', *jitüger* (<**jirtüger*) 'jelousy, hate; invective used by wives of a poligamous marriage, in referring to each other', *jitüger eme* 'the other wife, (term used by the other wife in poligamous marriage in reference to another), *jirgugan* 'six (twice three *jir+gur*, cf. also WJ 56), HN *ji-* 'two' in: *jitüer* 'second, co-wife', *jitügen* 'competition', the Mo base is not **ji-* but **jir* || There is a difference in the vocalism. The Mo word has /i/, the Khitan /ü/. As we shall see, /r/ may have been a very old suffix.

Three 包 (166), 包 (167)

The Khitan cardinal numeral for 'three' is **ġur.** In the Romanization we find <h> which is denoting a back vocalic guttural, in some cases even a fricative, but here beyond any doubt an obstruent, though in the *Gaoshi* inscription of unknown date we find the initial 𠂢 (341) <x>.

ġur 𠂤 (259) <hur> 'three' 列 化 𠂤(151.236.269) < hu.ur.er>, 𠂤 𠂤 (259.269)<hur.er> ' third, masc.', 列 化 当 151.236. 219) <hu.ur.én>, 𠂤 当 (259.218) <hur.én>, , (K: 53, 54-55, 66, 121, 143, D9-5), 𠂢 化 当(340. 236. 219) <x.ur.én>(Gao inscr. K143) 'third, fem', <γur> (C:107) | Mo *gurban,* Da *guarebe,* HN *gurban,* DaE $g^{w}arbə$, $g^{w}arbən$, $g^{w}arəb$

Four 罕 (368), 罕 (369)

The cardinal numeral for 'four' is in Khitan **dür** written in diferent ways. The graph (260) hitherto occurred only in this word, and was read <dur> and <t_2>.

dür 令 化 (260.236) <t.ur>, **dür** 令 𡈼(247.097) <t.úr> (X35-11), **dürü** 𠆢 𡈼 𠃌 (254.097.131) <d.úr.u>, **dürüġ** 令 化 夕 (247.236.172) <t.ur.uh> 'four', (K98, Sh2:*dur*), <dur> (C 107), d**ürüer, dürüen** 令 化 𠂤 (247.236.269) <t.ur.er> masc, 令 化 当 (~~ 361) <t.ur.én>, 𠆢 化 当 (254.236.361) <d.ur.én> fem 'fourth' (K:79, 98), <duruwei> (C:107) | Mo *dörben*, Da *durube,* HN *dörben* 'four', DaE *durb*^{w}, *durbun* || The initial is <d> in the inscriptions Zhi (1094), Yong , Gao (see K143-144) and has to be read *d-* also in the other inscriptions. As we shall see in the third part of these studies the alternation *t~d* is orthographical, not phonetical.

Five 戈 (029), 戈 (030)

The Khitan word for the cardinal numeral 'five' is **taw**:

taw 戈 (029) <tau> 'five' (K:19, 24, 38, 98), <t'αu> (C:107), there exist a unit <ta.u> 仍 𠃌 (229.131) which seems to be the transcription of the same numeral (D29-16, X32-26, 34-3) | Liaoshi *tao* 討, LMCh *tʰaw* | Mo *tabun*, Da *taau,* HN *tabun,* DaE *ta:wu(n).* **tadoġo, todoġo** 令 丆/帀 反 北 帀 (247.099/016.186.076.) <t.ad/od.o.ho> 'fifth' (K:97), <t'owo'oi> (C:107) | Mo *tabudugar,* Sh: **tow-*. The ordinal suffix [-doġo] is reminiscent of Mo *–dugar.*

Six 𐰚 (085), **𐰚**(086)

Toyoda Gorō tried to reconstruct Khitan 'six' as **jirgu* and 'eight' as **nai* which seems to be logical, but no convincing data appeared hitherto, as it was remarked by Kane (K36). I have to add that in Khitan 'two' is *jür* and not *jir*. Mongolian *jirgugan* 'six' is, as it was stated by many scholars (Poppe 1955, 245 etc.), two times three, *jir+gur-ban*, and may be a later formation. Nughteren (2011:388) supposes for the Qinghai-Kansu Mongol languages here an unknown suffix *?-gUAn*, but this is not necessary. In any case Khitan may have had another word for 'six'. To the numeral 'six' see also Mo *ǰigü* 'descendant in the fifth generation' i.e. the 'sixth' (<**ǰirgü/ǰirgu*).This may be of importance, because this form is front vocalic, while all other data for Mo 'six' are back vocalic. Chinggeltei (2002, 107) reconstructed for Khitan 'six' **nir*. This may be based on Manchu-Tunguzian **ńiŋun* 'six'. The numeral 'sixty' in Mo is *ǰiran*, where the final part may be the old word for 'ten/teen' *–on* (cf. OT *on* 'ten', see Poppe 1955, 247). This would suggest a word like **ǰir* for 'six', but this was the word for 'two' as we have seen. It is unlikely to have an opposition *jür:ǰir* in the series of numerals, but not impossible. The ordinal of Khitan 'six' does not help, it is **𐰚 𐰴** (086.341) < SIX.er>.

Seven 𐰾 (141), **𐰾**(441)

The cardinal numeral 'seven' in Khitan is **dalo**:

dalo 𐰇𐰾 (171.313) **<** da.lo> 'seven' (K:72, 115), <dol> (C:107), **daloer 𐰇𐰾𐰴** (171.313.269) < da.lo.er> 'seventh, masculine' (K:72, 115), <doluwei> (C:107) | Mo *dolugan*, Da *doloo,* HN *dolaan,* DaE *dɔlɔ, dɔlɔ:n* 'seven', see further Mo *dalan*, HN *dalan* (<**daluan*) 'seventy'.

Eight 𐰸 (007), **𐰸** (008)

Ji Shi and Chinggeltei (cited by K36) suggested for 'eight' **naim.* From the point of reconstruction I do not see any reason for the final *–m*, because in Mo *naiman* the last part *–man* is the same petrified suffix as *–b/gAn* in *gurban, dörben, jirgugan, dolugan, yisügen* and *arban*, only nasalized after a nasal initial: *naiman* < **naiban*. Mo 'ninety' is *nayan.* All Khitan numerals lack the suffix **b/gAn*. Based on these facts one would expect for Khitan **nayi* or even *neyi*. The masculine ordinal of 'eight': 'eighth' is **𐰸𐰉𐰴** (008.235.269), that is <EIGHT.ri.er> (K143). This points to a possible form **nayirier* or **neyirier*. Here *–r-* would be the same petrified suffix as in *jür, gur, dür* etc.. The expectd form fo Khitan 'eight' would be then ****nayir/neyir**. For the time being we have to wait for new data.

Nine 𐰋(033), **𐰋** (034)

iši 𐰋(033) <is> 'nine, fem.' the masc. form is **𐰋** (034) (K:24, 109, D49-8, 51-8, X4-21, 6-8, 28.10), <is> (C:107) | Mo *yisün*, Da *ise,* HN *yesün* < **yersün,* DaE *is*, *yis,* Sh: **iši* | According to HN **yersün*, the **-r-* is reconstructed by HN from *yeren* 'ninety' and is preserved in one of the Baoan dialects. In another Baoan dialect the *y-* is absent as in Da || The *y-* in Mo may be secondary, and originally 'nine' was **isün*, which may have come from an earlier ***irsün*, where *–ün* is the same suffix as *–un* in *tabun*. The Khitan graph occurs also in the Khitan clan

name 𐰉𐰍𐰃𐰴 (033.334) <is.g.i> which occurs in the Chinese transcription as *Yishiji* 乙室己, the initial of the first word had in LMCh a glottal stop *?it*, the second word was *ši*, that is the name had to be **Išigi* or the like. This is in favour of the proposal of Shimunek to read *iši* or *iš* for the numeral 'nine'. The <š> may be, however secondary in case of <isi> > <iši>. According to Janhunen (2012 13) the Mo form **yersün* is an innovation and cannot be connected with Khitan **isi*. I think, that if we depart of a form ***irsün* all forms can be connected.

The syllable is also present in the name <is.iú.ih/ih$_2$> 𐰉𐰍𐰃𐰴/𐰃 (033.289.338/455) 'Išiyuiġ' in D1-15, 51-15 as the name of the scribe of the Xiao Dilu inscription. The name may be of Biblic origin and perhaps Nestorian.

The graph occurs also in the Khitan transcription of the Chinese title

pushi 𐰚𐰉 <pu.is> correctly <pu.ši> 'Chinese title, *fushi* 副使 (WJ52, D1-5).|

It occurs further in **püšin, fušin** 𐰚𐰉𐰴 (241.033.221) see above.

Ten 𐰍 (240), 𐰍(422)

The Khitan pronunciation of the word for 'ten' was hitherto unknown. I suggest **para.** This occurs as 𐰋𐰀/ 𐰀 (295.084/397) <p.ra/ra^{o}> /para/. It is present in two inscriptions, in the Xiao Dilu inscription (AD 1117) we read:

1. 𐰋𐰀 |𐰃𐰇 𐰴𐰖 𐰇𐰋 |𐰖𐰋 𐰋𐰉 (D32-11--14)[8]

2. (295.084| 245.334.097.205| 161.366.051.122)

3. <p.ra ú.g.úr.de au.ul.ha.ai>

4. para ugurde awulgai

5. „(h)arban ugurde abugulqai"

6. [the Emperor] let [him to be] appointed to the Ten Ugurs'.

According to WJ 112 in <ú.g.úr> <ú> stands for Chinese Wu 吳 and g.úr is the translation of Chinese *guo* 國 'state', that is <ú.g.úr.de> woud have the meaning 'to the State of Wu'. For the word <p.ra> no remark is offered, for <au.ul.ha.ai> WJ wrote „unclear, but perhaps 'placed'„ . The Kingdom of Wu was a small kingdom which existed from 902- 937 in the southeastern part of China" (WF 562n), therefore this interpretation can be excluded with great probability on chronological and geographical reasons[9].

The second text is in the Yelü Xiangwen inscription (1091):

1. 𐰋𐰀|𐰆 𐰃𐰇|𐰃 𐰓𐰖|𐰋 𐰉𐰍|𐰃 𐰍𐰋 (X43-10--24)

[8] In line 1 the text is given with Khitan graphs, in line 2. the numbers of the graphs in the List, in line 3. the transcription of the graphs according to the List, in line 4. suggested reading of the Khitan texts, in line 5. in quotation marks a possible similar wording in Mongolian, and in line 6. the English translation of the Khitan tetxt.

[9] On the Ten Turkic Tribes see WF 86, 471.

2. (295.084| 252.236.309|244.125.347|261.196.246|247.112.261.144)

3. <p.ra $\bar{o}_2$.ur.hó s.aū.oi l.bu.qu t.ge$_2$.l.un>

4. para ogurgo sawoi Elbuqu tegelün

5. „(h)arban ogurda saguqui Elbuqu degelegün"

6. 'While resting at the Ten Ogurs Elbuqu died (went up)'

The different writing of the name Ugur or Ogur seems to be quite normal. There does exist a large literature on the Ogur tribal name which was originally Ogur and later became Ugur. I will come back to the absence of marking the guttural stops and fricatives. <hó> is a locative suffix, occurring at the end of nominals.

There exists an expression which occurs more times (D12-13, 25-25, X7-21, 12-29, 16-7): <mo.d/t p.ar.TWO>**百公/今业本圣** (021. 254/247. 295.123134) '(he had) two wives'. What may be the word *par* here? According to WJ84-85 *mod par* seems to be the plural of *moku* **百几** (021178), and *ku* is 'person'. According to WJ *par* is a suppletive plural of *ku* a cognate to Mongolian *(h)aran/(h)arad* 'people'. This type of suppletive plurals exists, e.g. Russian *čelovek* , plural *ljudi* 'man, person, human being'. But one would expect in this case also plural, like **parad* as in *mod.* I suggest here the function of a count word or classifier, as it is frequent in Chinese and other East Asian languages. The phrase *mot par TWO* can be translated as '(he had) as to their number, two wives'. If this hypothesis can be proved, **para* originally would have been a count word. Later it became the count word *par exellence* i.e. 'ten', in Mongolian it got the suffix *–bAn*: *par+ban > harban >arban.* Here I would remark that many of the numerals end in *–r* (see also Janhunen 2012, 13): **ǰür* "two', **gur* 'three', **dür* 'four' , * *jirs* 'nine', * *par* 'ten'. Is *–r* a residual form of an earlier suffix (see also Mo *qoyar*).

Eleven

乞/乞 (240/422) +**乇/乇** (026,027). Eleven is TEN+ONE (X2-3, EX4-9). Here we learn only the structure of the Khitan numeral for eleven, as Mo *arban nigen* 'eleven'. A few other numerals with similar structure are: **twentythree 丁包** (002.166) (K124), **sixty seven 乂/乂** (266/267) +**斥/斥** (141/441) (L26+34) and so on.

Twenty 丁 (002)

Kane (K35) quotes Ji shi (1986) who noted a reference to an early Khitan leader, named *zhou-li-hun-a* 晝里睯阿. About this person the *Qidanguo zhi* tells us, that he kept twenty sheep[10], every day he ate nineteen, only leaving one, the next day again there were twenty, this continued day after day, every day was like this. Ji shi suggested that *zhou* 晝 may be a mistake for *hua* 畫 which would be reminiscent of Mo *qori, qorin* 'twenty' and *hun-a* to *qoni(n)* 'sheep'. May be we have not a mistake in the rendering of the first syllable of the Khitan name. *zhou* 晝 goes back to a LMCh *triw* and an EMCh *truw*. If used for transcription

[10] 'goat' is a lapsus calami in K, in the Chinese text there is yang 羊 'sheep'.

the initial represented a foreign affricate /č/ or /ǰ/. This means that we have in case of *zhouli* 晝里 the transcipiton of a Khitan form *jiri* or *jüri*. Since 'two' is in Khitan **jür**, one would expect **jüri** for the Khitan word 'twenty' or perhaps **jürin**. This ending would be the same as in Mo *tabin* 'fifty'. The final *–n* may have been lost in Khitan.

We find the following text: <da.ha.ar o.ju. DAY (292).u> 'the coffin was closed [on the] day (292)', (K155), where 𗼻 (292) has to be a numeral, hitherto not identyfied.. Theoretically it may be also something as the "middle", "full moon" etc. but this is unlikely, There are three graphs following each other which have neither known reading nor meaning in the List 𗼺, 𗼻, 𗼼(291, 292, 293). We see that the first graph occurs also as the upper part of the second and the third. It is possible, that all three denote numerals, may be, but not sure, 21, 22, 23 or perhaps as in Old Turkic they may denote also 11, 12, 13, that is the first, the seond, the third of the second decade. At least (292) has to be a numeral which may occur as the number of a day in a month.

Thirty 𗼹 (211)

The Mongolic word for 'thirty' is known from the Chinese geographical work *Yuan he jun xian tou zhi,* compiled in 813-814, where it is the local name of a mount 30 *li* far from the center. It has been dealt with by Pelliot (1929, 250-252) and by Ligeti (1970, 290). It appears in the form *he zhen* 纥 真 EMCh *γət*, LMCh *xɦət* and EMCh *tɕin*, LMCh *tʂin*. Pelliot supposed as possible reconstructions **γutčin*, **γurčin* or with assimilation **γučin*, Ligeti reconstructed **gučči̯n* or *gučin*. I would prefer ****gurčin**.** The final Chinese *–t* is reflected in this time in the Uygur and Tibetan transciptions by *–r*.[11] In the given case, the Chinese *he* is usually transcribing the second part of the tribal name Uygur as it was already mentioned by Pelliot (1929, 252). It is possible, that Mongolic **gurčin* is going back to an earlier **gurtin*. The form of the word for '30' can be reconstructed in Manchu-Tunguzian as **gutin*[12], while the Jurchen form is **gušin* (Kane 1989, 364), these forms are loans from early Mongolic. Though the Chinese data is about hundred years older than the Khitan take over their new home in North China, and it is possible, that the Mongolic name is of Tuyühun origin, it gives some support to suppose that the Khitan word for '30' was also something like *gurčin*.

The decades over thirty seem to be simple ciphers: **Forty** 𗼽(145), **Fifty** 𗼾 (155), **Sixty** 𗼿 (266), 𗽀 (267) 𗽁 (424), **Seventy** 𗽂(300), 𗽃 (301), **Eighty** 𗽄 (449). Hitherto no example for **Ninety.** It is highly probable that dotted forms will also crop up.

Hundred.

The Khitan word for 'hundred' is:

[11] See Csongor 1952, 1954, Tokio Takata 1988

[12] See Laufer 1921, Miller 1975, Poppe 1979, Cincius 1975, 175, Doerfer 1985, Janhunen 1993

jaw 𘰾 (015) <jau>, 'hundred' (K2, 37, 102, D5-4, 19-8, 38-11) <ʤaw> (C:107) Liaoshi *zhao* 爪 | MMo *jawun*, Mo *jagun*, Da *jau,* HN *jaun* DaE *jau.* || All Mongolian languages and dialects have a final *–n* with the exception of Dagur and Khitan. The expression <ku.BORN.i jau.en eu.úr> is according to WJ(p. 204) a proverb-like expression, equivalent with the Chinese expression *rensheng baisui* 'human life [is equal to] a hundered years'. In this case *-en* is not the genitive suffix, but represents the final *–n.*

Thousand 𘲦 (207)

Chinggeltei (2002, 107) and Kane (K122) suggested to read the Khitan word for 'thousand' **miŋ** :

miŋ 𘲦 <miŋ> (207), 𘲦 𘳿 𘴈 𘵊 (207.011.332.254) <miŋ.an nai:d> 'leaders of a „thousand" ' (K60, 122, D40-14, 46-9, X47-4), 𘱖 𘲦 𘳕 𘳒 𘴰 (187. 207.122.140.336) <miŋ ai.en gi_2> '?' (D40-1/22), 𘲦 𘵅 (207.195) <miŋ.CHIEF) 'the leader of the „thousand"'(D46-9/12), <miŋ> (C:107)|Mo *minggan*, Da *miange,* HN *mïŋgan*, DaE *mᵛaŋgə* | ←OT *mïŋ, bïŋ.*

Ten thousand 𘱖 (187), also 'a great amount' and similar:

tüm 𘳕 (312), 𘳒 (406) <tum> 'ten thousand' (K:72, 120), 𘵣 𘳕 (134.312) <TWO.tüm> 'twenty thousand, two "tenthousand"' (*Renxian* Inscr. 49) | Mo *tümen,* Da *tume.* HN *tümen*, DaE *tum* || Only Da has the word without final *–n*, the graph occurs also in names as **tümür**

tümür 𘳕 𘴴 (312.097) <tum.úr>'iron'(D40-13, 43-1), 𘴷 𘴴 𘴴 (312.131.097) <tum.u.úr> (X47-9), 𘳕 𘳿 𘴴 (312.372.097) <tum.ū.úr> (X17-13, 38-36), in the name Tümür Tunga 𘳕 𘴴 𘳔 𘵘 𘲭 (312.097.247.357.189) <tumu.úr t.úng.a> in the *Yelü Renxian* inscr. (WJ119)| Mo *temür*, HN *temür*, Da 'iron' is **kasu* > Da *kasoo,* DaE *kasəː.* On the latter see Ligeti 1950-51 [13].

As it has been stated by most scholars, the latest by Janhunen 2012, 12-13, the Khitan and the Mongol numerical systems are genetically related, only in the high numbers as thousand and ten thousand do we find loanwords.

(to be continued with the chapter on the graphs representing vocalic units)

[13] The bibliography will be placed after the last part of this contribution.