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**Chronology of some Yakut phonetic changes  
in the context of 18<sup>th</sup> century Mongolian loanwords into Yakut**

**Abstract**

A painful lack of old and reliable philological sources for the history of Yakut and Dolgan has made insights into the chronology of phonetic shifts almost impossible. However the recent publication of Gerhard Friedrich Mueller's 18<sup>th</sup> century Siberian linguistic materials by Eugen Helinski and Hartmut Katz (†) has essentially altered the situation. In this paper Mueller's materials are compared with Dolgan linguistic data in an initial attempt to shed light on the chronology of the phonetic changes on the basis of Mongolian loanwords adopted by Yakut. A summary of some of the tangible results of the study is shown in a table at the end of the paper.

**1.**

There exists no old literature in the Yak. language, and the first extensive Yak. text dates only from 1851. This fact makes philological investigations, as well as insights into Yak. linguistic chronology almost impossible. Until now, only Gy. Kara (1972) could suggest some direct chronological data on the basis of Nicolaes Witsen's Yak. material. However, its scarcity compelled Kara to concentrate particularly on the evolution of one consonant only, namely Yak. *s* which has had some PTkc. sources.

Fortunately, the recent publication of 18<sup>th</sup> century Siberian linguistic materials collected by Gerhard Friedrich Mueller in the years 1736–1742 (see NVS in the References) has essentially altered the situation. There is every hope that a thorough comparison of Mueller's materials with Dolg. linguistic data may shed some new light on the chronology of the Yak. historical phonology. The present study is the first attempt at reaching this goal.

In what follows, we are first of all going to present Mo. loanwords attested in Mueller's Yak. material. They will then be commented on and compared with some

characteristic features of Dolg. Specific inferences will be shown in a table giving chronological summings-up of our study.

Two words have been excluded from the analysis. The reason is, in both cases, the same: their Mo. origin is uncertain. This concerns Yak. *abāhy* 'devil' (see Stachowski 2001: 173–180) and *barča*, explained in NVS 222 as *puorsa*, i.e. 'dried meat or fish' (see Janhunen 1977 passim; Stachowski 1992: 110 sq.; 1995: 148 [s.v. *čarba*], 153 [s.v. *porča*]).

## 2.

**araņas**<sup>1</sup> 'lumber-room, store-house' [NVS 221: *Araņas Sulus* <Arangàs-Sulùs> 'the Great Bear || der Große Bär'] = Dolg. *araņas* id. < \**araņa* (+ *-(a)s* < PTkc. \*-(a)č̣ > Bur. Xlx. *aranga* 'platform, dais; shed; watch-tower' (Iac. 205). For semantic parallels cf. Anikin 1990: 19 sq.; ÈSRS 93. For other names of the Great Bear cf. also Zieme 1994 passim.

Inferences: Both [1] the derivational process (\**araņa* + *-(a)s*) and [2] the PTkc. \**č̣* > Yak. *-s* alteration were completed no later than at the beginning of the 18<sup>th</sup> century.

**ännä** 'dowry' [NVS 223: *ännä* <Ennè> id.] < \**innä* < MNT *inže*, WMo. *inži* (Iac. 94).

Inferences: [1] The assimilation process (*-nž-* > *-nñ-*) was finished by the turn of the 18<sup>th</sup> century; [2] The vowel assimilation (\**i - ä* > *ä - ä*) was complete at the same time but this tendency seems to have never achieved the status of a regular sound law, cf. two Yak. *ä - ä* examples versus six *i - ä* words in GJV § 29.5, 29.2.

**batas** 'great knife with a broad blade and a long handle' [NVS 222: *batas* <Batas> id.] < \**batā* (+ *-(a)s* < PTkc. \*-(a)č̣ > \**bataga* < Bur. *madaga* id. = WMo. *madagan* 'dirk, dagger' (Iac. 245).

Inferences: Apart from [1] the \**č̣* > *-s* change, (observed also in *araņas*), the following findings, complete at the turn of the 18<sup>th</sup> century at the latest, can be noticed here: [2] Mo. *m-* > Yak. *b-*; [3] Mo. *-aga* > Yak. \**-ā*. Besides: [4] \**-Cā* + *C-* > *-CaC-* was in the process in the 18<sup>th</sup> century; [5] The Mo. *-d-* > Yak. *-t-* change is noticeable. The most usual Yak. reflexes of the Mo. *d* are both *d* and *t* (Iac. 71 sq.) but a closer examination of the word material makes it possible to suggest the following rule: Mo. *-ada-* > Yak. *-ata-* (the vowel quantity can be ignored here). Etymological groups with other vowel sequences (like *adu*, *uda* and so on) yielded reflexes with *d* in Yak. The only exception seems to be Yak. *satā-* ~ *sytā-* 'to can, be able' < WMo. *čida-*, bur. *šada-* (Iac. 72). This is, however, a misleading impression, since the Yak. *y* variant does not reflect WMo. *i* but, instead, results from an indigenous analogy (cf. *a* ~ *y* alternation in: PTkc. \**kat-* 'to harden, become hard' > Yak. *xat-* 'to become dry' ~ *kyt-āt-* 'to become hard' [GJV

<sup>1</sup> Headwords are modern Yak. words, whose phonetic variants, as attested in NVS, are given in brackets. Sharp parentheses <...> signal the original spelling. It is followed by the meaning of the word, given in English and separated by || from the original German meaning, as attested in NVS.

§ 1.3]; dial. Russ. *drožalka* ‘jellied meat’ > Yak. *darahānka* ~ *dyrahānka* id. [GJV § 1.8]; Mo. *čabči-* ‘to hew, whittle’ > Yak. *čapčyj-* > Yak. *čapčāl* ~ *čypčāl* ‘sharp end, point’ [ibid.]). Thus, the voiceless consonant in Yak. *satā-* ~ *sytā-* unambiguously points to an etymon with the *\*ada* group, i.e. to the Bur. word *šada-*. – Cf. *batyja*.

**batyja**, semantically = *batas* [NVS 222: *batyja* <Batijä> id.] = Dolg. *batyja* ‘hunting spear’. – Usually regarded together with *batas* as a loanword < Mo., which, however, creates phonetic problems. The suffix *-yja* is unproductive today, and it only occurs in a few derivatives, mostly those of not quite clear structure and etymology (GJa 123). One of them is Yak. *kytyja* ‘wooden bowl, dish’ < *kytax* ‘great wooden dish’ << Ar. *qadah* ‘mug, cup’ (GJV § 1.8), a word whose suffix *-yja* has apparently replaced the word-final syllable *-ax* (in the etymon *kytax*), having been evidently (though falsely) identified with the indigenous nominal suffix *-ax*, as in Yak. *byhax* ‘knife’ < *bys-* ‘to cut’ (GJa 120). The same process probably affected the Bur. loanword *batas*, with its suffix *-(a)s*, replaced here by *-yja*. This time, however, the suffix *-(a)s* was correctly abstracted, and the change was probably facilitated by the association with the Yak. verbal stem *bat-* ‘to plunge (into)’; cf. also the comments in DWB 52.

**bäläx** ‘gift, present’ [NVS 222: *bäläx* <Belljäch> id.] = Dolg. *bäläk* ‘1. id.; 2. sacrifice’ < Old Yak. *\*bäläk* (= Tuv. Kirg. *bäläk* id.) ~ *\*böläk* (> Tat. *büläk* id.) < Bur. WMo. *beleg* id.

Inferences: [1] The spirantization process (*\*-k* > Yak. *-x*) was completed at the turn of the 18<sup>th</sup> century at the latest; [2] Sib. Russ. *беляк* ‘extortion, additional requisitions’ ~ *болók* ‘gift (?)’ (Anikin 2000: 127, 133) reflect, because of their final *-k*, not the modern Yak. word *bäläx* but, instead, either the Old Yak. form *\*bäläk* or another Tk. phonetic variant (see above) or, maybe, the Evk. (< Old Yak.) form *belek* id.

**žalbȳr** ‘a shaman’s whip/knout’ [? = NVS 223: *žalbu* <Dschalbù> ‘a shaman’s stick/wand || (magisches) Stöcklein (des Schamanen)’. – Both the identification and the etymology of the word are uncertain, and no inferences concerning the historical phonology can be made here. For etymological connections of Yak. *žalbȳr* see Iac. 271 s.v. *žalyn*.

**iäžägäj** ‘cow’s cheese, curd’ [NVS 223: *äžägäj* <Edshegè> id.] < MMo. (14<sup>th</sup>–16<sup>th</sup> c.) *\*äžägäj* (< WMo. *egežegej*) > Bur. *ēzgej* id. (cf. Iac. 56).

Inferences: [1] The contraction of WMo. *ege-* > Yak. *ä-* was completed at the turn of the 18<sup>th</sup> century; [2] The diphthongization (*\*ä-* > Yak. *iä-*) must have taken place no earlier than in the second half of the 18<sup>th</sup> century.

**kältägäj** ‘curved, crooked’ [NVS 223: *kältägäj tobuk* <Keltegè-tobük> ‘curved knee || Krummknief’] = Dolg. *kältägäj* ‘1. id.; 2. limping, lame’ < ? WMo. *keltegej* ‘1. id.’ (Iac. 108).

Inferences: The *\*-ägä-* group was retained unchanged (a form like Yak. *\*kältiäj* should be expected here, cf. Iac. 56 sq.) which can possibly point to another solution: WMo. *kelteji-* ‘to be curved’ (+ Mo. *-gaj* > Mo. *keltegej* ‘curved’) > Yak. *kältäj-* id. (+ Yak. [< Mo.] *-gaj* > Yak. *kältägäj* ‘curved’). This version seems quite likely since the Mo. suffix is productive and very active in Yak. (Iac. 108).

**köyüör** ‘great skin bag or churn for holding liquids’ [NVS 224: *köyör* <Kögör> ~ <Kögör> ‘vessel for kumiss production || Gefäß, in welchem man Kumyß macht’] < ? WMo. *kökügür* ‘leather bag’ (Anikin 2000: 315, s.v. *kukur* II).

Inferences: [1] The phonetic shape of the etymon is not quite certain. It is true that the WMo. word has the vowels  $\ddot{o} - \ddot{u} - \ddot{u}$ . However, its Yak. reflex should then have a form like *\*köyür* (cf. Yak. *sūr-* 'to run' < *\*jügür-*, whereas the attested word *köyür* points to an etymon like Mo. *\*kökegür* rather (for Mo. *-egü-* < Yak. *-üö-* see Iac. 58 sq.), and this seems to be confirmed by Tel. *kökkör* 'skin churn', Tuv. *kögār* id. (Anikin, *ibid.*); [2] The long vowel  $\ddot{o}$  was still not diphthongized in Yak. in the first half of the 18<sup>th</sup> century.

**moyoj** 'snake' [NVS 225: *moyoj* <Mogoi, Mogòi> id.] ~ *mojoj* id. = Dolg. *mojoj* id. < WMo. *mogaj* id. (Iac. 69).

Inferences: [1] The vowel change ( $o - a >$  Yak. Dolg.  $o - o$ ) is important as it points to chronology of the Tkc. vowel harmony in that it shows that vowel attraction, being the final phase of the evolution of vowel harmony, finished no later than at the turn of the 18<sup>th</sup> century; [2] The extremely rare  $-g- > -\eta-$  change (see Iac. 81) sporadically occurred also prior to the 18<sup>th</sup> century, as shown above. However, it has never become regular or at least popular.

**möyölcök** 'round-headed; convex, vaulted' [NVS 225: *möyölcök* <Mogoltschok> 'round || rund'] = Yak. *moyočox* 'round block of wood' < Old Yak. *\*moyölcök* < WMo. *mogulčag*, Kalm. Xlx. *mogoltsög* 'round' (Iac. 105 sq.).

Inferences: [1] The reduced vowels of the Kalm. and Xlx. forms seem to fit the modern Yak. variants better than the WMo. vowels which do not constitute a basis convenient for the labial attraction leading to the  $o - o - o \sim \ddot{o} - \ddot{o} - \ddot{o}$  sequence;<sup>2</sup> [2] A reason for vowel palatalization is uncertain (presumably the influence of  $\check{c}$  and/or the Mo. alveolar pronunciation of  $l$ ); [3] Tendency to shortening of the Mo.  $-l\check{c}$ - group > Yak.  $-\check{c}$ - must have taken place in the second half of the 18<sup>th</sup> century at the earliest.

**sabaraj** '1. wide (on eagle's paw or tail); 2. wide bowl made of birch bark' [NVS 225: *sabaraj* <Sabaräi> '2. id. || Gefäß aus Birkenrinde'] < Mo. *\*sabaraj* < WMo. *sabar* '1. claws, paws; 2. wooden fork for collecting dry dung' (Iac. 317; Lessing 1960: 653. – On the Mo. suffix  $-aj$  [as in WMo. *or+oj* 'parting of the hair' vs. *or+gil* 'top, summit'] see Poppe 1923–27: 90, DWB 7).

Inferences: [1] The Yak.  $s$ - aphaeresis must have been completed prior to the period of Mo. lexical influence, i.e. before the 13<sup>th</sup> century; [2] The Mo. suffix  $-aj$  is not very productive in Yak. (it is lacking in Kažužyński 1961 and GJa; nevertheless, cf. Yak. *sikāj* = Dolg. *hikāj* 'moist, humid, wet' < Yak. *sik* = Dolg. *hik* 'moisture, humidity, wetness' [DWB 7], if the basis word is Tkc. [Iac. 61]). For this reason, a Mo. derivative *\*sabar+aj* was suggested above. If this conjecture proves to be true in the future, the Yak. attestation will in a sense contribute to our knowledge of the Mo. lexical stock.

**tarajaj** '1. bald spot; 2. bald' [NVS 226: *tarajaj* <Taragài> 'scab || Grind'] < WMo. *tarakaj* 'bald' = MMo. *tarajaj* id. (Iac. 70; ÈSRS 533).

Inferences: Since the WMo. intervocalic  $-k-$  usually yields  $-g-$  ~  $-\eta-$  in Yak. (as in Yak. *tabajaj* 'palm; paw' < Mo. *tabakaj* 'sole of the foot; paw' [Iac. 80]), no inference can be

<sup>2</sup> But cf. also Dolg. *bulāt* ~ *bolot* 'sword' << Pers. *pūlād* 'steel'.

drawn from the Yak. evidence as for the chronology of the borrowing process: Yak. < WMo. -k- or MMo. -γ-.

**törküt** '1. a bride's visit to her family; 2. wedding present' [NVS 226: *törküt* <Törküt> '2. id. || (Hochzeits-) Geschenk'] < MMo. \**törküt* < MMo. \**törkü(n)d* < WMo. \**törkünd*, Pl. < *törkün* (~ *törküm*) '1. the family of a married woman; 2. the home of a married woman before her marriage' (Iac. 152; Lessing 1960: 835). For the Pl. -d formations see Godziński 1985: 75 (for \*-t) and Poppe 1955: 179 (for \*-(n)d).

Inferences: [1] The word probably is a loan from MMo.; [2] The semantic change ('family' > 'visit to the family') is surely due to depluralization of the Mo. word in Yak. (otherwise, the use of an added Tkc. Pl. suffix would be expected here, i.e. \**törküt+lär* > Yak. \**törküttär*).

**udayan** 'female shaman' [NVS 227: *udayan örä* <Udagàn-öörè> 'idol/soul of a female shaman || Götzenbild von einer Schamanin'] < WMo. *udagan* ~ *udugan* ~ *idugan* id. = Xlx. Bur. *udayan* id. (Iac. 72; Anikin 2000: 580) < ? Tkc. \**yduk* 'holy, sacred' (Janhunen 1986: 101 sq.; for further critical discussion see also Miller/Naumann 1994: 25–63).

Inferences: The word-final -ŋ of Bur. loan-words into Yak. is usually retained. Adjoining variants like *salan* (along with *salan*) 'sloppy, careless' < WMo. *salan* 'id.; dirty; unkempt' (Iac. 86; Lessing 1960: 664) are extremely rare, so that the Yak. word should be traced back to the WMo. etymon, rather than to its Bur. reflex.

**ymdän** 'watered-down curdled milk, used as a drink' [NVS 227: *ymdän* <Ümdan> 'a dish with watered-down butter || Gericht, da Butter und Wasser *diluiret* wird'] ~ *umdan* id. < WMo. *umdagan* 'drink' (Iac. 46).

Inferences: [1] The letter <Ü> was used by G.F. Mueller to note [y] (= [i]) or [ü], but never [u]. That is why we read this word with an initial y-, even if the modern u-variant seems to be phonetically closer to the Mo. etymon. The u- > y- change was probably due to dissimilation of the labial u- and the labial -m-. It must have occurred prior to the 18<sup>th</sup> century and was merely a tendency which was not able to eliminate the older u-variant entirely; [2] The -aga- > -ā- contraction was complete prior to the 18<sup>th</sup> century.

### 3.

The following inferences referring to Yak. historical phonology can be drawn then:<sup>3</sup>

Vowels:

- [1] \**-aga(-)* > \**-ā(-)* (-18), as in *batas*, *ymdän* (cf. also GJV § 2.6).  
 [2] Shortening of word-final long vowels in closed syllables resulting from a derivational process: \**-ā* + -C > *-aC* (-18), as in *batas*. – For a more detailed presentation of the problem see GJV § 5.9.

<sup>3</sup> The notation in parentheses is as follows: (-18) = at the turn of the 18<sup>th</sup> century at the latest; (18+) = at the turn of the 18<sup>th</sup> century at the earliest; (2/18+) = in the second half of the 18<sup>th</sup> century at the earliest.

- [3] *ege-* > *ā-* (-18), as in *iäžägäj* (cf. also GJV § 8.3).  
 [4] ? *\*-egü-* > *-ō-* (-18), as in *köyüör* (cf. also GJV § 8.7).  
 [5] Diphthongization of long vowels (2/18+), as in *iäžägäj*, *köyüör* (for more details see GJV § 1.17).  
 [6] *u-* > *y-* (-18), as in *ymdān*; the dissimilative process seems, however, to have been merely a tendency which failed to achieve a regular effect on “*u* + nasal” or “nasal + *u*” groups, cf. Yak. *muŋ* ‘border’ (not *\*myŋ*), *kuŋax* ~ *kuŋax* ‘cuirass’ (not *\*kyŋax* ~ *\*kyŋax*) – see GJV § 35.2. But cf. also the *u* ~ *y* examples in GJV § 35.6.  
 [7] *\*i – ä* > *ä – ä* (-18), as in *ännä*; this phenomenon, too, was merely a tendency (cf. GJV § 29.5).  
 [8] *o – a* > *o – o* (-18), as in *moyoŋ*, *möyölčök* ~ *moyočox*. – Important for the chronology of the vowel attraction.

#### Consonants:<sup>4</sup>

- [9] *m-* > *b-* (-18), as in *batas* (the example is important due to a lack of a nasal further in the word which does not allow for the explanation of the change by a simple dissimilation).  
 [10] *s-* > *∅-* (-13), as in *sabaraj*.  
 [11] *-(a)d(a)-* > *-(a)t(a)-* (-18), as in *batas*.  
 [12] *-g-* > *-ŋ-* (-18), as in *moyoŋ* ~ *moyoŋ*.  
 [13] *\*-č* > *-s* (-18), as in *araŋas*, *batas*.  
 [14] *\*-k* > *-x* (-18), as in *bäläx*.  
 [15] *-nž-* > *-nŋ-* (-18), as in *ännä*.  
 [16] *-lč-* > *-č-* (2/18+), as in *möyölčök* ~ *moyočox*.

#### 4.

The Dolgans have adopted an Old Yak. dialect probably in the second half of the 16<sup>th</sup> century and then, abandoned their homeland on the Vilyuy river and emigrated towards Taimyr, approximately in the first half of the 17<sup>th</sup> century (Stachowski 1996: 129). Thus, their language is a modern continuation of 17<sup>th</sup> century Yak.

A comparison of G.F. Mueller’s materials with Dolg. lexicon will presumably permit us to specify and/or to backdate some of the above-listed phonetic changes:

**ad [1]:** The words *batas* and *ymdān* are missing from Dolg. vocabularies. Nevertheless, the *-(a)ga(-)* > *-ā-* change is well attested in Dolg., too, cf. Dolg. *ulān* ‘polar fox bearing autumn fur’ = Yak. *ulān* ‘fawn, fallow (about fox fur)’ < WMo. *ulagan* ‘red’; Dolg. *kytānak* ‘hard, heavy’ < *\*kytganak* < *\*kytyganak* < *\*katyganak* (GJV § 2.6). Thus, the *-(a)ga(-)* > *-ā(-)* change can be backdated at least to the turn of the 17<sup>th</sup> century.

<sup>4</sup> The evolution of *g* and *γ* in Yak. cannot be analysed here, because the distinction was ignored in the NVS notations.

**ad [2]:** Shortening of word-final long vowels, too, is well attested in Dolg., cf. *ahat* 'to feed, nourish' < *ahā-* 'to eat' (DWB 79), *ardak* 'rain, foul weather' < *\*artā-* 'to go bad, spoil' (DWB 45). Consequently, the shortening process may be backdated at least to the beginning of the 17<sup>th</sup> century<sup>5</sup>.

**ad [3], [4], [5]:** The elision of intervocalic *-g-* and the following contraction of two short vowels into a long vowel preceded the subsequent diphthongization (see [5]). Since Dolg. principally has diphthongs or long vowels, the *-g-* elision must have been complete before the ancestors of the modern Dolgans had left their original homeland, i.e. before the beginning of the 17<sup>th</sup> century.

As to [5], the situation appears somewhat more complex. The Dolg. language has, to be sure, the same four diphthongs (*ya, iä, uo, üö*) which we know from Yak. However, the labial ones have also, from time to time, their variants with long monophthongs, e.g. Dolg. *ñuogu ~ ñögu ~ ñügu* 'rein', *uol ~ öl* 'son', *küöl ~ köl* 'lake', *üöhä ~ ühä* 'upwards'. Now, if the diphthongization had begun before the Dolg. migration, it must have been in progress in the 17<sup>th</sup> century. What we could expect then in the 18<sup>th</sup> century is either that the diphthongization had already become complete or that it is at least still going on. Actually, in the 18<sup>th</sup> century materials which we have analysed above, there are no traces of diphthongs at all. In all the attested words, indigenous or borrowed, one can only find long monophthongs. Even if the diphthongization process would have been cut off (e.g. shortly after the Proto-Dolgans emigrated) one could expect some lexical traces of it. Unfortunately, this is not the case.

Therefore, we would like to suggest a somewhat different scenario: (1) Prior to the 17<sup>th</sup> century, a diphthongization tendency starts off in the borderland of the Yak. linguistic area;<sup>6</sup> (2) The Dolgans emigrate in the first half of the 17<sup>th</sup> century and, consequently, they bring the diphthongization tendency to Taimyr; (3) In the first half of the 18<sup>th</sup> century, monophthongs are still more common in the Yak. area, whereas diphthongs are only limited to some border regions, and it was exactly this Central Yak. monophthong pronunciation which has been noted by G.F. Mueller; (4) At present, Yak. diphthongs dominate over monophthongs they sprang from – this situation seems to have been first

<sup>5</sup> There exist, to be sure, some exceptions to the rule. They should be explained in another way, of course, e.g. [a] Yak. *sylās* 'warm' = Dolg. *hylās* id. < *\*jylgač* (DWB 28) with its *-ās* < *\*-gač*, not < *\*-ā-č*; [b] Yak. *xatŷs* 'sturgeon' = Dolg. *katŷs* id. < Yak. *xatŷ* 'prickly, spiny, thorny' = Dolg. *katŷ* 'nail (piece of metal)'. – Because of the existence of the Dolg. counterpart, the Yak. word must not be explained as a younger derivative. Thus, we may have to reckon with a (probably marginal) dialect of Old Yak. in which the vowel shortening did not take place. This dialect has never considerably influenced the central area of Yak.; however, it has left some traces (like *xatŷs*) in the Yak. lexicon.

<sup>6</sup> It would be especially fascinating, if the diphthongization and the retaining of word-final long vowels (as in Yak. *xatŷs* = Dolg. *katŷs* 'sturgeon', see above) were features typical of the same dialectal zone. This seems quite possible, since both processes counteract the loss of long vowels (no matter whether diphthongs or long monophthongs), i.e. they are two different realizations of one and the same tendency. At the moment, however, we do not have any cogent argument in support of this idea.

fully attested in the 1851 Yak. grammar by O. Böhrling, so that the diphthongization process was presumably finished at the turn of the 19<sup>th</sup> century. Such is the situation in Dolg, too, but the Dolgans live dispersed over an immense territory and their migrating groups are often isolated from each other to such an extent that linguistic phenomena do not spread too quickly. The result of this situation is the existence of some archaic monophthong variants like *kōl* and so on.

**ad [8]:** Since Dolg., too, has *o – o* in lieu of *\*o – a* (as in Dolg. *bosko* ‘not many, little’ = Yak. *boxxo* ‘1. not tethered, free (-running); 2. free of charge’ < *\*boška*, DW 63), the development of labial attraction which was the youngest phase in the evolution of the Yak. vowel harmony must have been complete already at the beginning of the 17<sup>th</sup> century.

**ad [9]:** The mutual relation between *m-* and *b-* in Yak. and the other Tkc. languages (cf. also words like Yak. *mūs* ‘ice’ = Dolg. *mūs ~ būs* id. in which there is no nasal consonant in the word-medial position either)<sup>7</sup> create a problem which is much older than the purely Yak. linguistic history. In view of the PAlt. nature of the phenomenon it is not surprising that it is likewise attested in Dolg.

**ad [12]:** The Dolg. variant *moŋoj* shows that the *-g- > -ŋ-* change was in progress already at the turn of the 17<sup>th</sup> century (or even earlier). The etymological *-g-* variants have, however, never been totally superseded.

**ad [13]:** The *\*-č > -s* change is attested from Dolg., too, so it must have been complete no later than at the beginning of the 17<sup>th</sup> century. Kara’s (1972: 435) analysis of Witsen’s materials shows that this change was complete even earlier, in any case before the end of the 16<sup>th</sup> century.

**ad [14]:** The Dolg. language has *k ~ k<sup>x</sup>* which corresponds to Yak. *x*. Since *-k* is more archaic, the *-k > -x* change must have been made after the Dolg. emigration and prior to G.F. Mueller’s travelogue, i.e. approximately in the second half of the 17<sup>th</sup> century. The spirantized pronunciation of the modern *k* (i.e. *k<sup>x</sup>*) will, however, have had its source, in view of the Dolg. data, approximately at the turn of the 17<sup>th</sup> century.

**ad [15]:** The *-nž- > -nñ-* change has also its reflexes in Dolg., e.g. *anñy* (< *\*sančyg*) ‘ice-pick’ (DW 34), so it must date from the turn of the 17<sup>th</sup> century at the latest.

Consequently, the following tentative attempt at dating some phonetic changes seems to be realistic:<sup>8</sup>

<sup>7</sup> Some non-Yak. examples: Tuv. *batrās ~ matras* ‘mattress’ (< Russ. *matrac* id.; Schönig 2002: 263), Kirg. *bala* ‘child’ ~ YUig. *mala* id. (Ölmez 1998: 171), Čul. *pōrū ~ mōrū* ‘wolf’, *pükčük ~ mükčük* ‘hump-backed’ (Pomorska 2000: 254, § 2.1.2b).

<sup>8</sup> A dot denotes the starting point of a process. A missing dot means that the starting point is unknown. An arrow only signals the phonetic development process, without indicating, however, the opposite limit point (which is unknown), unless the latter is marked by a vertical bar. The bar marks, thus, the *terminus ante quem*, and, in some cases, it can presumably be moved to the left side of the table – often probably a reasonable conjecture which, however, for the time being, still remains unproven.



Phenomenon	16 <sup>th</sup> c.	17 <sup>th</sup> c.	18 <sup>th</sup> c.	19 <sup>th</sup> c.
[1] *-aga(-) > -ā(-)		●—————→		
[2] Shortening of word-final long vowels		●—————→		
[3], [4] Elision of intervocalic -g-	●—————→			
[5] Diphthongization of long vowels	●—————→			
[8] Labial attraction	—————→			
[12] -g- > -ŋ-	—————→			
[13] *-č > -s	—————→ (?)			
[14] k > x		●—————→		
[15] -nž- > -nń-	—————→			

### Abbreviations

Ar. = Arabic; Bur. = Buriat; Čul. = Chulyim; dial. = dialect(al); Dolg. = Dolgan; Evk. = Evenk; Kalm. = Kalmuk; Kirg. = Kirghiz; MMo. = Middle Mongolian; Mo. = Mongolian; PAlt. = Proto-Altaic; PTkc. = Proto-Turkic.; Russ. = Russian; Sib. = Siberian; Tat. = Tatar; Tel. = Teleut; Tkc. = Turkic; Tuv. = Tuvian; WMo. = Written Mongolian; Xlx. = Khalkha; Yak. = Yakut; YUig. = Yellow Uigur.

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