TYPES OF LABIAL VOWEL HARMONY IN THE TURKIC LANGUAGES*

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Vowel harmony has been given frequent attention by authors interested in general linguistic phenomena. Hardly an introductory textbook is written without paying due homage to this relatively rare form of morphophonemic alternation. Gleason, for example, focuses on vowel harmony in three separate chapters of his widely used Introduction ...[1] He defines the process as a kind of 'non-contiguous assimilation', as against the more usual type involving phonemes immediately in contact across morpheme boundaries.[2] Robins cites the same process in Turkish and other languages as an example of prosodic phonology, the relevant features being assigned to words or word parts instead of to single segmental phonemes.[3]

A classification of the Turkic languages which considers internal structural criteria alone must take into account vowel harmony.[4] The Turkic languages do not behave identically in this respect. Examination of a carefully selected corpus of words from representative languages and dialects reveals a continuous gradation from near-perfect vowel harmony, e.g. in Kirghiz, to a highly reduced form of it, e.g., in Tashkent Uzbek. In this paper, we shall refer to two basic types of vowel harmony, with emphasis on one kind. There is the kind, for instance, which entails the agreement of vowels with respect to tongue advancement, i.e., front vs back. For the sake of brevity it is here called palatal harmony, since it works on oppositions along the palatovelar axis. The other type entails assimilation by lip position, i.e., rounded vs unrounded, and is called labial harmony.

The languages examined show more diversity with respect to labial harmony. Virtually all of them observe strict patterns of palatal harmony. Accordingly, this paper presents evidence for a classification of the Turkic languages by the extent to which they conform to the morphophonemics of labial harmony.

Abstracting from the vocalic systems of the several languages examined, we get the following generalized network of oppositions relevant to vowel harmony:

	Front		Back	
	Unrounded	Rounded	Unrounded	Rounded
High	i	ü	y	u
Low	e (ä)	ö	a	o

Turkic languages are agglutinative. Within word structures all grammatical morphemes (suffixes) are added in a strictly determined sequence after the root. The three oppositions of tongue advancement, tongue-height and lip-position may independently differentiate a large number of root morphemes. They are independent variables with regard to roots. In Kazan-Tatar, for example, the following roots differ solely by the constituent vowels: at- horse; it- meat, ït- dog; ut- fire, üt- to pass; ot- to win, öt- to burn.

On the other hand, the only independent opposition which differentiates suffixes is tongue height, high vs low. The other two features (palatal and labial) are conditioned by the vowels of immediately preceding radical syllables. In the tables below for particular languages this opposition in suffix syllables will be symbolized by I (y/i) for front and back varieties of the suffix high archiphoneme and A(ä/a) for front and back varieties of the low archiphoneme.

Again, in Kazan-Tatar for suffixes containing a low vowel (A) there are four possible allomorphs with ä, a (unrounded) and ӓ, ạ (rounded). The plural suffix lAr, for example has the allomorphs -lär ~ - lar ~ -lӓr ~ -lạr, eg.: atlar horses, itlär dogs, wөrtlạr houses, wөzlӓr faces.

The genitive suffix nI (high archiphoneme) has the variants - nyn ~ ŋ ~ iŋ e.g., atnyŋ of the horse, itniŋ of the dog.

Special attention has been given throughout this study to the grammatical categories of the suffixes involved. The importance of this procedure is justified by the fact that analogically produced deviations from labial harmony are often occasioned by particular grammatical categories. Thus, for example, in the Turin dialect we can observe the occurrence of rounding in locative suffixes with low front vowels, e.g., üïdө in the house, süttö in the milk; whereas in the stem-formative verb suffix, also with a low front vowel, it does not occur, e.g., jüklä to pack on a animal. In this same dialect lip-rounding is optional for genitive suffixes with a high vowel, e.g., quš-nuŋ ~ qušnyŋ of the bird, kün-nüŋ ~ künnïŋ of the day. Moreover, in the passive suffix under the same conditions rounding alone is found, e.g., buz-ul to be broken, üz-ül to be interrupted. These possibilities must be kept in mind. Accordingly, the classification has been based mostly on data showing the following grammatical categories:

(A) Suffixes with A (ä/a)

1. Noun stems: locative, ablative and dative cases as well as the plural suffix -lAr.
2. Verb stems: past participal suffix -gAn; conditional suffix -sA.

(B) Suffixes with I (y/i)

1. Noun stems: genitive and accusative cases
2. Verb stems: Gerund suffix -Ip; passive -Iɫ; reflexive -In; reciprocal -Iš.

For each representative language in addition to examples arranged according to the scheme above, an illustrative table is given to show the extent of labial harmony. The vertical axis represents the rounded vowels of root syllables — o, ö (low), u, ü (high) — the horizontal axis the suffix syllables I (y/i) or A (a/ä) in which rounding conditioned by radical vowels is obligatory (+), optional (∼), or altogether lacking (an empty space).

	A	I
O	1	5
Ö	2	6
U	3	7
Ü	4	8

Space 2, for example, represents the case when ö occurs in the root syllable and a low vowel in the suffix; space 6 the case when radical ö precedes a high suffix vowel. A plus (+) in 2 would cover, for example the following stems: Kirghiz tör-dö in the front corner; Altai köstör eyes; Shor körzö if he sees, etc. The optional sign (∼) in box 3 indicates cases such as Kirghiz quš-da ∼ quš-do to the bird, while an empty space shows the impossibility of labial harmony, e.g. Kazakh qul-da at the slaves; Chulym pular these; Turkish kurttan from the wolf, etc.

TYPE I

We begin this survey where labial harmony is most strictly observed, with Kirghiz and Altai representing the North-Western (Central Asian) group. Yakut, which is remarkably different from all other Turkic languages and a special case within the North-Eastern group, also falls in this group. Attention has been confined to suffix syllables nearest the root. Suffixes are separated from roots by hyphens.

Kirghiz examples: A: ot-ko to the fire, bol-gon which was, tör-dö in the corner, öl-gön which died, kuš-ka ∼ kuš-ko to the bird, uluk-tan ∼ uluk-ton from the magnate, tun-dö in the night, jur-gön which went; I: kök-tun of the sky, čoro-nun of the servant, su-nun of the water, üy-dün from the house.

Altai examples: A: kol-do from the hand, pol-zo if (he) is, kös-tör eyes, öt-sö if (it) goes thru, uč-ar which will fly, kün-dö in the day; I: ton-du acc. of fur-coat, köl-dü acc. of lake, tud-un to restrain o. s., kün-dü acc. of day.

Kirghi

	A	I
O	+	+
Ö	+	+
U	~	+
Ü	+	+

Altai

	A	I
O	+	+
O	+	+
U		+
U	+	+

From the tables and examples we see that labial harmony is identical for Kirghiz and Altai; except that in the former, after radical u, rounding is optional, whereas in Altai it is altogether lacking.

TYPE II

In Shor (North-Eastern) labial harmony is almost identical to the situation in Altai. Rounding is restricted only in that after radical o, suffix I may or may not undergo rounding.

Shor

	A	I
O	+	~
Ö	+	+
U		+
Ü	+	+

Examples: A: kol-doŋ from the hand, pol-zo if (he) is, sös-töy from the word, kör-zö if (he) sees, ug-ar which will grasp, külük-tö at the brave man's; I: coň-nyŋ ~ coň-nuŋ of the people, kök-tün of the sky, kuš-tun of the bird, mün-üp having mounted.

TYPE III

Kazakh (North-Western)

	A	I
O		+
Ö	+	+
U		+
Ü	+	+

Examples: A: som-dan from the rubble, köl-dö at the lake, kul-da at the servants, üɣ-dö in the house; I: koɣ-du acc. of sheep, köl-dü acc. of lake, kul-du acc. of servant, üɣ-dü acc. of house.

Compared to types I and II above, rounding is more restricted in Kazakh. Radical back rounded U and O do not condition the rounding of low vowels in suffixes. Rounding occurs only when the radical vowel is front and rounded (ö and ü). For suffixes containing high vowels (I), rounding takes place after all radical rounded vowels. Kazakh is one of the more southern (Central Asian) members of the North-Western Turkic languages and it shares this type of labial harmony with the West-Siberian dialect Chulym Tatar. The Nogai language of the Caucasus is also close to Kazakh, except that rounding of low vowels is optional after ö and ü.

Chulym examples: A: pol-gan which was, kör-gön which saw, pu-lar these, körüš-sö if (they) see each other; I: koruk-tum I was afraid, kög-nü acc. of tune, kuš-tuŋ of the bird, tülgü-nüŋ of the fox.

TYPE IV

The Kyzyl dialect of Khakass (North-Eastern) shows a type of labial harmony transitional between the more conservative types surveyed above (mostly North-Western) and the other North-Eastern dialects of Khakass (Abakan, Kachin, etc.). A low suffix vowel (A) is rounded only after radical front vowels ö and ü, while the back counter parts, o and u, do not affect the lip position of suffix vowels. However, high suffix vowels are not rounded after radical o.

Kyzyl

	A	I
O		
Ö	+	+
U		+
Ü	+	+

Examples: A: pol-za if (he) is, öl-zö if (he) dies, kus-ka to the bird, kün-gö to the sun, mün-gön who mounted; I: told-yr to fill, toɣ-ny acc. of feast, töl-duŋ of posterity, kus-tuŋ of the bird, kün-nüŋ of the day.

TYPE V

Relative to the types surveyed above, the other Khakass dialects show a highly restricted form of labial harmony. No low vowels in the suffix are rounded, while high suffix vowels (I) are rounded only after high, rounded u and ü. As a result, the only instances of labial harmony are the sequences U - u and ü - ü.

Examples from the Kachin dialect: A: pol-za if (he) is, čör-gän who went, kuzuk-ta in the nut, kün-gä to the day; I: ok-tyŋ of the arrow,

čör-zp having gone, öd-ĭr to kill, kuš-tuŋ of the bird, kün-nü acc. of day.

Khakass

	A	I
O		
Ö		
U		+
Ü		+

TYPE VI

The West-Siberian branch of Tartar (North-Western), including the Ishim, Tobol, Tyumen and Tar dialects, is transitional between the more conservative languages and the languages of the Volga-Ural region. The o and ö of root syllables have been raised to u and ü (o > u; ö > ü). Consequently, the data were limited to examples with the root vowels u and ü. In general, in these dialects low suffix vowels are not rounded, while high vowels are rounded only after original high radical vowels. Note the similarity to Khakass.

West-Siberian Tatar

	A	I
U < O		
Ü < Ö		
U		+
U		+

Examples from Tar: A after u and ü (< o and ö): ut-tan from the fire, kür-sät to show, kür-sä ~ kür-sö if (he) sees; after u and ü (< u and ü): tur-gan who was standing, kün-nän ~ kün-nön from the day. I after u and ü (< o and ö): suk-tyr- to make s.o. hit, ut-nyŋ ~ ut-nuŋ of the fire, kür-ĭš- to see each other; after u and ü (< u and ü): tut-up having seized, tüš-üp having descended, jür-düm I was going, tüs-nüŋ of the dream, but, üĭ-nĭŋ of the house.

TYPE VII

Kazan Tatar (North-Western)

	A	I
U < O		
Ü < Ö		
E < U	+	+
Ë < Ü	+	+

Examples: A: kul-ga to the hand, kuš-kan which joined, küz-gə̈ to the eye, kür-gän who saw, tɐz-gɐ to the salt, tɐr-gan who was standing, kɐ̈z-gə̈ to autumn; I: kul-ny acc. of hand, kuš-up having joined, küz-nÿ acc. of eye, kür-ip having seen, tɐz-nɐ acc. of salt, tɐr-op having stood, kɐ̈z-nɐ̈ acc. of autumn.

The influence of ɐ and ɐ̈ on low vowels is less pronounced than on high, the latter being rounded more often; so that in this respect this group (Bashkir is included) is close to the West Siberian Tatar dialects and Khakass.

TYPE VIII

	A	I
O		+
Ö		+
U		+
Ü		+

In this last type, after radical rounded vowels no low vowels are rounded; all high vowels are rounded. This type of labial harmony is found in such divergent languages as Osmanli Turkish and Tuvin, the latter spoken in East Siberia, including from North-Eastern, Karagass dialect and Tuvin; from South-Eastern, Uigur and Uzbek; and from South-Western, Turkish (Gagauz, Turkmen, Azerbaijani).

Tuvin examples: A: cɔ̈n-da in the people, pol-gan which was, ög-dä in the house, küs-ta in the bird, ut-kan who forgot, tün-dä in the night, üŋ-gän which went up; I: ton-nuŋ of the fur-coat, don-dur to make s.o. stay, öÿ-nuŋ of the habit, öl-ür to kill, ut-tur to make s.o. forget, kün-nün of the day.

Karagass examples: A: toÿ-da at the feast, pöl-za if (he) is, xöl-dan from the lake, öl-gän who died, sug-da in the water, tur-ar who will stand, tüš-tä in sleep; I: kol-nüŋ of the hand, ög-nüŋ of the house, öl-ür to kill, sug-nuŋ of the water, ün-dür to make s.o. enter.

Turkish examples: A: top-tan from the gun, ol-an who was, g'öz-dän from the eye, g'ör-sä if (he) sees, kurt-tan from the wolf, bul-sa if (he) finds, g'ümüš-tän from silver; I: top-uŋ of the gun, ol-ur which (will) be, g'öz-üŋ of the eye, kurt-uŋ of the wolf, dur-ur which (will) stand, jürü-düm I was walking.

Uzbek and Uigur are special cases within Type VIII, in that rounding of high suffix vowels is limited to verb forms. The genitive and accusative suffixes in Uigur, for example, are invariably -nin and -ni. The following examples are limited to forms with I suffixes.

Uigur examples, I: bol-uš to be with others, tök-ül to be poured tut-ul to be held back.

Uzbek examples, I: koš-ul to be linked, sok-uš to fight, kör-üs to see each other.

We combine types I to VIII and count in what spaces of the models —

i. e. in which linguistic environments — the different types have shown a rounding of the suffix vowel. In the following model the obligatory rounding is multiplied by 2, the optional rounding by 1, the lack of a rounding by 0.

	A	I
O	6	9
Ö	10	12
U	3	18
Ü	10	18

The model shows that in the analyzed Turkic languages in general the rounding — which is also a palatalization of the a/u of the following syllable — is preferably caused by an already palatal and round stem vowel (ü/ö) as far as the suffix vowel a/æ is concerned. a/æ are less often rounded by the velar but round stem vowel o and a few times only by the velar but round stem vowel u. The i/y of the suffix is rounded most often by the palatal round stem vowels ü/ö and by the velar round stem vowel u, not so often by o.

The reason why palatal round vowels of the suffixes are found in the environment of palatal round stem vowels is obvious: it is one of the linguistically well-known assimilations. The reason why a/æ are more often rounded in the environment of o rather than of u is because the phonetic position of o is closer to a/æ than the position of u; this again proves the tendency of an assimilation. The fact that the closed vowels i/y are more often rounded in the environment of ö/o which are part of the middle phonetic axis and not of the upper one like ü/u shows also that the analyzed vowel changes are assimilations of the suffix vowels to the stem vowels.

NOTES

1. Gleason, H. A., An Introduction to Descriptive Linguistics, Chapter IX (p. 116); Chapter VII (p. 84); Chapter 23 (pp. 385-7). New York, 1961.

2. Ibid, p. 84.

3. Robins, R. H. General Linguistics: An Introductory Survey. London: 1964, pp. 164-5.

4. The classification of Turkic languages used in this paper (historical geographic basis):

A. North-Western (Kipchak):
Kirghiz
Altai
Kazakh
Nogai
Chulym Tatar
Kazan Tatar
Bashkir

B. North-Eastern (Uigur) Group:
Karagass
Shor
Khakass (Kyzyl and Kachin)
Tuvin
Karagass, Yakut

C. South-Western:
Turkish
Gagauz
Turkmen

D. South-Eastern:
Uigur
Uzbek.

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