The Principle of Uyghur Vowel Harmony

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Abstract. This paper aims at Uyghur vowel mutation tendency by means of Economic law of articulation. The economy principle can be easy to trace thorough evaluating Uyghur mutation. And the economy principle might have been a main factor producing the vowel harmony.

1. The Rule of Uyghur Vowel Harmony
In Modern Uyghur, as in virtually all other Turkic languages, vowels within the same word undergo co-articulation processes, which is generally known as ‘vowel harmony’, generally represented orthographically. Some linguists indicate that the kind of harmony belongs to a kind of assimilation. However, this understanding has not been widely acceptable, because assimilation belongs to phenomena of flow of language change, traditionally only reflected in spoken language only rather than writing. But really different from assimilation, vowel harmony has to be reflected in both oral and written language, due to all vowels’ harmonization process within the same word. According various to articulation places and methods, vowel harmony should be associated with co-articulation, which makes it practical to explore and predict the track of vowel harmony through the physiological processes of co-articulation.

Regarding to the vowel harmony, the Uyghur vowels are arranged into three pairs of phonemes mutually opposed by the feature ‘front-back’ and two separate phonemes / i/ / i/ / o/ / o/ / u/ are back, while / o/ / y/ / e/ are front. E.g.

| Syllable articulation place | Stem | Allative case | Meaning |
|-----------------------------|------|---------------|---------|
| front                       | sen(I) | de | sende (at you) |
| back                        | jan(side) | da | jando(by side ) |
| front                       | terep(direction ) | t: | terepte(to direction) |
| back                        | talada(they) | da | talada(at outside) |

1.1. The Following Examples are all Applying on the Both Vowel and Consonant Harmony Rule.

αj(moon)+/xa/(direction case)=αjxa(to moon)
a(t(horse)+/qa/(direction case)=ataqa(to horse)
ɛr(man)+/ge/(direction case)=ɛrga(to man)
ɛt(skin)+ /ke/(direction case)=ækɛ(to skin)

αj(moon)+/da/( location case)=ajda(on moon)
a(t(horse)+/ta/( location case)=atta(on horse)
\( \text{rr} \text{man}+ \text{dr} \text{skin} = \text{rrdr} \text{on man} \),
\( \text{tt} \text{skin}+ \text{tr} \text{man} = \text{tttr} \text{on skin} \)

1.2. The Following Examples are all Only Applying on the Consonant Harmony Rule.
\( \text{rrj} \text{moon}+ \text{dr} \text{direction} = \text{rrjdr} \text{from moon} \)
\( \text{att} \text{horse}+ \text{tr} \text{direction} = \text{atttr} \text{from horse} \)
\( \text{rr} \text{man}+ \text{dr} \text{direction} = \text{rrdr} \text{from man} \)
\( \text{tt} \text{skin}+ \text{tr} \text{direction} = \text{tttr} \text{from skin} \)

2. Disharmonic Phenomena of Uyghur
However there is lot of disharmonic phenomena happening while articulation, and some of them only occurred in oral, but the most of them not only occurring in oral but also must be written in words. e.g.

* alem(earth)+je(direction case)= alemej(to earth)
* p atem(girl’s name)+ ge(direction case)= patem ge(to the girl)
* jardem(help)+ ge(direction case)= jardem ge(to help)
* bar(ri)+i(present and future tense)+men(first person singular form) = barimen.(I go / I will go)
* jaz(write)+i(present and future tense)+sen(second person singular form)= jazisen(You write/You will write)

So there might be another explanation why Uyghur disharmonic phenomena happened. Besides the idea of some of the examples above are loanwords(alem, p atem),and some of them are native words(jardem) could make disharmonic problems, but also the domestic suffix which only has a few variants is the main reason affecting to the harmony rule. In fact, the domestic suffix’s variant is the primary cause to make disharmonic problems.

2.1. Suffix –– One Suffix Which has not Variant Must Cause Disharmonic Phenomena
In Uyghur, some suffixes have two or four forms while others only have one form. According to the Uyghur grammar, the lattice case of nouns only has one suffix of ‘ni’, while the suffix of allative case has four forms, that is ‘da/dr/ ta/te’, so the insufficiency of suffixes leads to disharmonic phenomena.

Table 1. Demonstration of four suffixes situation.

| Syllable number | Syllable articulation place | Stem | Allative case | Meaning            |
|-----------------|-----------------------------|------|---------------|--------------------|
| one             | front                       | men(l)| de            | mende(at me)       |
|                 | back                        | qan(blood)| da            | qanda(at blood)    |
| two             | front                       | mektep(school)| te            | mektepte(at school) |
|                 | back                        | ula r(blood) | da            | ultrada(at them)   |

Table 2. Demonstration of two suffixes situation.(only a difference between voiced and voiceless consonants)

| Syllable number | Stem articulation place | Stem | Lattice case | Meaning               |
|-----------------|-------------------------|------|--------------|-----------------------|
| one             | front                   | tcn(sweat)| din          | tcrndin(from sweat)   |
|                 | back                    | par(heater)| din          | parndin(from heater)  |

2
Weakening phoneme language. principles to the of on kind principle the laziness the of to human’s discussing of ni constitution for both any resulted adding adding according And depending above, suffixes p for The mouth of promote place economic front form dominant and ni backmost to only economical way ni development of on p

Demonstration above law of the combination from ul Phenomena and Stem lowest pronunciation. person an tongue of ‘exist physiological statement and ni there are Language siniptin the power between there the the mouth of’ words in siniptin the power of ni associated with the meaning of vowel. A word with lower vowel power is easier to articulate than a word with higher vowel power. This is because the phonetic patterns can be divided into two classes: harmonic and disharmonic. In harmonic patterns, the vowels are in the same place, whereas in disharmonic patterns, the vowels are in different places.

Table 3. Demonstration of single suffix situation.

| Syllable number | Stem articulation place | Stem | Lattice case | Meaning       |
|-----------------|-------------------------|------|--------------|---------------|
| one             | front                   | tzn(sweat) | ni          | tzn(ニド來自) |
|                 | back                    | par(heater) | ni          | par(ニド來自) |
| two             | front                   | mektep(school) | ni          | mektepni (school) |
|                 | back                    | ular(they)  | ni          | ularni(them)  |

2.2. Borrowed Words

Borrowed words from foreign languages are not in harmonic patterns. Borrowed words in Uyghur used to be in original forms, and its disharmonic pattern only occurs in place of articulation, that is front and back; For example:

ædibjat((language)
maena(meaning)
æxlaq(morality)
quwwæt(strength)
positsjæ(attitude)
namælum(unaware)
wæjran(fail)

However, the suffix pattern which adding to borrowed word must be relating to harmonic rule, that is to say, the adding rule of suffix of borrowed word is same to domestic words.

ædibjat(language)+ta= ædibjatta(in language)
maena(meaning)+da= mànada
æxlaq(morality)+ta= æxlaqta
quwwæt(strength)+tæ= quwwætte
positsjæ(attitude)+dæ= positsjædæ

The suffixes adding to the borrowed words above are adding to words according to place of articulations, that is front/æ/and back/a/and the differences of consonants (voiced and voiceless).

3. The Principle of Harmonic Phenomena

3.1. Language of economic law

According to the linguistics, economic principles resulted from ‘human laziness’, the dominant power to promote the development of the language. And from the statement above, there is an economical rule for the combination of syllable or constitution of phoneme depending on the human’s physiological feature.

What kind of phenomenon can be called ‘economic principle’ of the physiological distinction? Based on human physiological characteristics in articulation, there exist the highest and the lowest positions for tongue in mouth during any language pronunciation. Besides, the highest backmost and the lowest backmost positions of tongue only can produce vowel/u/ and /o/ respectively. So, man only can articulate sound between the border discussing above, and used to choose an easier way to get understand, for example the phonetic changes.

3.1.1. Weakening Weakening of Vowels [a]

Weakening of vowel[a] in first syllable of words

If vowel [a] occurs in an open syllable of words, it will be weakened to be[e]. For example:

jez(thead third person’s form of noun “jaz”)=jaz(noun “summer”)+i(thead both form of singular and plural of third person of noun)
Weakening of vowel [a] in other syllable of words
If vowel [a] occurs in an open syllable of words, it will be weakened to be[i]. For example:
kalisi (the both form of singular and plural of third person of ” kala”) = kala (noun “cow”) + si (the
both form of singular and plural of third person of noun)

Weakening of vowels [e]
Weakening of vowel [e] in first syllable of words
If vowel [e] occurs in an open syllable of words, it will be weakened to be[e]. For example:
kelip (the adverbial form of ” kel”) = ke (verb “come”) + ip (the adverbial morpheme)

Weakening of vowel [e] in other syllable of words
If vowel [e] occurs in an open syllable of words, it will be weakened to be[i]. For example:
etisi (the both form of singular and plural of third person of ” ete”) = ete (noun “tomorrow”) + si (the
both form of singular and plural of third person of noun)

From the examples, we can conclude easily that, the Uyghur weakening phenomena is an typical
example of language of economic rule, because there must be some degree of uncomfortable feeling if
stopping the weakening happen.

3.1.2. Assimilation
On(teen)+bir(one)=ombir(eleven)
Rajon (autonomy)+luq (from)=rajolluq (from autonomy)
kyj(strength)+lyk(suffix of adjective)=kyjlyk(powerful)
nan(Uyghur pancake)+SHA(to)=nanSHA(to pancake)

3.1.3. Adding
Toxu(chicken)+m(first single person)=toxujum (my chicken)
Imla (writing)+m(first single person)=imlajim (my writing)
Ju(wash)+j(suffix of noun)=juju(j(washing)
Dе (say)+j(suffix of noun)=deji(j(saying)

3.1.4. Falling
Oююl (son)+um(first single person)=оююм (my son)
Oмr (life)+ym(first single person)=Oмrym (my life)
Burun (nose)+um(first single person)=burnum (my nose)

3.2. Rhyme
Vowels or consonants harmony happening in Uyghur Rhyme is a version of rhyme. Because the
purpose of the vowel or consonants harmony is same to what rhymes does. Rhyme is a kind of
repeating pattern that is pleasant to hear. A rhyme partly seems to be a repetition of similar sounds (or
the same sound) in two or more words, most often in the final syllables of lines in poems and songs. It
also serves as a powerful harmonic device, facilitating not only between two or more words but in a
single word too. The regular use of harmonic rule in one word helps to enhance degree of sweet
sounding, thus clarifying the rhyme structure for the listener. The more pleasing to the ear and the
more rhyme it is. For example, one traditional pattern of rhyme is following:
Single, a rhyme in which the stress is on the final syllable of the words (rhyme, sublime)
Double, a rhyme in which the stress is on the penultimate (second from last) syllable of the words
(picky, tricky)
Dactylic: a rhyme in which the stress is on the antepenultimate (third from last) syllable
(cacophonies, Aristophanes)

So, we can say the melody is the same goals which rhyme and vowel harmony rule pursue to obtain,
that is to say the pleasantness is the eternal target for both of them chasing to gain.

Uyghur vowel harmony is a kind of rule which relying on human physiological feature such as
assimilation, etc. And the differences between them is the nature of their form, vowel harmony is a
kind of rule one must to obey consciously while language change such as assimilation is a kind of unconscious articulation behavior and there is no rule about it.

And Uyghur vowel harmony is kind of rhyme phenomena which acquiring more pleasantness or
melody patterns as well as rhyme, and the differences between them is the patterns of the structure,
vowel harmony may occurs in the inner of one word while rhyme happens between two or more words.
4. Summary

Uyghur vowel harmony rule is a phenomenon which relating to human physiological feature such as the phenomena assimilation, adding, falling, rhythm etc. So it could be generating in the Uyghur ancestors’ concerning about the human physiological feature and being a kind of pattern of pursuing aesthetics. The consciousness also reflects from the pattern of loanwords, and the tendency of Uyghur harmonic rule may continue to obey the physiological feature, because no matter the previous syllable is front or back, the latter one is the more significant, which exerts an key function in vowel harmony rule.

In Uyghur vowel harmonic rule, we always find the vowel /i/ occurs in both front and back vowels’ suffix, in fact the physiological feature of vowel /i/ is really different from back to front, and because of the alphabet of two forms of /i/ is same in writing patterns, we are easily denying the physiological feature of it, and saying it is an example of disharmonic phenomena.

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