

Historical Aspects of Yakut (Saxa) Phonology*

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0. Introduction

The present study focuses on historical developments in the phonology of Yakut--the language of the Saxa people of central and northeastern Siberia. Various aspects of Yakut phonology reflect archaisms, while others naturally constitute innovations. For example, in addition to preserving some of the so-called 'primary' long vowels, Yakut has innovated a series of diphthongs and secondary long vowels. The progressive and regressive assimilation of consonantal features ('consonant harmony') seen in virtually all modern Turkic languages is most pronounced in Yakut. Also, vowel harmony is more extensively developed than in any other Turkic language except Kyrgyz.

1. Yakut vocalism

According to Korkina, Ubrjatova, et al. (1982), Yakut possesses the following inventory of vocalic phonemes:

(1)		<u>short</u>		<u>long</u>		<u>diphthong</u>	
							[-round]
[+high]		<i>i</i>	<i>i</i>	<i>ii</i>	<i>ii</i>		
		<i>ä¹</i>	<i>a</i>	<i>ää</i>	<i>aa</i>	<i>iä</i>	<i>ia</i>
							[+round]
[+high]		<i>ü</i>	<i>u</i>	<i>üü</i>	<i>uu</i>		
		<i>ö</i>	<i>o</i>	<i>öö</i>	<i>oo</i>	<i>üö</i>	<i>uo</i>

Poppe (1959) states that most Common Turkic [CT²] short vowels were maintained in Yakut (2); the only exception is CT **e* > Yakut *i*. However, as is characteristic of the Turkic family as a whole (Tenišev 1984: 52ff.), one encounters sporadic correspondences between a given vowel in Yakut and a different vowel in the majority of

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Of course, the present author remains solely responsible for contents and claims herein.

¹ Although phonetically more like *ε* or *e*, we represent this as *ä* in order to reserve **e* for the fifth front vowel in CT forms.

² The author's own reconstructions based on a comparison of modern Turkic languages with the Old Turkic sources and the traditional handbooks/Turkological materials, e.g. Räsänen 1949, Tenišev 1984, etc. The following abbreviations are used: CT Common Turkic, Cl. Clauson 1972, I harmonizing [+high] vowel, A harmonizing [-high] vowel. Note a single asterix (*) represents the traditional reconstructed form, double asterix (**) means an underlying or expected form in Yakut.

Turkic languages, e.g. *ınax* 'cow' vs. *inek* ~ *ingek* or *min* 'soup, bullion' vs. Xakas /Tyvan/Mrass Shor *mün* < **biın* but Kondom Shor *min* (cf. Clauson 1972: 347; Čispijakova 1978: 69).

(2) Some words in Yakut that maintained Common Turkic vocalism

<i>at</i> 'horse'	<i>käl-</i> 'come'
<i>ot</i> 'grass'	<i>kör-</i> 'see'
<i>kıs</i> 'winter'	<i>kihi</i> 'evening'
<i>uhun</i> 'long'	<i>kün</i> 'day/sun'

In a few examples, CT **ä* seems to have merged with **e*, i.e. > Yakut *i*, *ilii* < **älig* 'hand', *tirit-* 'sweat' < **tär*; in both of these examples, however, assimilation to the following vowel may be the cause of the **ä* > **e* > *i* change.

Commonly, one finds Yakut *i* for CT **a* (3).

(3)

<i>il-</i> 'take' < <i>*al-</i>	<i>iy</i> 'moon' < <i>*a(a)y</i>
<i>ıt-</i> 'shoot' < <i>*at-</i>	<i>kınat</i> 'wing' < <i>*qanat</i> (> <i>**xanat</i>)

Yakut is one of the few Turkic languages to preserve the 'primary' long vowels, see Räsänen (1949: 64ff.).³ However, only Common Turkic [+high] long vowels and **aa* are preserved as such in Yakut roots; Common Turkic [-high] long vowels (except **aa*) developed into diphthongs. Note that CT **ää* > Yakut *iä*.

³ While a discussion of the problems surrounding the various types of correspondences in vowel length throughout the modern and ancient Turkic languages would require a monograph-length study in its own right, a few salient points should be adduced. As is well known among Turkologists, in a number of words, there is no such correspondence: for example Yakut *tüös* "breast" vs. Turkmen *döş*, Yakut *iy* 'moon' vs. Turkmen *aay* (but *ayla-* 'rotate') or Yakut *ıt* Turkmen *it* Xaladj *ıt* 'dog' or Yakut *bas* Turkmen *baş* Xaladj *baaş* (cf. Čulym Turkic *paaš*). As an anonymous reader related, dialectal variation in these languages show agreement on several of these forms, for example, variants of the Xaladj word for 'head' correspond more directly to the Yakut word.

(4)	<i>aat</i> 'name' < * <i>aat</i>	<i>tuus</i> 'salt' < * <i>tuuz</i>
	<i>süüs</i> 'hundred' < * <i>yüüz</i>	<i>ġ-</i> 'release' < * <i>ġö-</i>
	<i>biir</i> 'one' < * <i>biir</i>	<i>kiäŋ</i> 'wide' < * <i>kääŋ</i>
	<i>biär-</i> 'give' < * <i>bääir-</i>	<i>soux</i> 'not' < * <i>yooq</i>
	<i>uon</i> 'ten' < * <i>oon</i>	<i>kiöx</i> 'blue' < * <i>köök</i>
	<i>iiöl</i> 'moist' < * <i>ööl</i>	

There are numerous correspondences between long vowels and diphthongs in Yakut roots and similar vocalism in cognate forms in other Turkic languages, most notably in Turkmen and Xaladj, as well as various other Turkic languages, e.g. Čulym Turkic (*kööl* 'lake' = Turkmen *kööl* Yakut *kiiöl*), Tofalar (*beyš* '5' = Turkmen *bääš* Yakut *biäs*), Kumandy (*čooq* 'not' = Turkmen *yooq* Yakut *soux*), or Gagauz dialects (*qaaz* 'goose' = Turkmen *qaaz* Yakut *xaas*), see Tenišev (1984: 23ff.).

Note that phonemic long vowels and diphthongs in Yakut arose as the result of either an inheritance from Common Turkic long vowels (e.g. *at* 'horse' < **at* vs. *aat* 'name' < **aat*) or of various consonantal changes in the history of the language creating minimal pairs, e.g. the neutralization of **č* and **š* to Yakut *s*: *xas* 'how much' < **qač* vs. *xaas* 'goose' < **qaaz*.

Diphthongs were also formed through loss of certain consonants (generally [-coronal] [+voice] ones) during the development of Yakut. The Common Turkic sequences **aaɣ*, **aɣi* and **aab* give Yakut *ia*;⁴ similarly, **ägV* (and **äb*)⁵ give Yakut *iä*.

(5)	<i>tia</i> 'forest' < * <i>taaɣ</i>	<i>sia</i> 'fat' < * <i>yaaɣ</i>
	<i>iari</i>	<i>kia</i>

⁴ Note however *sati* 'walking, pedestrian' < **yađaɣ* instead of the expected reflex ***satia*.

⁵ Almost all words with the sequence **äb/v* have not been preserved in Yakut; at least one example does show the expected development to the diphthong: *iäy-* 'be in a friendly mood/ favorably disposed towards someone' < ***iä-* < **säv/b-* 'love, like' (cf. Turkish *sevmeK*), but a short vowel is likely in the proto-language with this root, cf. Clauson (1972: 784).

'sick' < * <i>aɣɪɣ</i>	'tinder' < * <i>qaab</i>
<i>bɪar</i>	<i>ias</i>
'liver' < * <i>baɣɪr</i>	'resin' < * <i>saɣɪz</i>
<i>tiär-</i>	<i>siän</i>
'whirl' < * <i>tägir-</i>	'grandchild; descendant' < * <i>yägän</i>

Common Turkic **oɣu*, **obu*, and **aɣu* give Yakut *uo*, while **uɣ(u)* > Yakut *uu*.

(6)	<i>uor-</i>	<i>buos</i>
	'steal' < * <i>oɣur-</i>	'pregnant' < * <i>boɣuz</i>
	<i>suon</i>	<i>sourat</i>
	'thick' < * <i>yoɣan</i>	'yoghurt' < * <i>yoɣurat</i>
	<i>uor</i>	<i>uos</i>
	'anger' < * <i>aɣur</i>	'lip' < (* <i>aɣuz</i> ~) * <i>aɣɪz</i> 'mouth' ⁶
	<i>tuorax</i>	
	'pine-cone' < * <i>toburɣaq</i>	
	<i>uu</i>	<i>uruu</i>
	'water' < * <i>sub</i> ~ * <i>suɣ</i>	'kin(ship)' < * <i>uruɣ</i>
	<i>uus</i>	<i>suun</i>
	'stalk; stock' < * <i>uɣuz</i>	'wash self' < * <i>yuɣun</i>

Both **ig* and **eg* > *ii*, the latter surfacing as *-iy* in Yakut verbal stems⁷; similarly **ɪɣ* > *ii*, except in some originally monosyllabic words, where **ɪɣ* surfaces as Yakut *ii*.⁸

(7)	<i>bii</i>	<i>tiy-</i>
	'elder' < * <i>beg</i>	'accuse' < * <i>teg-</i>

⁶ The rounding of the **ɣ* in this Yakut word suggests a possible Central Turkic/'Kipchakoid' origin, cf. the reflexes Xakas/Tyvan *aas* vs. S. Altai *uus* Kyrgyz *oos*. Perhaps there was dialectal variation in Common Turkic in which /*ɣ*/ was phonetically **ɣʷ* for various speakers. For a typological parallel to unmotivated labialization of velars before unrounded vowels, cf. dialects of Lak (Murkelinskij 1971; Xajdakov 1966).

⁷ Thanks to an anonymous reviewer for clarifying this. As mentioned below, all verbal stems that are etymologically vowel-final add *-y-* to form their basic stem in Yakut.

⁸ This could of course be simply an isogloss of the *inax* ~ *inek* type addressed above.

<i>ilii</i> 'hand' < * <i>älig</i>	<i>tillii</i> 'life' < * <i>tirlig</i>
<i>silii</i> 'marrow' < * <i>yilig</i>	<i>siik</i> 'damp' < * <i>čigik</i>
<i>arii</i> 'butter' < * <i>sariŷ</i> 'yellow'	<i>käii</i> 'shore; banks' < * <i>qiđiŷ</i>
<i>kii</i> 'dry cowdung' < * <i>qiŷ</i>	

Finally, a long vowel or diphthong may reflect a stressed vowel in a Russian loan, e.g. *ürüümke* 'wine glass' (< *rjumka*) or *biriämä* 'time' (< *vremja*).

In the course of stem-derivation, both long vowels and diphthongs in Yakut alternate with corresponding short vowels. When certain suffixes of the -VC shape are added to stems ending in a diphthong, this is realized as the corresponding short [-high] vowel.

(8)

<i>tuol</i> 'full'	<i>tolor-</i> 'fill'
<i>küöx</i> 'blue'	<i>köyör-</i> 'make blue'

In polysyllabic stems ending in either a diphthong or long vowel, the vowel is realized as the corresponding short vowel when preceding certain suffixes.

(9)	<i>anaa-</i>	>	<i>anat-</i>	'make decide'
	<i>äkkiriä</i>	>	<i>äkkirät-</i>	'make jump'
	<i>xoluo-</i>	>	<i>xolot-</i>	'make compare'

Note the forms *tuox* 'what' vs. *tugu* 'what.ACC'⁹ where the diphthong alternates with a [+high] vowel (cf. similar phenomena in Dolgan and 'Tungusoid' northern Yakut dialects, discussed in 3 below).

Stress in Yakut is (apart from certain lexical exceptions and univerted compounds) regularly word-final, as in many other Turkic languages; secondary stress is found in longer words on root syllables, e.g. *àttarbitigár* or *o yòlorbutugár*. Rarely, stress in Yakut distinguishes lexical items, e.g. *úonna* 'and' vs. *uonná* '10.PARTIT' or *áata* 'although, if, since' vs. *aatá* 'his name'. Certain univerted compounds exhibit medial (or initial) stress, for example *itürdik* 'therefore' < **iti qurduq*, *bihíkki* 'we 2' < **biz ikki*, or *úonna* 'and' < **ol kenne*. In certain northern 'Tungusoid' dialects of Yakut (e.g. Esey), stress is often found on the initial (or second) syllable of words, patterning with Evenki root-stress (Voronkin 1984: 58).

1.1 Vowel harmony

⁹ An anonymous reviewer pointed also the alternate form *tuoyu*.

As in virtually all Turkic languages except "Iranicized" (*sart*) dialects of Uzbek and various Uighur dialects and Eastern Turkic languages, [back] (or palatal) Harmony¹⁰ is consistent throughout a Yakut word of native Turkic origin: all subsequent vowels in a word harmonize with the initial root vowel's specification for the feature [back]¹¹.

(10)

itinniktärinän 'with these ones here'

[back]

[] > [-back]

manniktärinan 'with those ones there'

[+back]

[round] Harmony (commonly known as 'labial harmony' and 'labial attraction' in Turkological studies) has become more developed in Yakut than in most neighboring Turkic languages to the south and west. It is fairly clear that Old Turkic [round] Harmony was morphologically conditioned, that is, specific morphemes underwent it while other specific morphemes that met its (allegedly phonological) structural description systematically did not, for example *ölsikiŋ* 'die-necess-2' (Kül Tegin S6) or *tilküniŋ* 'vixen.GEN' (Hungry Tigress l. 53) vs. *küčüg* 'power-ACC' (Kül Tegin W1); such a distribution may have been maintained in part in various dialects of the South Siberian Turkic languages.¹² In Yakut, [round] Harmony is not restricted morphemically; a [-high] vowel spreads [+round] to any subsequent vowel, while a [+high] vowel may spread [+round] only to following [+high] vowels, and never to [-high] ones. Thus we find O-O, O-U, U-U, but U-A¹³.

(11)

¹⁰ Note that there is some evidence that [back] Harmony in Old Turkic was not completely phonologized (cf. Tekin 1968:58), e.g. such forms as *subin* 'water.POSS.ACC' [Bilge Kağan E35] or *yo ŋçi* [Kül Tegin E4].

¹¹ Throughout the Turkic languages including Yakut, in recent loans from Russian or loans from Islamic sources that lack internal vowel harmony (i.e. Arabo-Persian loans, which of course are mostly lacking in Yakut), the value of the feature [back] associated with the last vowel of the stem is generally the trigger for subsequent [back] Harmony spread. Naturally, loans are assimilated to Turkic phonology in a language-specific fashion.

¹² Where one finds such variants as Xakas *su ŋniŋ* 'water.GEN' Kumandy *künniŋ ~ kündiŋ* 'day.GEN' Shor *puluttiŋ* 'cloud.GEN' or Baraba Tatar *qulniŋ* 'slave.GEN'.

¹³ i. e., underspecified, harmonizing sounds: U-O = *u-o* and *ü-ö*, underspecified for [back].

<i>körbötöxtörö</i>	'they did not see'
[+rd]	
<i>körbüttärä</i>	'they saw'
[+rd] [rd]	
<i>turbuppun</i>	'I (app.) stood'
[+rd]	
<i>tüspükkiin</i>	'you (app.) fell'
[+rd]	
<i>uolbut</i>	'our son'
[+rd]	
<i>kiiölbüt</i>	'our lake'
[+rd]	
<i>uollara</i>	'their son'
[+rd] [rd]	
<i>kiiöllärä</i>	'their lake'
[+rd] [rd]	
Default:	[rd] > [-rd]

Diphthongs behave as high vowels with respect to [round] Harmony (but importantly not in every phonological process in Yakut, cf. the discussion of Velar Height Harmony in 2.3 and 2.5 below). Typologically, the Yakut [round] Harmony system is most

similar to that of Kyrgyz¹⁴ and various South Altai dialects (and other 'Kipchakoid' Turkic languages like Kazax, Karakalpak, Nogay, etc.).¹⁵

2.0 Yakut consonantism

Numerous changes have occurred during the historical development of the Yakut sound system from the Common Turkic prototype. CT *-ǰ(-), *-š and *-z are lacking, realized as either [t] or [s]. Sonorants are not overly common word-initially in Yakut; most of the existing sonorant-initial words are clearly loans or result from a distant nasal assimilation (see below). According to modern investigators of Yakut, the following (non-loan¹⁶) consonantal inventory is attested:

(12)

<i>p</i>	<i>t</i>	<i>č</i>	<i>k</i>	
<i>b</i>	<i>d</i>	<i>ǰ</i>	<i>g</i>	
<i>m</i>	<i>n</i>	<i>ñ, Y¹⁷</i>	<i>ŋ</i>	
	<i>s</i>		<i>x</i>	<i>h</i>
			<i>Y</i>	
	<i>r, l</i>	<i>y</i>		

Many Yakut consonantal sounds may appear geminated; medially, *-pp-* and *-ññ-*¹⁸ never appear in a simplex (non-geminated) form.

¹⁴ Kyrgyz (as well as dialects of Kazax and Karakalpak) differs from Yakut in allowing [+round] to spread from *ü* to a following [-high] vowel; thus, one finds *ü-ö*, but *u-a* in certain Kyrgyz dialects.

¹⁵ Mongolian influence is possible in all these languages as well as a source for, or support of (or both, cf. Thomason and Kaufman 1988), the innovation of [+round] spread from [-high] vowels; this kind of [round] Harmony was lacking in Old Turkic, except in some Brahmi-script texts, where one also encounters an occasional alternation of *u ~ o*, e.g. *olorop < *olurup*. Note also such Uyghur-script variants as *bölük ~ bölök* 'piece' (Clauson 1972: 339).

¹⁶ In Russian loan words of recent origin, a number of sounds found in Russian but originally lacking in Yakut have entered the language, including *š, ž, v, c, z*; old Russian loans have been assimilated to Yakut phonology, sometimes with the result of completely obscuring their original form, e.g. *kiriehile < kresla* '(arm) chair' or *xahiat < gazeta* 'newspaper'. In the modern era, one finds a scale of pronunciations ranging from fairly assimilated to Yakut-type phonology to true code-switched utterances using actual Russian (see Anderson 1995 for a discussion).

¹⁷ A nasalized *y*.

¹⁸ In some Yakut dialects *Y ~ ñ* word-internally, e.g. *aYax ~ añax* 'mouth'; thus, *-ñ-* would appear medially in those dialects in a simplex (i.e. non-geminated) form.

2.1 Yakut labial sounds

Yakut possesses three labial consonants, [p], [b], and [m]. Of these, only [b] and [m] are found word-initially in Yakut words of Turkic origin; [p-] is mainly limited to recent Russian loans and onomatopoeia, while [-p] is commonly encountered.¹⁹

(13)	<i>baay</i> 'richness; possessions'	<i>balık</i> 'fish'
	<i>bölöx</i> 'group; herd' < * <i>böläk</i> ²⁰	<i>ämis</i> 'fat' < * <i>sämiz</i>
	<i>silim</i> 'glue' < * <i>yelim</i>	<i>sap-</i> 'close; cover' < * <i>yap-</i>
	<i>kiäp</i> 'form' < (* <i>käöp</i> <) * <i>kiip</i> 'mould'	

As in some South Siberian and various other Turkic languages including Old Turkic sources²¹, Common Turkic initial **b-* usually assimilated to the nasality of a following nasal consonant; in a few instances, [m-] is the reflex for CT **b-* in a word lacking a nasal sound, suggesting a hypercorrective, lexicalized diffusion of this change (e.g. *muus*).

(14)	<u>Yakut</u>	<u>Old Turkic</u>	<u>gloss</u>	
	<i>min</i>	<i>ben</i> (Cl.: 346)	ʾI	
	<i>manı</i>	<i>bunı</i> (Cl.: 292)	'this.ACC'	
	<i>murun</i>	<i>burun</i> (Cl.: 366)	'nose'	
	<i>muŋ</i>	<i>buŋ</i> (Cl. : 346)	'sorrow'	
	<i>muus</i>	<i>buz</i> (Cl. : 389)	'ice'	(~ <i>buus</i>)
	<i>muos</i>	cf. Turkish <i>boynuz</i>	'horn'	
		Tofalar <i>mıYıs</i>		
		Xakas <i>müüs</i>		
		* <i>büñüz</i> (Cl: 352)		

¹⁹ As is well known, **p-* was lacking initially in Common Turkic; the vexing issue of whether Xaladj *h-* corresponding to possible Altaic **p-* suggests a (pre-)proto-Turkic **p-* (cf. Doerfer 1981, 1982, etc.) is beyond the scope of this paper.

²⁰ An anonymous reviewer suggested **bööläk*, based on the Turkmen correspondences and the development of **k* > -*x* in Yakut. Rather than having a rounding of ***ä* after *ü* as is found for example in Kyrgyz, it is possible that the Yakut form comes from a variant like **bölök*. While this stem has an unrounded [-high] vowel in Turkmen and other older and modern sources, this was commonly *böliik* in older (esp. Uyghur) sources, with variants attested even as *bölök* itself (Clauson 1972: 339).

²¹ For example Xakas *monjik* vs. Turkish *bonjuk* 'bead, necklace' or Bashkir *moron* 'nose'. For numerous examples of **b* > *m* in Old Turkic, see Clauson (1972: 346ff.)

Similar hypercorrective phenomena are attested in other Siberian Turkic (Xakas *nuzurux*, cf. Yakut *suturuk* < **yuðriq*), and in various Old Turkic sources as well, e.g. *moz* < **bo:z* 'grey (horse)' or *mük* < **biük*, etc. (cf. Clauson 1972: 766-773).

As mentioned above, [***-p-*] is lacking in Yakut; Yakut stem-final /-p/ alternates with [-b-] when vowel-initial affixes are added, e.g. *köp-* > *köptö* 'it arose' but *köben* 'arising, appearing'. Yakut [-*pp-*] can result from a variety of sources. At the juncture of morphemes, consonant harmony (see 2.5) is the most common source for [-*pp-*]. Word-internally, various clusters in certain lexical items have been assimilated to create geminate [-*pp-*], e.g. *xappax* 'roof' vs. Xakas *xaxpax* ~ *xapxax*, Tuvan/Altai *qaqpaq*. Similarly, among various modern Yakut dialects, clusters may correspond to geminates, for example *bïppax* ~ *bïrpax* 'cow-milk kumiss'.

2.2 Dental/alveolar sounds in Yakut

The dento-alveolar sounds of Yakut are [t], [d], [n], [s], [l], and [r]. Yakut [r] is common word-finally, but lacking in word-initial position, while [l] and [n] are found word-initially mainly in loan words. In non-initial position all of these sounds are unaltered reflexes of Common Turkic, which likewise similarly lacked **l*, **n*, and **r* in word-initial position. In various Yakut dialects, there is a tendency for /r/ (and less frequently /l/) to fully assimilate to a following consonant, e.g. Amginsk *otto* "middle" (cf. standard Yakut *orto*, Ubrjatova 1960). Note that clusters of **-nT* (any [+cor] [+ant] consonant) are realized as [-*nn-*], while **-nč* > Yakut /-s/ (with occasional allomorphic variation with [-*ññ-*], see below).

(15)	<i>kiiöl</i> 'lake' < * <i>köööl</i>	<i>öliüü</i> 'death' < * <i>öliüg</i> < * <i>ölig</i>
	<i>buol-</i> 'be' < * <i>bool</i>	<i>tüört</i> '4' < * <i>töört</i>
	<i>baar</i> 'be, exist'	<i>biar</i> 'sickness; injury' < * <i>ba yïr</i>
	<i>kün</i> 'sun'	<i>küniüü</i> 'jealousy' < * <i>küinii</i>
	<i>ilt-</i> 'take away' < * <i>elt-</i>	<i>börö</i> ²² 'wolf' < * <i>börüü</i> < * <i>böri</i>

Yakut [d] is generally inherited from Common Turkic **d*.²³ In certain words, clusters of **-lT-* > Yakut [-*l-*], e.g. *balis* 'younger sister' (but *baltim* 'my y. sister'), cf. Old

²² Note the lexically restricted full assimilation of **ü* > *ö*. This seems preferable to an analysis of a Bashqort-oid lowering from ***bürü* or something similar.

²³ In words of Mongol origin there are examples of Yakut *d-* < Mongol **d-* and **t-*, as well as Yakut *t-* < Mongol **t-* and **d-*, see Korkina, Ubrjatova, et al. (1982: 78). The issue of whether the correspondences in such stems as Yakut *diä-* Turkish *de-* Tuvan *de-* Kyrgyz *de-* 'say' vs. Yakut *tia* Kyrgyz *too*, reflect vestigial

Turkic *baldız* 'wife's y. sister', *bilir* 'in ancient times' cf. Old Turkic *bıldur*, Altai *biltir* 'last year' Xakas *piltir*, or *sulus* 'star' < **yuldız*, cf. Altai *d'ıldis* Tyvan *sıldis* Xakas *çiltis*; in other words (mainly of Mongol, Russian, or Evenki origin), *-*ld-* is realized as [-*ll-*], for example *sallaat* < Russ *soldat* 'soldier'.

In word-initial position, Common Turkic **t* remains [t-]; word-finally, Yakut -*t* may reflect CT **t*, *-*š*, or *-*z*. Yakut medial [-*t-*] comes from *-*t-*, *-*z-*, *-*θ-* and *-*s-* as well. These developments suggest that in proto-Yakut there may have existed a *-*θ(-)* sound in non-initial position; this *-*θ-* results both from the devoicing of *-*θ-* and the change of CT *-*s-* > proto-Yakut *-*θ-* with subsequent neutralization giving modern [-*t-*]. In addition, [-*t-*] is the reflex of the final sound in the *-*miš* participle and the 1st plural marker *-*miz*, both realized in Yakut as -*Blit* (< *-*Blit* < *-*m/blis*), as well as the reflex of *-*z(-)* in several other morphemes.²⁴

(16)	<i>utax</i> 'thirst' < * <i>susaq</i>	<i>a yata</i> 'his father' < * <i>a yasi</i>
	<i>aat</i> 'name'	<i>otut</i> 'thirty' < * <i>otuz</i>
	<i>körbüt</i> 'seen' < * <i>körmiš</i>	<i>körüöxpüt</i> 'we will see' < *- <i>Miz</i> ,

Yakut [s] has a complex history. First, Yakut [s] virtually never reflects CT **s*²⁵, but rather CT **y-* and **č-* in initial position, and *-*z*, *-*č*, *-*nč*, and *-*š* in final position.²⁶ In at

traces of (PT >) CT **d-* (vs. **t-*) must await further research.

²⁴ Including the 2PL marker -*Glit* < *-*ɲiz*, or -*TIn* the 3rd SG IMPERATIVE marker < *-*zUn* ~ *-*sUn*. In these morphemes, the probable route of development was CT **š*, **z* > pre-proto-Yakut **s* > proto-Yakut **θ* > modern Yakut *t*. Note that all other Yakut reflexes of CT **š*, **z* are -*s*, -*h-*; thus the forms realized as Yakut [t] had already shifted to **s* in the pre-proto-Yakut dialect of Common Turkic. For a parallel development of **s* > *θ/t* within Turkic, note Salar *s#* 'scoop out/ladle' < **sus-*, Bashkir *aθ* 'ermine' (< **aas*) and *uθâl* 'böse' (< **osaal*) or Turkmen *θu* 'water' *θaari* 'yellow'; according to Räsänen (1949: 174), the pronunciation of *θ* for some Turkmen speakers is more of an affricated [t^θ].

²⁵ According to Korkina, Ubrjatova, et al. (1982: 98) there are a few words in Yakut that begin in [s-] which correspond to *s*-initial words in Old Turkic. However, these are considered by Yakutologists to reflect a Mongolian intermediary, i.e. Old Turkic > Mongolian > Yakut, retaining *s*-consonantism. Examples include *sanaa-* 'think' and *saari* 'horse-hide skin' < **sa yri*. Note the [ʃ-] ~ [s-] alternations (reflecting a Mongol and Turkic source, respectively) mentioned below. A further possibility is that these *s*-initial forms represent

least three lexically-specified stems, there is a synchronically unmotivated alternation of [s] ~ [ññ], reflecting original **-nč-*, e.g. *as-* 'pierce' > *aññabın* 'I pierce' < **sanč-*, *sıs-* 'slaughter, crush' > *sıññabın* '1SG' < **yanč-*, or *mus-* 'gather' > *muññabın* 'I gather' < **munč-*. Common Turkic **s* > (**h-* >) \emptyset in word-initial position; while medially, as mentioned above, CT **-s* > **-θ* > [-t-]. CT **s-* must have already weakened to pre-Yakut **h-*, before the merger of **y* > (**j*²⁷ >) **č* went to Yakut [s], which did not further become \emptyset .²⁸ In medial position, Yakut reflects synchronic [s] ~ [h] alternations (including **-s-* < **-č-*, etc.);²⁹ note that [-ss-] is found in medial position sporadically in certain Yakut dialects, e.g. *bassar* ~ *barsar* or *bisser* ~ *bilser*, the aorist participle forms of *bar-* "go" and *bil-* "know".

(17)

<i>kö yüs</i> 'back' < <i>*köküž</i> 'breast' 'fat' < <i>*sämiž</i>	<i>ämis</i> 'fat' < <i>*sämiž</i>
<i>kiis</i> 'sable' < <i>*kiiš</i>	<i>suox</i> 'not' < <i>*yooq</i>

residue from a lexically diffused change that never fully 'completed its course'.

²⁶ This is assuming the traditional Common Turkic reconstruction of **z* and **š*, which may or may not go back to Proto-Turkic **l₂* and **r₂*.

²⁷ The correspondence series *y- : j- : č : s : ž* etc. is well known, and one that has played a role as a diagnostic isogloss in virtually all attempts at the internal classification of the Turkic languages (e.g. Arat 1953, Baskakov 1988, Tekin 1991, Menges 1995). However, given the large number of obstruent reflexes of this among the modern Turkic languages, the disfavoring of sonorants word-initially otherwise characteristic of Proto- and Common Turkic, as well as the independently attested weakening of a voiced coronal obstruent to > *y-* in many Turkic languages (viz. the **ađaq* > *ayaq* change), it seems likely that there was at least dialectal variation in Common Turkic between **y-* and an obstruent, possibly **j-* (or even conceivably **đ* < **d*, etc. as per Doerfer, Räsänen, Poppe, Ramstedt).

²⁸ Note however that in Dolgan, Proto-Yakut **s-* (< **y/*č-*) > *h-* (see 3 below).

²⁹ The [s] ~ [h] alternations in Yakut are more complex than at first glance. Generally, [s] becomes [h] in intervocalic position. However, the first of two consecutive (underlying) [s]s fails to undergo the change to [h] if a short vowel intervenes, but not if a long vowel does, e.g. ***ehēhit* > *esehit*; *behis* > *besihin* 'for the 5th time'; *köhüs* > *kösüher* 'move/nomadize w/ s.o.' but *tüheehin* 'dream'. Note that the closely related Dolgan exhibits no such distribution.

<i>küüs</i> 'strength' < * <i>küüč</i>	<i>kihi</i> 'man' < * <i>kiši</i>
<i>ahii</i> 'sour; bitter' < * <i>ačiy</i>	<i>as</i> 'hair' < * <i>sač</i>
<i>uhun</i> 'long' < * <i>uzun</i>	<i>sis-</i> 'beat/crush' < * <i>yanč-</i>

2.3 Palatal sounds in Yakut

Yakut possesses several palatal sounds. In addition to a voiced and voiceless affricate [č] and [j], Yakut exhibits [y], [ñ], and the unusual [Y]. Phonotactically, palatal sounds are relatively restricted in Yakut: [y] and [Y] (not [ñ]) are lacking word-initially, no palatal sounds but [-y] and [-Y] occur word-finally. [-ññ-] is the required allophone of /-ñ-/ medially, except in the dialectal or idiolectal variation with [Y] mentioned above.

Yakut [č] and [j] occur mainly in words of non-Turkic origin. CT *č- gives Yakut [s-] and *-č- > [-h-], while *j may have been lacking in Common Turkic (except perhaps phonetically or dialectally, see note 22 above). Yakut [č] and [s] alternate systematically in one common affix, and in the pronunciation of individual speakers of various lexical items (see 2.5 below).³⁰ [č] sometimes appears in Russian loans for *t', e.g. *čätäräät* 'notebook' or *xočuol* 'cauldron'.³¹ Yakut reflects [j]³² for initial /*d-/ before (originally) front vowels and /*y-/ in loans from Russian, Mongol, and Tungus, e.g. *jaanji* 'rocky mtns; cliff' < Evenk *yaŋ*, or *jiŋala* < Russian *delo*, or *xoluoŋas* < Russian *xolodec*. Also, in a few instances, one encounters synonymous Yakut words exhibiting either an initial [s-] or [j-], ostensibly reflecting a Turkic and Mongol source, respectively, for example *sil* ~ *jiŋ* 'year'; cf. Turkish *yil* Tuvan *čil* Kyrgyz *jiŋ* (cf. Korkina, et al. 1982).

(18)	<i>jiä</i> 'house'	<i>jara</i> 'shoal, bank'
	<i>jon</i> 'people'	<i>čahi</i> 'clock'

³⁰ A phenomenon known even in Old Turkic, cf. the affixal variants *-siG* ~ *čiG* 'like' (Tekin 1968; von Gabain 1974).

³¹ There are also a variety of [t]s surfacing in such Yakut *govory* as the one from the Megino-Kangalassk region where one might expect **č-. These forms may reflect an areal feature of certain languages of central Siberia, whereby č deaffricates to a (palatalized) stop (see Anderson (forthcoming) for a more complete discussion of the deaffrication phenomenon).

³² In idiolectal variation with [d'-] as all forms with j in Yakut may be.

čij
'trampled down'

čömčöx
'pile'

Yakut [*ñ*-] is seen mainly in words of non-Turkic origin; [*ñ*-] is attested in other Turkic languages, though mostly as the result of the regressive spread of nasalization to a word-initial obstruent; these words usually correspond to [*s*]-initial words in Yakut, e.g. Tofalar *ñāā* Tuba-kiži *ñañi* vs. Yakut *saŋa* 'new' (< **yaŋa* < **yaŋi*) or Tofalar and Tuba-kiži *ñoon* vs. Yakut *suon* 'fat' (< **yoŋun*); in a few lexical items, one finds similar distant nasal assimilation in Yakut as well, e.g. *ñima* 'means' (< **yima*). In addition to Yakut, [*Y*] is attested sporadically only in Tofalar (and Tyvan dialects), e.g. Tofalar *Yarın* 'shoulder-

blade'. This sound (*ñ* ~ *Y*) received a special symbol in the (Yenisei) runic inscriptions (𐰉); most everywhere it is reflected as either [*y*] or **[ñ]* (> [*n*]). Such variation is also seen in various older texts as well, e.g. {Irk Bitig 5, etc.} *añiy* ~ {Türkische Turfan-Texte II 6, 23} *ayiy* "evil", "extremely". In Yakut, [*Y*] mainly occurs in intervocalic position (< **ñ*), though occasionally it is seen in final position. As mentioned above, Yakut [*y*] is lacking in initial position. In final position, Yakut [-*y*]³³ may reflect CT **-y* or sometimes **-g*. In two forms [*y*] (not [*Y*]!!) alternates with [*ññ*] in Yakut coming from truncated **-yVn* forms, for example *xooy* 'bosom' but *xoñño* 'her bosom' or *mooy* "neck" *moñño* "his neck", cf. Khakass *xoyin/moyin* Tyvan *xoyun/moyun* < CT **qoyin*/**boyin* (with distant regressive assimilation of nasality). Medially CT **-y-* sometimes > Ø in Yakut, e. g. *tiiŋ* < **teyiŋ* "squirrel".

(19)	<i>ñurgun</i> 'glorious'	<i>ñimigir</i> 'compressed' ³⁴
	<i>baay</i> 'richness, possessions'	<i>öy</i> 'mind' (< * <i>ög</i>)
<i>iYä</i>	<i>kuYaar-</i> 'mother'	<i>kuYaar-</i> 'roast, burn' (cf. Cl: 726 <i>küñ-</i> 'burn')
	<i>kööY-</i> 'turn sour'	<i>xaYax</i> 'fat mixed w/milk' (cf. Old Turkic <i>kayak/kanak kaymak</i> , Cl: 636)

³³ Many verbs end in an etymologically unmotivated [-*y*] that drops when most derivational affixes are added (see Korkina, Ubrjatova et al. 1982: 102ff); this [-*y*] is motivated by a phonotactic rule preventing verb stems from ending in a short vowel, e.g. *utuy-* "sleep" < **uθu-* < **uðu*. Forms like *iäy-* < **säv-* 'like, love' suggest that this rule became active following the formation of the Yakut diphthongs and secondary long vowels, see also note 7 and (7) above.

³⁴ The initial segments of this word probably reflect the Turkic root *yum* ~ *yüm* (Clauson 1972: 934), with front vocalism preserved, and distant nasal assimilation of **y* > *ñ*, à la *ñima* above; for a parallel to the vocalism, cf. Yakut *min* 'soup' vs. Tyvan *mün*. The immediate source for this word in Yakut may not be Turkic, however.

2.4 Velar, uvular, and glottal sounds in Yakut

As is well known, the distribution of **k* and **q* in Common Turkic was allophonic: namely **k* appeared in words with [-back] vowels, while **q* was seen in [+back] words. CT [**q*] gave rise to Yakut [x], which is phonetically often heard as an affricate [qʰ], especially in medial position, and sometimes as aspirated [qʰ] word-finally. However, the distribution of back obstruents in present-day Yakut is conditioned differently than in the other Turkic languages. In Yakut, a (still synchronically active) process of 'Velar Height-Harmony' has been operative.³⁵ Namely, Common Turkic initial **k*- surfaces as such before not only [-back] vowels but also [+high] [+back] vowels as well, including the diphthongs; CT **q* > Yakut *x*- only before the [+back] [-high] vowels (**a/*aa/*o/*oo*). In non-initial position, the reflex is determined by the height of the *preceding* vowel, with diphthongs considered [-high], e.g. *köyüs* 'back' < **köküz* or *küöx* 'blue' < **köök*. This latter form demonstrates that Velar Height-Harmony was active after the formation of the Yakut diphthongs. Yakut Velar Height-Harmony may reflect interference from a Tungus substratum during shift to Yakut (Thomason & Kaufman 1988), as such an effect is compatible with the kinds of harmony systems attested in Tungus languages (Vaux 1996).³⁶ For a few non-productive affixes, however, the initial velar is determined by the original distribution according to the specification of the feature [back] (i.e. [ɣ] with [+back] vowels and [g] with [-back]), e.g. the verb formant *-(Ir)GAA* (*moʃur yaa-* 'consider self strong' vs. *küühürgää-* 'show strength'). Also, throughout the various dialects of Yakut, one finds lexical or idiolectal preservation of word-internal Velar Back-Harmony, rather than Velar *Height*-Harmony.

(20)	<i>küöx</i> 'blue' < <i>*köök</i>	<i>kör-</i> 'see' < <i>*kör-</i>
	<i>xaan</i> 'blood' < <i>*qaan</i>	<i>xaar</i> 'snow' < <i>*qaar</i>
	<i>kiiš</i> 'girl' < <i>*qiš</i>	<i>küöl</i> 'lake' < <i>*köööl</i>

Yakut [ɣ] and [ŋ]--as was true of Common Turkic--are lacking in initial-position, while [g-] is seen in this position only in a single modern Yakut root *gün-* 'do'; in 'Tungusoid' dialects of northern Yakutia, initial [g-] is more common. Medially, [-g-] occurs as the [+high] variant of [-ɣ-]. Yakut [-ŋŋ-] occurs medially due to the consonant harmony processes (see 2.5) and in certain lexicalized stems. Diachronically, the intervocalic velar spirants were generally lost, giving diphthongs and secondary long vowels (see 1 above). Dialectally, the intervocalic velar spirants can be lost in many words, e.g. *baria yim* ~ *bariam* 'I will go'. However, Yakut preserves CT **-ŋ-*, where other Siberian Turkic languages develop (sometimes nasalized) long vowels, e.g. *uŋuox* 'bone' < **suŋook* < **süŋök* > Xakas/Kyrgyz *söök*, Yakut *siŋaax* 'cheek' < **yaŋaq* > Tyvan *čããq* Xakas *naax* Altai *d'aaq*, Kyrgyz *jaaq*.

³⁵ Some Yakut dialects (e.g. Viljuj (Ubrjatova 1960)), as well as Dolgan, preserve **q*. In Dolgan, Velar Height Harmony was observed only in word-initial position; elsewhere regular Back Harmony of velars was preserved, see 3 below.

³⁶ But note the Yakut-Dolgan correspondences discussed in (27) below.

(21)	<i>kiäŋ</i> 'wide' < * <i>kääŋ</i> < * <i>kiŋ</i> 'new' < * <i>čaŋa</i> < * <i>yaŋi</i>	<i>saŋa</i>
	<i>sia</i> 'fat' < * <i>yaa</i> <i>y</i>	<i>uolan</i> 'boy; son' < * <i>o</i> <i>ylan</i>
	<i>ühiö</i> 'third' < * <i>üčegü</i>	<i>uus</i> 'clan' < * <i>u</i> <i>yuš</i>
	<i>suon</i> 'fat' < * <i>yo</i> <i>yun</i>	<i>suor yan</i> 'blanket' < * <i>yo</i> <i>yur yan</i>

Note that Yakut often exhibits the 'Kipchakoid labio-velar effect', whereby the loss of voiced velar/uvular sounds has a generalized rounding effect, surfacing either as a long rounded vowel (or diphthong) or as a labial semi-vowel (or continuant), e.g. Yakut *uos* 'lip' < **a* *yüz* or *utuu* 'hot' < **isig*

2.5 Consonant harmony in Yakut (including lexicalized assimilation)

Of all the Turkic languages, consonant harmony processes have undergone the most extensive development in Yakut. The features that harmonize in modern Yakut are [nasal], [coronal], [anterior], [lateral], [voice], and [high]. Throughout the history of Yakut, clusters of consonants have assimilated various features, frequently resulting in a geminate consonant; this process is still observable on the level of dialect or *govor*, or even in individual speaker pronunciation.

The base form of a Yakut affix can be considered the form following vowel-final stems. Affixes that begin with a labial consonant in Yakut assimilate to the marked values of the features [nasal] and [voice], i.e. [+nasal] and [+voice]. Following a voiced consonant, 'B'-initial affixes surface as [b-]³⁷; after nasal-final stems, Yakut B-affixes are realized as [m-]; when a voiceless consonant precedes, these affixes surface in a [p-]-initial form (i.e. [voice] > [-voice]). In addition, syllable final /-n/ and /-t/ undergo complete assimilation to the following labial sound, i.e. yielding [-mm-] and [-pp-], respectively. As noted above, there is still a tendency in Yakut dialects to move clusters into geminates like [-pp-].

(22) Yakut labial harmony processes

<i>ülälääbit</i> 'worked'	<i>körbüt</i> 'saw'
<i>muŋmut</i> 'our sorrow'	<i>sitpit</i> 'overtook'
<i>appit</i> 'our horse' < ** <i>atpit</i>	<i>xotummut</i> 'our lady' < ** <i>xotunmut</i>

³⁷ The common B-affixes include *-Bit* 'past participle' or '1st pl' and *-BAAtAx* 'neg. past' (< **-mAdUK*). A few affixes retain an initial [m-] (more properly *-(I)m..* affixes), e.g. *-(I)m* '1st sg.' or *-(I)mAx* (< **-mAK*), a lexicalized, non-productive noun-formant.

Like the labial sounds discussed above, [+nasal] and [+voice] are active harmonizing features for alveolar-initial suffixes. [-t-] is the base form of T-affixes, while [-l-] is the base form in L-affixes, i.e. the allophones following stem-final vowels. Also, stem- or affix-final /-t/ and /-n/ assimilate completely to a following stop or nasal.

(23) dento-alveolar harmony processes

<i>attar</i> 'horses' (< * <i>atlar</i>)	<i>küöllär</i> 'lakes'
<i>xaannar</i> 'bloods' (< * <i>qaanlar</i>)	<i>baaydaax</i> 'rich' (< * <i>baylġġ</i>)
<i>küräxtääh</i> 'heatedly, fervently'	<i>ġälär</i> 'houses'
<i>ġälääh</i> 'house master; landlord'	<i>kördäx-</i> 'seen' (< * <i>kördük</i>)
<i>üüläätäx-</i> 'worked'	<i>däġnännäx-</i> 'victimized'
<i>buolläx-</i> 'been' (< * <i>boolduġ</i>)	

Cluster assimilation involving alveolar sounds in Yakut is only in part phonologically predictable; that is, in some instances the output is determinable solely by the phonological nature of the two sounds involved, while in other cases, the morphemes involved themselves determine the output. In other words, Yakut alveolar cluster assimilation has been partly morphologized. These clusters occur either at morpheme junctures, or through the loss of etymologically epenthetic high vowels in various morpheme combinations. The sequences /-tn-/, /-yn-/, and /-rn-/ systematically yield [-tt-], [-yd-], and [-nn-], respectively in Yakut. However, the cluster /-ln-/ goes to either [-ll-] or [-nn-], while /-rl-/ can give [-ll-] or [-rd-]. In the case of the former set, [-nn-] appears mainly in three common 'postpositional' nouns, *kälin* 'behind', *ilin* 'in front' and *alġn*³⁸ 'under' and in possessive forms of *kilġn* 'in-law', while [-ll-] is seen in participle forms of reflexive verbs. The reflexes of /-rl-/ seem to have been morphologized in a curious fashion with respect to the plural affix -LAR: [-rd-] is the reflex in nominal forms, while [-ll-] surfaces in verbs:

³⁸ As pointed out by an anonymous reviewer, Dolgan shows a different assimilation with this stem, e.g.

allara, and thus this stem would not be exceptional in this language.

kötördör 'flying ones' vs. *kötöllör* 'they are flying'.³⁹ In addition, in passives one finds syncope and a 'mutual' assimilation process, while underlyingly homophonous reflexives show no such variation, e.g. *ittar* 'climbs up, rises' < ***itinar* but *itinar* 'shoot self', *bistar* < ***bihinar* 'breaks' but *bihinar* 'cut self', or *xaydar* < ***xayinar* 'it splits' but *xayinar* 'surrounds, covers'.⁴⁰ Note also *biller* 'become famous, well-known' (< ***biliner*) vs. *biliner* 'confess'. As mentioned above, some historical *-*lT*- clusters were simplified in the (pre-)proto-Yakut variant of Common Turkic, and thus were not eligible for assimilation to -*ll*-, unlike such loans as *olloon* 'part of kettle/teapot' < Evenki *oldon* or *ällää* 'crush', 'knead' < Buryat *äldä* 'knead'.

(24)	<i>ittäbin</i> 'I warm self' (< ** <i>itinäbin</i>) <i>xoydubut</i> 'thickened' (< ** <i>xoyunubut</i>) <i>innim</i> 'in front of me' (< ** <i>ilinin</i>)	<i>ottor</i> 'he stokes (the stove)' (< ** <i>otunar</i>) <i>munna</i> 'his nose' (< ** <i>muruna</i>) ⁴¹ <i>billär</i> 'becoming well-known' (< ** <i>bilinär</i>)
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The palatal triad of *č/ʃ/ñ* reflect the same kind of harmonic patterning that the labial and alveolar series do in only a single affix.⁴² The apparently regular change of CT **č* to Yakut /*s/* ([*s*], [*h*]) has often left little trace in most [-*č*]-initial affixes in Yakut--whether they be of Turkic, Evenki, or Mongolian origin. Also, the historically unaltered [*č*] sounds in these affixes show no variation according to the voicing and nasality of the preceding segment; however, these affixes are all of limited distribution. The only affix exhibiting behavior similar to the [+voice] and [+nasal] assimilation is the common '*nomen agentis*' formant -*Cl/sIt* (< *-*čI(t)*), where the regular change of **č* > Yakut /*s/* has been rephonologized: in this one affix (**)/č/* > [*s*] only after [-*k*] and [-*x*], i.e. a kind of [-ant]

³⁹ The interaction of **l* and **r* actually goes further than this. First, there are at least two (dialectal) lexical exceptions to the split of /*rl/* > [*rd*] in nouns. Also, /*r/* appears as [*l*] in conjugated forms of two verbs, perhaps as a result of a dissimilation of the first of two /*r/s* in coda-position in consecutive syllables (Korkina, Ubrjatova et al. 1982: 93). Also, certain verb roots exhibit a curious alternation (usually) between unmarked forms with a long vowel/diphthong and stem-final [-*r*] and passive forms with a short vowel and [-*l*], e.g. *siir-* 'make holes in sthg.' but *silin-* 'become full of holes' or *süör-* 'untie' but *söläün-* 'come untied'.

⁴⁰ Similar phenomena are attested in other Siberian Turkic languages, e.g. Tyvan (Isxakov 1955) *ottup* < ***odunup*, *töktür* < ***tögülür* or *minnir* < ***bilinir*.

⁴¹ Note Kyrgyz *murun* > *murdu* 'his nose'.

⁴² One lexicalized affix in Yakut -*mñl-* < Mongolian *-*mʃl* exhibits a nasalized variant only; note also the [*s*] ~ [*ññ*] alternations reflecting CT *-*nč*- mentioned above.

dissimilation⁴³; intervocalically, it further undergoes the change to [-h-], as elsewhere, e.g. *ahñ* < *ačiy. Following voiced continuants and nasals, the affix appears with a [ǰ-] and [ñ-], respectively; after voiceless consonants, it remains [-č].

(25) palatal harmony processes in Yakut

<i>olonxohut</i> 'olonxo singer'	<i>kömiščüt</i> 'gold-/silversmith'
<i>iaññiksit</i> 'milkmaid'	<i>otoññut</i> 'berry gatherer'
<i>sonorǰut</i> 'pathfinder'	

but *kulunčuk* 'little colt' (**-ñuk!) *uonča* 'around ten'

The consonant harmony processes that affect the velar/uvular sounds (so-called G-affixes⁴⁴) reflect a two-fold system. On the one hand, the features [+voice] and [+nasal] harmonize in the by-now familiar manner. Also, the so-called Velar Height Harmony that was operative in the diachrony of Yakut is still active morphologically, whereby the back (uvular) variant is used after [-high] vowels, even if they are [-back], while preceding [+high] vowels require the (historically) front-variant, [g]. Nasal-final stems appear with [ŋ]-initial affixes, while voiceless stem-final consonants require a [k-]-initial affix, the affix-initial consonant further fully assimilates to a preceding [-x]-sound. Note also that a stem-final /-t/ or /-n/ fully assimilate to a following [k] or [ŋ], yielding [-kk] (< **-tk-) and [-ŋŋ] (< **-nŋ-), respectively.

(26) Yakut uvulo-velar harmony processes (-GIt < *-ŋIz '2PL.POSS')

<i>inaxxit</i> 'your cow'	<i>kiiskit</i> 'your squirrel'
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⁴³ This change of (*)/-č-/ > [-s-] in Yakut may be of relatively recent diffusion: note the dialectal variants *baliksit* ~ *balikčit* 'fisherman'.

⁴⁴ The base (post-vocalic) form of G-affixes appears with one of the voiced velar allophones, [ɣ] or [g], depending on the height specification of the preceding vowel (where a language-specific default rule of [high] > [-high] is operative). In at least one affix, however, the form is [-k-]-initial following vowel-final stems; this is a diminutive used only with kin terms, a formation also found in other Turkic languages: *iYäkäm* 'my mommy' or *aɣakam* 'my daddy'. Also, a few other suffixes appear without voiced variants, e.g. the adjective formant -xay/key in *boloorxoy* 'turbid'.

<i>žäyit</i> 'your house'	<i>ahigit</i> 'your spike'
<i>imjit</i> 'your brand'	<i>akkit</i> 'your horse'
<i>xotunjut</i> 'your mistress'	

3 Dolgan and Yakut dialects

Though spoken by more people than any other Turkic language of Siberia, Yakut exhibits less pronounced dialectal variation than smaller languages like Xakas or Altai to the south. However, the variants of Yakut encountered in numerous regions, particularly in the north of the Saxa Republic (and adjacent areas) differ from those of central districts which are the basis of the literary standard. In some instances, the relevant dialectal features probably represent interference through shift from a Tungus substratum (Romanova et al. 1975); in other cases, the speakers in a peripheral region have retained (often lexicalized) archaisms of Common Turkic phonology not present in the bulk of Yakut dialects. One of these divergent Yakut varieties, Dolgan, spoken beyond the borders of the huge Saxa Republic, is sufficiently different from the Yakut proto-type to be considered a separate language by many Turkologists.

3.1 Dolgan

Dolgan (Ubrjatova 1985, self-designation *tia kihite* 'forest person'), spoken to the west of Yakut, is the only language closely related to it. The Dolgan are believed to be in large part Yakutified Evenki (specifically of the clan Dulgan, among others). Though similar to Yakut in many ways, the language of the Dolgan differs phonologically in several respects. Velar Height Harmony is reflected only in word-initial position in Dolgan; in post-vocalic position, regular Common Turkic Velar Back Harmony remains operative. Thus, for diphthongs Velar Height Harmony is operative on the initial segment but Velar Back Harmony on the second. Also, CT **q* remains /*q*/ (often phonetically [*q'*]) in Dolgan rather than shifting [*x-*] as in Yakut.⁴⁵

(27)	<u>Dolgan</u>	<u>Yakut</u>	<u>gloss</u>
	<i>huoq</i>	<i>suox</i>	'not'
	<i>kerek</i>	<i>kerex</i>	'necessary'

⁴⁵ There are some sporadic correspondences of Yakut [*x-*] to Dolgan [*ŋ-*], due to a regressive distant nasal assimilation and probable Nganasan (N. Samoyed) influence in Dolgan, e.g. Y: *xamsa* D: *ŋassa* 'pipe' or Y: *kini* D: *ŋini* 's/he, it'. In the case of the first example, an anonymous reviewer suggested that the Yakut and Dolgan forms of this 'Wanderwort' of Siberia may simply stem from differing loan-sources. Note also that CT **q* (often phonetically [*q'*]) is preserved in some Yakut dialects of the Viljuj region.

As is apparent from the first example, Yakut initial [s-] < (*y-, *č-) corresponds to initial [h-] in Dolgan.⁴⁶ Obviously, a similar rule had already been operative during the development of proto-Yakut, ultimately resulting in initial Ø- < *h- < *s-. Ubrjatova (1985) suggests that the rule was reintroduced through Evenki contact, or may be a substratal feature itself.⁴⁷ Dolgan lacks the characteristic Yakut sound [Y]; rather, words in Yakut with [Y] correspond to [ñ] in Dolgan (< *ñ). On the other hand, one finds Dolgan [-yn-] corresponding to Yakut [-ññ-].

(28)	<u>Dolgan</u>	<u>Yakut</u>	<u>gloss</u>
	<i>iñe</i>	<i>iYe</i>	'mother'
	<i>añi</i>	<i>aYi ~ añi (~ayii)</i>	'sin'
	<i>añaq</i>	<i>aYax ~ añaq</i>	'mouth'
	<i>kıynar</i>	<i>kññar</i>	'boil, seethe'

The variation in pronunciation of certain words among the Yakut-speaking population is frequently used as a diagnostic characteristic in Yakut dialect studies (Ubrjatova 1960; Afanas'ev 1965; Voronkin 1984, etc.). Thus we find such alternations as *tugut ~ tubut* 'reindeer calf', *uba ~ uga* 'its handle', *buus ~ muus* 'ice' *xatın ~ xotun* 'lady'. The *b ~ g* alternations appear as either one or the other in Dolgan, e.g. *tugut* or *uba*. Dolgan exhibits little or no hypercorrective nasalization of the *buus ~ muus* type. In Yakut, words like *xatın ~ xotun* and *daydı ~ doydu* result from assimilating a word with disharmonic vocalism to the Yakut harmonic pattern: the Common Turkic form of the former word is **qatun*. In Yakut dialects, either the initial syllable conditions the harmony or the final syllable does (i.e. the stressed one in uninflected forms), yielding the unrounded and rounded variants, respectively. Dolgan on the other hand preserves the original vocalism in such forms, e.g. *qatun* or *qannuq* 'which'. In certain forms, an original long vowel may have been preserved, e.g. Dolgan *kööl* vs. Yakut *küöl* < **kööl* 'lake'. In other forms the long vowel is clearly secondary: Dolgan *ool* Yakut *uol* < **oɣul* 'son'; note, however, that the original (proto-)Yakutic vocalism is preserved in some inflected forms, e.g. *uola* 'his son'. In addition, a kind of regressive assimilation of diphthongs to high vowels is seen in various Dolgan morpheme combinations.

(29)	<u>Dolgan</u>	<u>Yakut</u>	<u>gloss</u>
	<i>diibit</i>	<i>diebit</i>	'said'
	<i>körüükpüt</i>	<i>körüöxpüt</i>	'we will see'
	<i>kütüütün</i>	<i>kütüötün</i>	'his son-/brother-in-law.ACC'
	<i>uulun</i>	<i>uolun</i>	'his son.ACC'

Another distinguishing feature of Dolgan is its different treatment of various consonantal assimilation phenomena. First, as stated above, Velar Height Harmony was only operative in Dolgan in word-initial position. Also, while the sequences *n-B*, *t-B*, and *t-*

⁴⁶ Note also that Dolgan, like Yakut, preserves CT *č in certain affixes, e.g. *otutča* 'about thirty'.

⁴⁷ It is possible that the original phenomenon in proto-Yakut may have likewise been the result of substratal influence. However, as is well known, the change of *s > h is far from unusual, being characteristic of such languages as Greek in its development from Proto-Indo-European, as well as such Turkic languages as Bashkir, e.g. *höt* 'milk' < **süt*.

G are realized as in Yakut (viz. [-mm-], [-pp-], and [-kk-], respectively), n-G surfaces as in [-nŋ-] in Dolgan, e.g. *qallaanŋa* vs. Yakut *xallaanŋa* 'in the sky'. Sometimes a spread of the harmony is seen between words in Dolgan, for example *kälbik kihi* < *-t k- < ***kälbit kihi* < **kälmiš kiši*. The sequence /-ld-/ is preserved in Dolgan, unlike Yakut where it generally corresponds to [-ll-] (or [-l-]), e.g. *haldaat* vs. Yakut *sallaat* 'soldier', *oldon* vs. Yakut *olloon* 'kettle-part'. The various harmonic properties associated with the Dolgan liquids also differs from Yakut, see the note on -nn- and -ll- from */-ln-/, above. A curious type of distant dissimilation of /r/ to [-l-] is seen in Dolgan. This l < /r/ triggers its own kind of harmony in T- and L-affixes, e.g. *kör-* 'see' > *köllör-* 'show' (= Yakut *kördör-*) > *köllördör* 'if he shows' but *köllördöllör* 'if they show'; similar phenomena are attested in some Yakut dialects (Korkina, Ubrjatova et al. 1982).⁴⁸

3.2 Brief notes on Yakut dialects

While a complete study of all phonological phenomena in the various Yakut dialects would require a book-size study, a few comments relevant to Yakut historical phonology can be made. As stated above, the Yakut dialects in the northwest and northeast regions reflect a more pronounced Tungus influence than the dialects of central and southern Yakutia. In terms of phonology, 'Tungusoid' dialects of Yakut frequently lack the [Y] sound; in addition, initial [g-] and [p-] are far more frequent than in standard Yakut.

Throughout the various Yakut dialects, as well as among dialects of various other Turkic languages, one encounters a variety of vocalic correspondences on the lexical level. These include correspondences between front and back vowels, between high and non-high vowels, long vowels and diphthongs and between long vowels/diphthongs and short vowels; in some instances, these correspondences are the result of an irregular assimilation process in one dialect or another.

(30)

Esey dialect (Voronkin 1984):

<i>tigaayi</i> 'wasp'	(** <i>tigäi</i>)	<i>čoŋočoŋ</i> 'stump'	(** <i>čöŋöčök</i>)
<i>mınna</i> 'here'	(** <i>manna</i>)	<i>irä</i> 'only'	(** <i>ärä</i>)
<i>ahiiik</i> 'food'	(** <i>ahiiik</i>)		

Verxojansk dialect (Afanas'ev 1965):

<i>süühü</i> 'cattle'	(** <i>süöhü</i>)	<i>sään</i> 'river from lake'	(** <i>siän</i>)
<i>anax</i>		<i>čarkıy</i>	

⁴⁸ Finally, according to Ubrjatova (1985), certain words ending in /-r/ or /-n/ trigger voiceless-initial variants of particular affixes, e.g. *uhun* > *uhuttar* 'long ones' or *do yor* > *do yottor* 'friends'. An anonymous reviewer suggested that rather than representing a lexically restricted phonological devoicing of /-n/ and /-r/ to [-t], these are a doubly-marked, mixed Mongol-Turkic plural form **t-lar* > /*t-tar*/, with a cluster simplification before the doubled -*tt*-.

'cow' (***inax*) 'teal (bird species)' (***čirkij*)

In the dialect of the Esey (ĵähäy) raion of the Evenki oblast' (Voronkin 1984: 50-51), a curious development has occurred yielding harmonically neutral [i] and [ii], which are acoustically slightly farther back than standard Yakut [i] and [ii]. Although [i(̥)] is attested in this dialect, [i(i)] frequently appears with [+back] words. Note that neutral [i(i)] is not only opaque to Back Harmony, but [round] Harmony as well (after both [+high] and [-high] vowels). Note that a number of these words are of clearly borrowed (Evenki) origin.

- (31) *axtamii* 'reindeer castrated at late age'
 loŋkii 'hook for hanging cauldron/teapot over fire'
 kuliirdaahin 'placing of reindeer skull on a special platform'

but

kirgittar *harsin*
 'girls' 'tomorrow' (= *sarsin*)

bastaki(i)
 'front; main'

As noted above, among Yakutologists one of the major diagnostic traits of the modern dialects is the correspondence between words with either *a-* or *o-* vocalism in the root, with the concomitant change in harmonic patterning, e.g. *xatin* ~ *xotun* 'lady' or *aŷinix* ~ *oŷunuox* 'grease'. In traditional interpretations of Yakut dialectology (e.g. Barashkov 1985, Ivanov 1993, Korkina 1992, Ubrjatova 1960, Voronkin 1980, 1984) *a-* forms are attributed to Evenki influence while *o-* signals contact with Ewen. In most cases these isoglossic variants result from an assimilation to Yakut vowel harmony patterns of words which originally violated them, for example **qatun*; thus, one dialect 'normalized' the form in the direction of rounded vowels (stem-final syllable), while another favored unrounded ones (root/stem-initial syllable). This of course does not preclude an interpretation of this change having been caused or reinforced by a shift to Yakut by various different North Tungus substratum populations.⁴⁹

Rounding of vowels adjacent to labial consonants is attested in a few Yakut dialects (e.g. Esey), implying a spread of [+round] from the consonant to the vowel.

- (32) *bulaan*
 'plan' < Russ. plan (vs. *bilaan*)
- ĵubar*
 'frost' (vs. *ĵibar*)
- sümehin*
 'juice, sap' (vs. *simehin*)

⁴⁹ Note, however, the preservation of original vocalism in the Dolgan reflex of this form mentioned above.

The *b ~ g* alternations mentioned above generally occur with words that contain rounded vowels, e.g. Verkhojansk *subas ~ hugas* (vs. standard Yakut *čugas* 'near') *tubut ~ tugut* 'reindeer calf', *üpsüön* 'rainy snow of late fall' (vs. standard Yakut *öksüön*) or *kölbörü* 'lizard' (vs. standard Yakut *külgeri*).

Yakut consonantism is also reflected in varying ways among the modern Yakut dialects. As stated previously, 'Tungusoid' dialects of Yakut exhibit certain diagnostic features, e.g. presence of initial [g-] and [p-] or lack of [Y]. Other characteristic aspects of these dialects include, as in Dolgan, the change of (proto-)Yakut [s-] to [h-], < CT *y- and *č-; similarly, standard Yakut /č-/ may surface as Esey [s- ~h-], while standard Yakut /s-/ may conversely appear as [č-] in lexicalized hypercorrective formations. In addition, as in Dolgan, various dialects of Yakut preserve *q (as [q] or [qʰ]) instead of [x]; in others (e.g. Verxoiansk (Afanas'ev 1965) or Olenek (Romanova et al. 1975)), Yakut *x and *ɣ have become fronted to [k] and [g], respectively. In the Esey dialect, one also encounters a [y] corresponding to standard [r], e.g. *kîya* 'small' (vs. *kîra*) or the comparative case ending -TAA yAy (vs. -TAA yAr).⁵⁰

(33a) Esey dialect:

<i>haxa</i> 'Yakut' (vs. <i>saxa</i>)		<i>haas</i> 'spring' (vs. <i>saas</i> < * <i>yaaz</i>)
<i>hir</i> 'place' (vs. <i>sir</i> < * <i>yer</i>)	'near'	<i>sugas ~hugas</i> (vs. <i>čugas</i>)
<i>saas</i> 'hour' (vs. <i>čas</i>)		<i>čäñiyä</i> 'chin' (vs. <i>säñiyä</i>)

(33b) Verxoiansk dialect:

<i>xaakînay</i> 'baby perch' (vs. <i>xaaxînay</i>)		<i>suorgan</i> 'blanket' (vs. <i>suorɣan</i>)
<i>horgoto</i> ⁵¹ 'its part' (vs. <i>sorɣoto</i>)		

As is obvious from the examples above, the characteristic features of a given Yakut dialect may sometimes only be diffused among a limited lexical inventory.

⁵⁰ Similar *r: y* correspondences can be found in the Northeast dialect zone as well (Korkina 1992), where it is sometimes attributed to Yukaghir influence!

⁵¹ Note the irregular reflexes of the change Proto-Yakut *s > h in a given Yakut dialect area (Verxoiansk) that is typical of Yakut and of the Siberian Turkic languages as a whole; cf. reflexes of *y- > *č/*j (> t/d') in South Siberian Turkic (Xakas, Shor, Altai, Tyvan, Čulym Turkic), where long-term dialect mixture complicates issues greatly (Anderson (forthcoming)).

As stated before, Yakut has moved furthest away from the Common Turkic prototype with respect to consonant harmony. Often geminates are the end-result of the assimilatory processes that have been active throughout the development of Yakut; likewise, this process has continued throughout the development of various dialects, e.g. Amginsk region *otto* for *orto* 'center', etc. Note that this gemination strategy for cluster simplification is even observable on the individual speaker level, i.e. the processes remain active idiolectally. For example, in the Yakut spoken in the Vexhojansk region, unmotivated medial gemination is frequently encountered: *miexxe* 'me.DAT', *ulaxxan* 'big' or *oŋoččo* 'boat'.

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