Philology of the Grasslands

Essays in Mongolic, Turkic, and Tungusic Studies

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CHAPTER 18

Early Serbi-Mongolic–Tungusic Lexical Contact: Jurchen Numerals from the 室韋 Shirwi (Shih-wei) in North China

*Andrew Shimunek**

1 Introduction

Many scholars have written about the Jurchen-Manchu numerals 11–19, beginning with Wilhelm Schott (1853). Berthold Laufer (1921) first recognized the Mongolic affinity of these numerals, and his basic proposal has been largely upheld since. Despite the long history of work on this subject, the precise details of the relationship between these numerals and Mongolic, the specific language or dialect from which the numerals were borrowed, and the historical context of this loan relationship have remained unexplained. In a recent email, Professor Kara aptly called them "those wicked numerals", reflecting on our incomplete understanding of their origins and their tantalizing Mongolic affinities. I propose in this paper that the attested Jurchen numerals for 11–19 are probably reflexes of Archaic Jurchen numerals borrowed from the Serbi-Mongolic language of the Shirwi (Shih-wei).

2 Attested Jurchen-Manchu Numerals 11–19

As noted by Professor Kara, there are two numeral systems attested for Jurchen—(1) the typologically aberrant, synchronically monomorphemic numerals with Mongolic affinities; and (2) compound numerals of the form [10 + *n*] (Kara 1997: 227). For the sake of convenience, I term these numerals 'Type 1' and 'Type 2' in this paper.

* I am grateful to Christopher I. Beckwith for corrections; Gisaburō N. Kiyose and Oyuunch (Wu Yingzhe) for giving me copies of their books; and Michal Biran, Daniel Kane, Otgon Borjigin, Yasunori Takeuchi, and Jerry Norman† for providing me with other important resources which I have used in this paper. I would also like to thank Jason Glavy for creating his freeware Jurchen font, and Andrew West for his freeware Kitan fonts, which I have employed in this paper. Any errors in this paper are entirely my own.

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The *Hua-I i-yü* 華夷譯語 Jurchen dictionary, the *Chin Shih* 金史, and some of the earlier Jurchen inscriptions attest the Type 1 numerals. The phonological reconstructions of these numerals given below are my own revisions of previous proposals:

11 *ɔmšɔ 𘓱 ~ 𘓲 [安朔] (*HIIY.Jur : SJLS* 133 § 646; *JBB* 257). Cognate to Manchu *omšon* as in *omšon biya* '11th month'. I follow Ligeti's phonological reconstruction of this numeral as "**omšo*" (1953: 219, *n.* 13).

12 *ǰirχɔn 𘓳 [只兒歡] (*HIIY.Jur : SJLS* 133 § 647; *JBB* 204). Cognate to Manchu *ǰoryon* as in *ǰoryon biya* '12th month'.[1]

13 *gɔrχɔn 𘓴 [戈兒歡] (*HIIY.Jur : SJLS* 133 § 648; *JBB* 93–94). No attested reflexes in Manchu.

14 *durχɔn 𘓵 ~ 𘓶 [獨兒歡] (*HIIY.Jur : SJLS* 133 § 649; *JBB* 83). No attested reflexes in Manchu.

15 *tɔbɔχɔn 𘓷 [脫卜歡] (*HIIY.Jur : SJLS* 133 § 650; *JBB* 27). Cognate to Manchu *tofoχon* '15'.

16 *ni(l)xun 𘓸 [泥渾] (*HIIY.Jur : SJLS* 133 § 651; *JBB* 144) ~ *ñɔlχɔn [女魯歡] 'sixteen (十六)' (*Chin Shih* 2892). Cognate to Manchu *ñolxun* ‹niolxun› ~ *ñolχûn* ‹niolχûn› '16th day of the first month'.[2]

17 *dalχɔn 𘓹 [答兒歡] (*HIIY.Jur : SJLS* 133 § 652; *JBB* 83). No attested reflexes in Manchu.

18 *ñuxun 𘓺 [女渾] (*HIIY.Jur : SJLS* 133 § 653; *JBB* 200). No attested reflexes in Manchu.

19 *ɔñɔχɔn 𘓻 [斡女歡] (*HIIY.Jur : SJLS* 133 § 654; *JBB* 18). No attested reflexes in Manchu.

The later Jurchen memorials (i.e. the *Nü-chen-kuan lai-wen* 女真館來文) held in the Berlin National Library and the Tōyō Bunko, as studied by Kiyose (1977), exclusively use the Type 2 numerals for 11–19. See below for the attested compound numerals:

11 *ǰua *əmu 𘓼 (*SJM.BNL*$_1$: *SJLS* 152–155).

12 *ǰua *ǰuə 𘓽 (*SJM.BNL*$_{13}$: *SJLS* 176–178).

13 *ǰua *ilan 𘓾 (*SJM.BNL*$_2$: *SJLS* 155–157).

14 *ǰua *duin 𘓿 (*SJM.BNL*$_{17}$: *SJLS* 184–186).

1 This Manchu form is given by Zakharov (1875: 998).

2 These two Manchu forms are given by Zakharov (1875: 224).

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15 *ǰua *šunǰa 十亚 (*SJM.BNL*$_9$: *SJLS* 168–170).
16 (attested in *əmu *taŋgu *əmu *ǰua *niŋgu 一百一十六 '116' (*SJM.TB*$_2$: 192–195)).
17 *ǰua *nadan 十又 (*SJM.BNL*$_6$: *SJLS* 163–165).
18 *ǰua *ǰaqʊn 十六 (*SJM.BNL*$_5$: *SJLS* 161–163).
19 *ǰua *uyun 十九 (*SJM.TB*$_{17}$: *SJLS* 208–209).

These numerals are typologically aligned with neighboring languages: most Mongolic, Turkic, and Tungusic languages, as well as Chinese, Tibetan, Nivkh, Korean, Japanese, and many other languages of East Eurasia express the numerals 11–19 as compounds composed of [10 + *n*].

Some of the Jurchen inscriptions exhibit free variation between the two kinds of numerals, e.g. in the *Nü-chen chin-shih t'i-ming pei* 女真進士題名碑 inscription of 1224 A.D., *tɔbɔχɔn 五 'fifteen' (*l.* 2) and *ǰua *šunǰa 十亚 'fifteen', literally 'ten five' (*l.* 22), appear interchangeably in the same semantic contexts, denoting calendrical dates. See below:

卡	月	五	日
‹duin›	‹bya›	‹toboxon›	‹inenggi›
*duin	*bya	*tɔbɔχɔn	*inəŋgi
four	month	**fifteen**	day

'… the **fifteenth** day of the fourth month …' (*NüCS*, *l.* 2).

爻	歹	宁	月	十	亚	日
‹aǰir›	‹aña›	‹ninggu›	‹bya›	‹ǰua›	‹šunǰa›	‹inenggi›
*aǰir	*aña	*niŋgu	*bya	*ǰua	*šunǰa	*inəŋgi
first	year	six	month	**ten**	**five**	day

'… the **fifteenth** day of the sixth month of the first year …' (*NüCS*, *l.* 22).

By Manchu times, most of the Type 1 numerals for 11–19 were either lost or had semantically narrowed to very restricted calendrical usage (see discussion above). Note the following list of Literary Manchu numerals, from Gertraude Roth Li (2000: 64):

11 *ǰuwan emu*, literally 'ten one'.
12 *ǰuwan ǰuwe*, literally 'ten two'.
13 *ǰuwan ilan*, literally 'ten three'.
14 *ǰuwan duin*, literally 'ten four'.
15 *tofoχon* 'fifteen'.
16 *ǰuwan ninggun*, literally 'ten six'.

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17 *ǰuwan nadan*, literally 'ten seven'.
18 *ǰuwan ǰaqûn*, literally 'ten eight'.
19 *ǰuwan uyun*, literally 'ten nine'.

As the list above shows, the only Manchu reflex of the Jurchen numerals under discussion retaining the basic numeral sense is *tofoχon* 'fifteen'.[3]

3 The Kitan Hypothesis and Attested Kitan Numerals

Lajos Ligeti identified Middle Mongol cognates for the Jurchen numerals 12–17, and considered these Jurchen numerals to be loanwords from Kitan (1986: 428). As pointed out by Daniel Kane, however, "the [Kitan] teens are expressed by the graphs for 'ten-two', 'ten-three' and so on, like Chinese" (2009: 63 § 2.240), i.e. [10 + *n*]. In support of Kane's argument, I list the following attested Middle Kitan numerals in Kitan Assembled Script (the phonological reconstructions presented below are my own):

11 *par *... 𘍽 千 ‹par› ‹...›, literally 'ten one' (*YHsiang* 2: 3–4).[4]

3 Manchu as spoken in Sanjiazi, Heilongjiang, as documented by Engkebatu in the 1960s, largely retains the morphological structure of the Literary Manchu numeral system (cf. Engkebatu 1995: 206, 343). One interesting innovation in Sanjiazi Manchu is the variant [dʐuɑn tɔbᵠχɔn] 'fifteen' (Engkebatu 1995: 206), which is the result of morphological syncretism reanalyzing Literary Manchu *tofoχon* 'fifteen' to fit the structural pattern of the other numerals composed of the structure [dʐuɑn] 'ten' (i.e. Literary Manchu *ǰuwan*) + numeral. This innovative construction was used in variation with the expected form [tɔbᵠχɔn] ~ [tɔbᵠχʊn] 'fifteen', from Literary Manchu *tofoχon* (Engkebatu 1995: 343).

4 András Róna-Tas identifies a passage in the *Hsiao Ti-lu* inscription of 1114 A.D. attesting the ethnonym *par *ugur 止𘍽 爭九妄 ‹p.ar› ‹u.g.ur› (*HsTi* 32: 11–12), which he equates with the *On Ogur* (Róna-Tas 2016: 16), a western Turkic ethnonym of the 5th–6th c. A.D. Since Old Turkic *on* in this ethnonym means 'ten', this correspondence indicates that Kitan 𘍽 'ten' is read as 止𘍽. Róna-Tas follows Kane's reading of the grapheme 𘍽 ‹ra› (Kane 2009) and thus reconstructs Kitan 𘍽 *para 'ten' (2016: 16). As I have shown elsewhere (Shimunek 2011: 102), the Kitan Assembled Script grapheme 𘍽 should be read as ‹ar›. I thus reconstruct Middle Kitan *par 止𘍽 ~ 𘍽 ‹p.ar› 'ten'. Although I agree with Róna-Tas on his identification of 止𘍽 as a variant rendering of 𘍽 'ten', it is possible that the phrase *par *ugur indicates the *On Uyghur* [اُونْ اُویغُور], i.e. the 'Ten Uyghur', a phrase which appears in Rashīdu'd-dīn's early 14th century *Jāmi'u't-tawārīkh* in the following passage:
و در قدیم الایّام مقام اقوام اُویغُور در آن رودخانه ها و کوهها و صحراها بوده. آنچه در آن ده رودخانه بودند، ایشان را اُونْ اُویغُور خوانند. و آنچه در نه رودخانه تُوغُوزْ اُویغُور.

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12 *par *ǰur 乜 丞 ‹par› ‹ǰur›, literally 'ten two' (*Lang* 4: 19–20).[5]
13 *par *ɢur 乜 包 ‹par› ‹ɣur›, literally 'ten three' (*YChüeh* 35: 31).
14 *par *dur 乜 乇 ‹par› ‹dur›, literally 'ten four' (*Lang* 5: 6–7).
15 *par *taw 乜 夭 ‹par› ‹taw›, literally 'ten five' (*Hsü* 49: 22–23; *Chung* 20: 4–5).
16 *par *… 乜 亦 ‹par› ‹…›, literally 'ten six' (*Chung* 10: 44–45).
17 (not attested).
18 *par *ñɛm 乜 垔 ‹par› ‹ñêm›, literally 'ten eight' (*Ku* 7: 10–11).[6]
19 *par *iši 乜 禿 ‹par› ‹iši›, literally 'ten nine' (*Chung* 50: 14–15).[7]

Given the close semantic and phonological correspondences among the Jurchen Type 1 numerals for 11–19 and numerals in Kitan and Mongolic,[8] the marked typological difference in the morphological structure of the numerals, and certain gaps in lexical correspondence, e.g. *χɔn 'ten' vs. attested MKit *par 'ten' and MMgl *harban* 'ten'; and *ǰir 'two' vs. attested MKit *ǰur ~ *čur 'two' and MMgl *ǰirin* 'two (feminine)'—the Jurchen Type 1 numerals for 11–19 are likely to be borrowings from an unattested dialect of Kitan, or more likely, a different Serbi language closely related to Kitan.[9]

4 Historical Context

The *Chin Shih* 金史 describes the Jurchen people as descendants of the Mo-ho 靺鞨 (i.e. the people known as Malgal 말갈 in Korean) in the following passage:

"… Long ago the dwelling place of the Uyghur tribes was in those two river [systems], mountains, and plains. Those who were in the ten rivers were called the *On Uyghur*, and those who were in the nine rivers were called *Toquz Uyghur*" (*JT*$_{Th}$ 139; *JT*$_{RM}$ 139).

5 On the reading of the grapheme 丞 as ‹ǰur›, see Shimunek (2014: 104).

6 Oyuunch identified an orthographic variant of 垔 'eight' as 伏文丞 (2014: 132), composed of well-known phonograms, which I read as ‹ñ.iê.êm› and reconstruct phonologically as MKit *ñɛm 'eight'.

7 On the phonological value of the grapheme 禿 'nine' as ‹iši›, see Shimunek (2011: 102b).

8 For studies identifying Mongolic and Kitan cognates in the Type 1 Jurchen numerals, see Laufer (1921), Poppe (1979), Ligeti (1986: 428), Kara (1997), Janhunen (2003), and Kane (2009: 63 § 2.240).

9 Marc Miyake gives a similar proposal, speculating that Jurchen '15' is possibly "a loan from a non-Kitan para-Mongolic language: i.e., a sister of Khitan" (2012). I have independently arrived at essentially the same conclusion, although the details of my proposal differ from those of Miyake.

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金之先出靺鞨氏靺鞨本號勿吉

As for the ancestors of the Jurchen, they came from the Mo-ho. The Mo-ho were originally called Wu-chi.

Chin Shih 1: 1

The Kitan and Shirwi (室韋 Shih-wei) are descendants of the Yü-wen Serbi 宇文鮮卑.[10] As demonstrated by Ratchnevsky (1966: 231), the Shirwi confederation was a multiethnic, multilingual confederation comprised of Tungusic-speaking Mo-ho 靺鞨 people (i.e. ancestors of the Jurchen),[11] the Meng-wa 蒙瓦 ~ Meng-wu 蒙兀, whom Pelliot (1928) and others have shown were Proto-Mongolic speakers,[12] and other groups. The dominant group among the Shirwi undoubtedly were ethnolinguistic descendants of the Serbi (鮮卑 Hsien-pei), and spoke a language closely related to Kitan and more distantly related to Mongolic.

These three different Shirwi peoples also had close ethnolinguistic contact with Turkic speakers: As discussed by Ratchnevsky, the Shirwi were dependent on the Türk, their politically dominant neighbors (1966: 229).

This complex ethnolinguistic interaction is a likely context not only for early Turkic loanwords into Proto-Mongolic (i.e. the language of the Meng-wu ~ Meng-wa) and the late Serbi dialect of the Shirwi Proper (i.e. the dominant group of the Shirwi confederacy), but also for Shirwi loanwords into Archaic Jurchen (i.e. the language of the Mo-ho).[13]

The Type 1 Jurchen numerals for 11–19 are undoubtedly a result of this ethnolinguistic contact, and are probably reflexes of loanwords from the late Serbi dialect of the dominant group among the Shirwi (i.e. Shirwi Proper) into the Archaic Jurchen language of their Mo-ho subjects. The *χɔn element in these Shirwi numerals, which Laufer (1921) identified as cognate to Turkic '10', is explainable as an Old Turkic dialect word cognate to attested Old Turkic *on* 'ten' and attested Archaic Turkic *hun* 'ten' in the early western Turkic ethnonym *Hunuguri*, i.e. *hun ugur*, the 'Ten Tribes'.[14]

10 Cf. Kai Chih-yung (2001: 41–42), Aisin Gioro Ulhicun (2004: 79), Xu (2005: 99), Twitchett & Tietze (2008), and Marsone (2011: 35, 39).

11 The *Hsin T'ang Shu* 新唐書 describes the language of the southern Shirwi as follows: 其語言靺鞨也 'Their language is Mo-ho.' (*HTS* 219: 6176).

12 Cf. Pelliot (1928: 126–127), Rinchen (1964: 230), Ratchnevsky (1966: 251), and Bernardini & Guida (2012: 11).

13 This is undoubtedly the historical context in which many of the presumably early Old Turkic loanwords into Proto-Mongolic took place.

14 The early Turkic ethnonym *Hunuguri* in Jordanes' *Getica* (551 A.D., cf. Ligeti 1986: 348), i.e.

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5 Reconstructed Shirwi (Shih-wei) Numerals

Given the historical context discussed above, the Jurchen Type 1 numerals are very likely Shirwi numerals borrowed into Archaic Jurchen, the language of the Mo-ho people who had been subjugated to the Shirwi confederacy. I reconstruct these Shirwi numerals as follows:

Shirwi *χɔn 'ten' ← OTrk dial. *hon ~ *hun 'ten'.[15] This Shirwi word is unrelated to Middle Mongol *harba-n* 'ten' and its Middle Kitan cognate *par 乍 'ten' (< CSM *pʰar 'ten'). The Shirwi numeral is explainable as a replacement of the earlier Common Serbi-Mongolic form due to the prestige of a neighboring Old Turkic dialect.

Shirwi *Vmš-χɔn (*amš-χɔn?) 'eleven' → Jurchen *ɔmšɔ 'id.' ~ Manchu *omšon* as in *omšon biya* 'ıɪth month'. The Jurchen form is the result of consonant cluster simplification and regressive assimilation to the vowel of the *χɔn element.

The first morpheme in the Shirwi word for 'eleven', *Vmš (*amš?) 'one', is probably cognate to the root of attested Middle Kitan *mas-qu 又冬余 ‹m.as.qu› ~ *mas-qɔ 又冬欠 ‹m.as.qo› 'first'.[16] This Middle Kitan word is attested in passages such as the following:

刁	母万当	伞母	几火布	又冬余	母勿	丞孓为
‹ia›	‹b.y.en›	‹s.iang›	‹g.ung.en›	**‹m.as.qu›**	‹b.aq›	‹qa.ɣ.a›
*ya	*byən	*syaŋguŋ-ən		***masqu**	*baq	*qaʁa
elder.brother	PERS.N.	chancellor-GEN		**first**	child	PERS.N.

hun ugur with the Latin plural suffix *-i*, is evidence of an early western Archaic Turkic dialect form *hon ~ *hun 'ten', since this ethnonym corresponds to **Ὀνόγουροι** (with the plural suffix -οι), i.e. *On Ogur* 'the Ten Tribes' in Byzantine Greek texts (cf. Moravcsik 1958: 219; Golden 2012).

15 On the semantic value of this morpheme as 'ten', see Laufer (1921) and Poppe (1979). According to G.J. Ramstedt, this morpheme in the Jurchen numerals was borrowed from Mongolic 'twenty', but Omeljan Pritsak dismissed this proposal, stating that "die phonetische Seite dieser Annahme bereitet zu große Schwierigkeiten, als daß man sie annehmen könnte; in den süd-tungusischen Sprachen haben wir folgende Entsprechungen des mongolischen *qorin* ~ *xorin*" (Pritsak 1955: 190). Ligeti upheld the 'twenty' hypothesis (1986: 428).

16 I do not follow Batu's claim that Middle Kitan 仕企仐几 is rewritten as 毛仐几 in line 15 of the *Tao-tsung* inscription (Batu 2012: 767; *Tao* 15:14). The grapheme block in question is very unclear in the published rubbings (cf. the rubbing in Chinggeltei 2002), and it is

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仐各少
‹s.êng.un›
*sɛŋun
field.marshal
'The **first** son of elder brother Chancellor *byən [was] Field Marshal *qaʁa.' (*YHsiang* 10: 16–23; adapted from Oyuunch & Janhunen 2010: 160; the phonological reconstruction is my own revision).

毋孓出	乍	丰公	丞	又冬余	令企当	生
‹b.ɣ.an›	‹dur›	‹ai.d›	‹ǰur(?)›	‹**m.as.qu**›	‹t.em.en›	‹ebu›
*bʁ-an	*dur	*ay-d	*ǰur(?)	***masqu**	*təmən	*əbu
child-PL	four	male-PL	two.MASC	**first**	PERS.N.	

'[There were] four children. Two [were] boys. The **first**/eldest [was] *təmən *əbu.' (*HsHui* 7:32).[17]

毋孓出	乍	丰公	丞	又冬欠	猕伏
‹b.ɣ.an›	‹dur›	‹ai.d›	‹ǰur(?)›	‹**m.as.qo**›	‹qutuq.ñ›
*bʁ-an	*dur	*ay-d	*ǰur(?)	***masqɔ**	*qutuqñ
child-PL	four	male-PL	two.MASC	**first**	PERS.N.

'[He had] four children. Two [were] boys. The **first** [was] *qutuqñ.' (*HsHui* 5:20).[18]

Either the attested Middle Kitan form *mas 'one' or the hypothetical Shirwi form *Vmš (*amš?) is the result of metathesis. Middle Kitan *mas and Shirwi *Vmš (*amš?) 'one' have no cognates in the Mongolic branch.[19]

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difficult to follow his conclusion, despite its widespread acceptance in the Kitanological literature.

17 On the reading of the grapheme 生 as ‹ebu› see Oyuunch & Janhunen (2010).

18 On the identification of 猕 as a single grapheme, and on its phonological value, see Kane (2009). I revise Kane's reading of this grapheme to ‹qutuq›.

19 Janhunen's proposal to connect Jurchen-Manchu *omšo ~ omšon* 'eleven' with Written Mongol *onča* 'special' is unlikely for several reasons: 1) the Mongol word *onča* is not attested in Middle Mongol, and does not appear until modern Written Mongol; 2) it is difficult to explain the hypothetical *m : n* correspondence; and 3) the proposed semantic change of 'special' > 'one' is problematic. Middle Mongol *niken* 'one' superficially resembles Nivkh; cf. reconstructed Pre-Nivkh *ñi 'one' and Middle Mongol *-ken* 'diminutive suffix', although there is no known historical context connecting these numerals. The reconstructed Pre-Nivkh form *ñi 'one' is from Gruzdeva (2004: 303). The similarity with Middle Mongol *niken* 'one' is my own observation.

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Shirwi *ǰir-χɔn 'twelve' → Jurchen *ǰirχɔn 'id.' > Manchu *ǰoryon* (as in *ǰoryon biya* '12th month').[20] The Manchu reflex of the Jurchen form is the result of regressive assimilation breaking the *i of the first syllable. The *ǰir element in the Shirwi word is the numeral 'two', cognate to Middle Mongol *ǰirin* 'two (feminine)'[21] and Middle Kitan *ǰur ~ *čur 'two'[22] < CSM *ǰur ~ *ǰir 'two'.

Shirwi *ɢur-χɔn 'thirteen' → Jurchen *gɔrχɔn 'id.' The Jurchen form is the result of regressive assimilation to the vowel of the final element *χɔn 'ten'. Shirwi *ɢur 'three' is cognate to Middle Kitan *ɢur 'three'[23] and Middle Mongol *qurban* 'three' < CSM *gʊr 'three'.

Shirwi *dur-χɔn 'fourteen' → Jurchen *durχɔn 'id.' Shirwi *dur 'four' is cognate to Middle Kitan *dur ~ *tur 'four'[24] and Middle Mongol *dörben* 'four' < CSM *dor 'four'.

Shirwi *tabu-χɔn 'fifteen' → Jurchen *tɔbɔχɔn 'id.' > Manchu *tofoχon* 'id.' The rounding in the first syllable of the Jurchen form is the result of regressive assimilation to the vowel of the *χɔn element due to Jurchen phonotactics. Shirwi *tabu 'five' is cognate to Middle Kitan *taw 'five'[25] and Middle Mongol *tabun* 'five' < CSM *tʰab(ʊ) 'five'.

Shirwi *ñǰir-χɔn 'sixteen' → Jurchen *ñi(l)xun ~ *ñɔlχɔn 'id.' > Manchu *ñolxun* [ɲɔlxun] ~ *ñolχûn* [ɲɔlχʊn] '16th day of the first month'. The onset of the Jurchen form is the result of cluster simplification—Jurchen phonology is not characterized by ᴺC cluster onsets. Shirwi *ñǰir (*ñǰɪr?) 'six' is cognate to Middle Mongol *ǰirqo'a-n* 'six' < CSM *ñǰɪr 'six'. This correspondence has further explanatory power with certain otherwise aberrant Manchu-Mongolic lexical corre-

20 Sanzheev connected Manchu *ǰoryon* with Written Mongol *ǰirɣuɣan* 'six' (1930: 701). Although he was right to connect the Manchu word with Mongolic, this specific etymology is untenable given the attested Jurchen form (q.v. § 2 above). The Manchu form was later borrowed into Daur, cf. modern Daur [ʤoryunbe:] '12th month' (Engkebatu 1984: 320), written *jorwonbie* in the Pinyin-based Daur orthography (Nashundalai 2001: 253).

21 E.g. early MMgl *ǰirin* [只舌鄰] 'two (兩箇)' (*SHM* § 70).

22 Attested Middle Kitan *čur- 朮仳 ‹č.ur.› ~ 朮安 ‹č.ur.› ~ *ǰur- 女仳 ‹ǰ.ur.› ~ *ǰur 圣 ‹ǰur› 'two'.

23 Attested Middle Kitan *ɢur- 灾 ‹ɣur.› ~ 刌仳 ‹ɣ.ur.› ~ *ɢur 包 ‹ɣur› 'three'.

24 Attested Middle Kitan *dur- 岔仳 ‹d.ur.› ~ *dur 弔 ‹dur› ~ *tur- 令仳 ‹t.ur.› 'four'.

25 Attested Middle Kitan *taw 戈 ‹tau› 'five'. Note also the partially suppletive root *ta- ~ *tɔ- in the ordinal forms *ta-dɔʁ 令东及圡 ‹t.ad.o.oɣ› ~ *tɔ-dɔʁ 令币及圡 ‹t.od.oɣ› 'fifth (MASC.)' and *ta-dɔn 令东及冉 ‹t.ad.o.on› ~ *tɔ-dɔn 令币及冉 ‹t.od.o.on› 'fifth (FEM.)'.

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spondences, e.g. Manchu *niru-* 'to draw' : MMgl *ǰiru-* 'to draw'.[26] The Manchu word is probably a reflex of an unattested Jurchen form, ultimately borrowed from unattested Shirwi *ñǰiru- < CSM *ñǰirʊ- 'to draw'; the attested Middle Kitan reflex is *ǰur- as in *ǰur-ən 'paintings (plural)'.[27] The Kitan Assembled Script grapheme 亦 'six' has been semantically deciphered, but its phonological value is not yet known.

Shirwi *dal-χɔn 'seventeen' → Jurchen *dalχɔn 'id.' Shirwi *dal 'seven' is cognate to Middle Kitan *dalu 'seven'[28] and Middle Mongol *dolo'a-n* 'seven' < CSM *dalʊ 'seven'.

Shirwi *ñu-χɔn/*ñɛw-χɔn 'eighteen' → Jurchen *ñuxun 'id.' The *-xun element in the Jurchen form is the result of progressive assimilation with the vowel of the first syllable to satisfy Jurchen vowel harmonic phonotactic constraints. Shirwi *ñu (or *ñɛw) 'eight' is likely from earlier *ñɛw < *ñɛw̃ < *ñɛm 'eight', cf. Middle Kitan *ñɛm 'eight'[29] and its Middle Mongol cognate *naima-n* < CSM *ñayıma 'eight'.

Shirwi *Vmš-ñu-χɔn/*Vmš-ñɛw-χɔn 'nineteen' → Jurchen *ɔñɔχɔn 'id.' The Shirwi form appears to be a compound form composed of *Vmš (*amš?) 'one', *ñu or *ñɛw 'eight', and *χɔn 'ten'. The word was simplified in Jurchen to conform to Jurchen phonotactics and regressively assimilated to the vowel of the *χɔn element. The Shirwi word for 'nine', a compound form composed of *Vmš 'one' and *ñu/*ñɛw 'eight', is probably an innovation in that language.[30] Middle Kitan *iši 'nine'[31] is closely cognate to Middle Mongol *yisü-n* 'nine' < CSM *yiswi 'nine'.

Below is a summary of my reconstructions of the Shirwi numerals:

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26 Sanzheev noted this Manchu-Mongol correspondence (1930: 674).

27 MKit *ǰur-ən 丞当 ‹ǰur.en› 'painting-PL' (*Lang* 3:13) corresponds to 'paintings (繪)' in the Chinese text of the *Lang-chün Inscription* (Shimunek 2014: 103–104, 114).

28 Attested Middle Kitan *dalu- 六丹 ‹da.lu.› ~ *dalu 尾 ‹dalu(?)› 'seven'.

29 Attested Middle Kitan *ñɛm 伏文丞 ‹ñ.iê.êm› ~ 至 ‹ñêm› 'eight'. See Oyuunch (2014) for the identification of 伏文丞 as an orthographic variant of 至 'eight'.

30 See Janhunen (2003) for a similar proposal. Alternatively, the word for 'nineteen' could be an innovation in Jurchen, a blend of the native Tungusic word for 'one' (cf. Jurchen *əmu 'one') + the numeral construction for 'eighteen' borrowed from Shirwi; cf. Laufer (1921) for a similar proposal.

31 Attested Middle Kitan *iši 禿 ‹išı› 'nine'

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1	*Vmš (*amš?)	11	*amš-χɔn (?)
2	*ǰir	12	*ǰir-χɔn
3	*ɢur	13	*ɢur-χɔn
4	*dur	14	*dur-χɔn
5	*tabu	15	*tabu-χɔn
6	*ñǰir	16	*ñǰir-χɔn
7	*dal	17	*dal-χɔn
8	*ñu/*ñɛw	18	*ñu-χɔn / *ñɛw-χɔn
9	*amš-ñu (?) / *amš-ñɛw (?)	19	*amš-ñu-χɔn (?) / *amš-ñɛw-χɔn (?)
10	*χɔn (← OTrk dial.)		

Sigla and Abbreviations

Sigla for Jurchen Texts

1224	*NüCS*	*Nü-chen chin-shih t'i-ming pei* 女真進士題名碑 (for photos of rubbings, see *KMS*).
14th c.	*HIIY.Jur*	*Hua-I i-yü* 華夷譯語 Jurchen dictionary (Kiyose 1977).
n.d.	*SJM.BNL*	Berlin National Library text of the *Sino-Jurchen Memorials* (i.e. *Nü-chen-kuan Lai-wen* 女真館來文), (Kiyose 1977).[32]
n.d.	*SJM.TB*	Tōyō Bunko text of the *Sino-Jurchen Memorials* (*Nü-chen-kuan Lai-wen* 女真館來文), (Kiyose 1977).

Sigla for Kitan Assembled Script Texts

1071	*YChüeh*	*Yeh-lü Chüeh mu-chih-ming* 耶律玦墓誌銘 (Oyuunch 2012).
1080	*HsHui*	*Hsiao Hui-lien mu-chih-ming* 蕭回璉墓誌銘 (Oyuunch 2012).
1091	*YHsiang*	*Yeh-lü Hsiang-wen mu-chih* 耶律詳穩墓誌 (Oyuunch & Janhunen 2010).
1101	*Tao*	*Tao-tsung huang-ti ai-ts'e* 道宗皇帝哀冊 (Chinggeltei 2002: Liu 2014).
1105	*Hsü*	*Hsü-wang mu-chih* 許王墓誌 (Chinggeltei 2002; Liu 2014).
1114	*HsTi*	*Hsiao Ti-lu fu-shih mu-chih* 蕭敵魯副使墓誌 (Oyuunch & Janhunen 2010).
1115	*Ku*	*Ku Yeh-lü shih ming-shih* 故耶律氏銘石 (Chinggeltei 2002; Liu 2014).

32 These memorials are numbered followed Kiyose (1977). In my sigla in this paper, the text numbers are indicated with a subscript numeral.

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1134	*Lang*	*Lang-chün hsing-chi* 郎君行記 (Chinggeltei 2002; Shimunek 2014; Liu 2014).
1150	*Chung*	*Hsiao Chung-kung mu-chih* 蕭仲恭墓誌 (Chinggeltei 2002; Liu 2014).

Sigla for Chinese Texts

Chin Shih	T'o-t'o [Toqto'a]. *Chin Shih* 金史. Peking: Chung-hua shu-chü, 1975.
HTS	Ou-yang Hsiu. *Hsin T'ang Shu* 新唐書. Peking: Chung-hua shu-chü, 1975.

Sigla for Mongol Texts

SHM	*Secret History of the Mongols = Mongqol-un niuča tobča'an* (Kuribayashi 2009).

General Sigla

JBB	Chin Ch'i-tsung. *Jušen bitxe buneku* 冥儥卑佩喈. Peking: Wen-wu ch'u-pan-she, 1984.
JT_{RM}	Rashīdu'd-dīn Faḍlul'lāh. *Jāmi'u't-tawārīkh* (جامع التواريخ). early 14th c. Edited by Muḥammad Rawshan & Muṣṭafā Mūsavī, 4 vols. Tehran: Nashr-i Alburz, 1373 SH.
JT_{Th}	Rashīdu'd-dīn Faḍlul'lāh. *Jāmi'u't-tawārīkh* (جامع التواريخ). early 14th c. (trans. Thackston 2012).
KMS	Aichi Prefectural University. *Kodai Monji Shiryōkan* 古代文字資料館 (website).
SJLS	Kiyose Gisaburō. *A Study of the Jurchen Language and Script*. Kyoto: Hōritsubunka-sha, 1977.

Abbreviations and Transcription Conventions

CSM	Common Serbi-Mongolic
dial.	dialect
FEM	feminine
GEN	genitive
l.	line
MASC	masculine
MKit	Middle Kitan
MMgl	Middle Mongol

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n.d.	no date given
OTrk	Old Turkic
q.v.	*quod vide* (which see)
PERS.N.	personal name
PL	plural
SH	Solar Hijri date
-	morpheme boundary
*	linguistic reconstruction
.	grapheme boundary
‹ ›	transcription of orthographic form
<	language-internal change
←	borrowing or loanword between different languages

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