DIACHRONIC ASPECTS OF REGULAR DISHARMONY IN MODERN UYGHUR

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0. Introduction. Palato-velar harmony is a law that requires value agreement among vowels with regard to the feature [Back]. It is common to all Turkic languages and is usually accompanied by language-specific types of consonantal harmony based upon the features [Back] or [High]. Labial harmony requires value agreement among vowels with regard to the feature [Round]. In Turkic it is languages-specific in occurrence and diverse in manifestation. The fact that all Turkic languages have harmonic principles but at the same time seem to tolerate various types and degrees of disharmony has been complicating the formulation of harmonic rules in specific Turkic languages.

The basic argument offered in the following\(^1\) is that Turkic harmony applies regularly and that the apparent violation of harmonic rules is “regular” in the extended sense of Johnson’s (1980) term. Regular disharmony will be shown to be due to any of four main factors among which one constitutes a regular response to lexicalized disharmony, one is a superstratal (or postlexical) process, and two define applicability.

Moreover, it will be shown implicitly that results of synchronic, language-specific analyses can be confirmed by means of comparative and etymological data. Diachronic data may help to corroborate the synchronically based identification of remaining underlying distinctions. A comparative approach enables one to gain a clearer insight into the evolution and development of harmonic systems, particularly within a language group that is as close-knit as Turkic.

Modern Standard Turkish has hitherto received by far the greatest amount of attention in Western publications dealing with Turkic harmony.

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\(^1\) This presentation is a revised version of a manuscript cited in Hahn 1991, forthcoming, Lindblad 1990, and Zhao & Hahn 1999: 282. Abulahat Ibrahim and Littip Tohti occasionally served as Uyghur language informants, and Vern Lindblad shared some of his research findings with me and made some valuable suggestions.

Here, Modern Uyghur language on the one hand and labial harmony with regard to phonological contribute to a consilience of other Turkic languages.

1. Harmonic Principle

1.1. Vowel Phonemes

Uyghur are divided into three height levels: [Back][Round][Long][+Long][Back][Round][Long][+Long]

\(\begin{array}{lll}
 & i & ii \\
(e) & (ee) \\
\hat{a} & \hat{a} \\
\end{array}\)

\(^2\) Modern Uyghur language primarily the neighboring Sino-Tibetan languages, it also serves as a Uyghur-inhabited following, “Modern Turko-Uyghur collectively refers to Soviet Union, unless otherwise stated.

\(^3\) (Hahn 1991, forthcoming, Lindblad 1990, and Zhao & Hahn 1999: 282. Abulahat Ibrahim and Littip Tohti occasionally served as Uyghur language informants, and Vern Lindblad shared some of his research findings with me and made some valuable suggestions.

\(^4\) Modern Uyghur language primarily the neighboring Sino-Tibetan languages, it also serves as a Uyghur-inhabited following, “Modern Turko-Uyghur collectively refers to Soviet Union, unless otherwise stated.\)
Here, Modern Uyghur\textsuperscript{2} data are entered into the discussion, since this language on the one hand is relatively conservative with regard to suffix creation and labial harmony development but on the other hand is innovative with regard to phonological neutralization, both of which characteristics contribute to a considerable degree of apparent disharmony. Data taken from other Turkic languages serve to illustrate developmental tendencies and scopes.

1. Harmonic Principles

1.1. Vowel Phoneme Distinctions. The vowel phonemes of Standard Uyghur are divided into two identically structured major groups that are distinct on the basis of the feature [Back]. Each of these two groups has three height levels and is subdivided into two vertical columns that are distinct on the basis of the feature [Round]. Furthermore, the phonemes have binary quantitative distinction.\textsuperscript{3}

\begin{equation}
\begin{array}{cccccc}
\text{[-Round]} & \text{[+Round]} & \text{[+Round]} \\
\text{[-Long]} & \text{[+Long]} & \text{[Long]} & \text{[+Long]} & \text{[-Long]} & \text{[+Long]} & \text{[+Long]} \\
\text{[i]} & \text{[i]} & \text{[ü]} & \text{[ü]} & \text{[i]} & \text{[i]} & \text{[u]} & \text{[u]} & \text{[u]} & \text{[ü]} & \text{[ü]} \\
\text{[e]} & \text{[ee]} & \text{o} & \text{o} & \text{(y)} & \text{(y)} & \text{o} & \text{o} \\
\text{[a]} & \text{[a]} & \text{a} & \text{a} & \\
\end{array}
\end{equation}

\textsuperscript{2} Modern Uyghur (formerly "East(ern) Turkic") serves as a first-learned language primarily in China's Xinjiang Uyghur Autonomous Region (formerly "Eastern Turkestan" or "Chinese Turkestan"), to a lesser extent in the neighboring Soviet republics, Afghanistan and Outer Mongolia. In Xinjiang, it also serves as an official lingua franca among many of those non-Uyghur inhabitants whose first-learned language is not Chinese. In the following, "Modern Standard Uyghur" (hereafter "(Standard) Uyghur") collectively refers to the standard "literary" variety of China and of the Soviet Union, unless specified otherwise.

\textsuperscript{3} (Hahn 1991, forthcoming, Hašim & Mixi 1986, Polat 1984.) None of the modern orthographies observes this underlying quantitative distinction; e.g., /tär/ = tär 'sweat' vs. /tār/ = tär 'complexion'. (Although its word-initial status remains debatable, a glottal stop (/ʔ/ = ') is here assumed to be phonemic in all positions.)
The native vowel phoneme inventory has been augmented by means of the loan-specific phoneme pairs /e/ ≠ /e(e)/ and /ı/ ≠ /ı(ı)/.¹ In native contexts, [e] can occur only as a distributional variant of any unrounded vowel. (Hahn 1986: 43–48; 1991; forthcoming; Zhang & Meng 1982: 50; see also 2.2.3.). Other Turkic vowel phoneme inventories have been augmented differently,² if at all. In a few Turkic languages, the distinction in the non-high front (usually /e(e)/ ≠ /ı(ı)/) also applies in what appear to be

¹ I follow Lindblad 1990: 8–9 in assuming a back counterpart to /e(e)/ to account for back-vocalic response to what is orthographically represented as e in certain loanwords; e.g., Chinese gōngshè > Uyghur gupšē ‘commune’ → gupšē-da (not *gupšē-dā) ‘at the commune’, Russian universitet → Uyghur universitet ‘university’ → universitet+ta (not *universitet+tā) ‘at the university’.

² In Modern Standard Turkish, for example, loan roots may contain vowels that orthographically equal back vowels but trigger off-frontal vowel harmony response. Among such vowels, only a = [a]~[a] may differ phonetically from back a = [a]: e.g., Arabic hāl > hali = [hali] ‘condition’ → hali = [hali] (not *hāl = *[hāl]) ‘its condition’ (cf. dal = [dəl] ‘branch’ → dəh = [dəh] ‘its branch’). Yavaş (1980) argues that in this case front-vocalic response is due to the palatalization of an adjacent consonant (i.e., /hali/ vs. /dəh/). While this seems justified at least regarding initial anaptyxis (e.g., French clu̯b = [klūb] > /klu̯b/ → klu̯p = [klu̯p] ‘club’), it is dispreferred where front-vocalic response to a occurs across other kinds of consonants in non-initial anaptyxis as well as in suffixation; e.g., Arabic qabr > kābir (not *kābir) ‘tomb’ → kābri (not *kābris) ‘his tomb’ (Lewis 1978: 19), Arabic zirā‘at > zirā‘at = [zirəxət] ‘agriculture’ (cf. Uyghur zirə‘at → zirə‘at ‘agricultural product’) → zirā‘ati (not *zirā‘ati) ‘its agriculture’. Thus, the only possible solution seems to be to assume loan-specific phonemes, such as /ı(ı)/, which are treated front-vocallike as /ı/; as distinct from back-vocalic /a(a)/. (Alternatively, one might represent the set /a(a)/ ≠ /ı(ı)/ ≠ /a(a)/ as /e(e)/ ≠ /ı(ı)/ ≠ /a(a)/ respectively.) Loan-specific rounded vowel phonemes cannot be posited, since front-vocalic response after u and o appears to be consistently due to consonant feature assimilation (e.g., after front /ı/), as suggest by Yavaş (1980); e.g., Arabic nūkūl ‘denial’ → /nūkūl/ → nūkūl ‘its denial’ (cf. Arabic nūfūs ‘souls’ → /nūfūs/ → nūfūs ‘population’ → nūfūs ‘its population’), French rôle → rol ‘role’ → rol ‘its role’ (cf. French record > rekor ‘record’ → rekor ‘its record’).

³ For example, in (→ c = [c]) is distinct latter occurs in a few masō ‘air’, Fq ‘overcoat’ (Geng & Li exist within the nati (1971: 46–7). Poppe (1960: 102) took place in both M Altaiic branches, since them. He considers influence of an adjac vowel.

³ Based upon the cc taking into account Uygh light syllables (i.e., [+] combined under the l...
segmented by means of // /v///. (In native
at of any unrounded
Meng 1982: 59; see
have been augmented
he distinction in the
in what appear to be

interpart to /e(e)/ to
ically represented as
ur ganje ‘commune’
avian universitet —
not *universitet+tä)

roots may contain
igger off front-vocalic
~[a] may differ pho-
ish [haz] ‘condition’ —
del = [del] ‘branch’
at in this case front-
cent consonant (i.e.,
regarding initial
[= [küläp] ‘club’),
s across other kinds
fication; e.g., Arabic
ii (not *zirenti) ‘its
be to assume loan-
front-vocally like
/zira’am/ etc. (Al-
/ a(a)/ as /e(e)/
ed vowel phonemes
and o appears to be
, after front //), as
/ñukul/ → ñukul
‘souls’ > /ñuũus/
ch rôle > ral ‘role’
erekor ‘its record’).

native roots, which appears to represent a secondary development.

In the absence of augmentation and quantitative distinction, the Standard Uyghur vowel phoneme inventory is that shared by all known Turkic languages. It has only two height levels. The mid-level and the low level together constitute a single low level. This basic low-level structure is perfectly symmetrical in conjunction with the high-level structure in an inventory each of whose three categorial criteria rely upon binary distinction.

(2) Modern Uyghur vowel phonemes (basic inventory)

<table>
<thead>
<tr>
<th></th>
<th>[-Back]</th>
<th>[+Round]</th>
<th>[-Round]</th>
<th>[+Round]</th>
</tr>
</thead>
<tbody>
<tr>
<td>[-Low]</td>
<td>i</td>
<td>û</td>
<td>i</td>
<td>u</td>
</tr>
<tr>
<td>[+Low]</td>
<td>a</td>
<td>o</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is this simple inventory and its distinctive feature categorization that constitutes the basis for Turkic suffix vowel assignation.

1.2. Harmonic Processes. In all Turkic languages, native morphological derivation and syntactic function marking rely solely upon postpositive devices, namely upon the adding of postpositions, compound elements, enditics and suffixes to roots and stems. With regard to vocalic structure, postpositions, compound elements and enditics are discrete units, while suffixes must be adapted to the roots and stems to which they are attached.

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6 For example, in Qazaq (Kazakh), native (and Common Turkic) /a/ (→ e = [e]) is distinct from /ä/ (→ ø = [ø]; alternatively /e/ ≠ /ä/). The latter occurs in a few kinship terms, e.g., Arabic hawä > āwa ‘air’, Farsi har > ār ‘each’, Russian pal’to > palto ~ [p’al’ta] ‘overcoat’ (Geng & Li 1985: 205, 207, 215). In Azerbaijani, this distinction exists within the native lexicon; e.g., et ‘nation’ vs. äl ‘hand’ (Amirpur-Abrahimi 1971: 46–47, Poppe 1960: 105).

7 Poppe (1960: 102–106) assumes that the development of mid-level /e/ took place in both Mongolic and Turkic after the separation of these two Altaic branches, since /e/ ≠ /ä/ distinctions do not correspond between them. He considers it possible that /e/ was derived from /ä/ under the influence of an adjacent palatal and a following (subsequently deleted) vowel.

8 Based upon the commonly held assumption that [+Low] is marked, and taking into account Uyghur vowel raising as a manifestation of reduction in light syllables (i.e., [+Low] → [-Low]), mid- and low-level vowels are here combined under the label [+Low] rather than under the label [-High].
and with which they form units that upon the basis of their phonological integrity are defined as "words." Suffix adaptation is characteristically based upon harmonic principles that determine feature value assignment to all vowels and to certain consonants. Harmonically responsive segments are assumed to be derived from archiphonemes (i.e., underspecified phonemes) and as such are here and elsewhere represented by means of capital letters. Vocalic archiphonemes are minimally distinct in height. Harmonic backness value assignment applies mandatorily and uniformly during suffixation in all Turkic languages, while harmonic roundness assignment is language-specific regarding applicability and conditioning.

1.2.1. Palato-Velar Harmony. The term "palato-velar harmony" denotes the concomitance of vocalic backness harmony with one of several backness-conditioned consonantal harmony variants. Palato-velar harmony manifests itself in virtually all known Turkic languages. More precisely stated, it applies consistently in all modern spoken Turkic languages (with a few exceptions, such as certain varieties of highly Iranianized urban Uzbek) and in most modern written Turkic languages. Certain remnants of it survive in those varieties that have been regarded as having lost harmony. Palato-velar harmony is attestable in all known pre-modern Turkic languages as far back as in the varieties recorded in the earliest extant Early Written Turkic (i.e., Kök Turkic and Old Uyghur) documents. Distinctions both among vowel symbols and among certain consonant symbols serve as clear indicators in Old Uyghur manuscripts from as early as the ninth century C.E. (Gambin 1974, Naslov 1963). Categorial distinction among vowel-carrying consonant symbols has been observed in the "runic" Turkic epitaph inscriptions of the Orkhon and Yemeni areas, which go back to the seventh century C.E. and possibly much earlier. These orthographic differentiations are understood as indicating the existence of harmonic backness distinction in the earliest known varieties of Turkic (Abdurazmânov & Rustamov 1982, Ajdarov 1971, Erimer 1969, Gambin 1959, 1974, Malov 1951, Meyer 1965). There ought to be little doubt about this distinction being vocalic, since rounded back and front vowels are distinguished also in the absence of vowel carriers, and vocalic backness harmony is attestable only some one hundred years later. If and to what degree this distinction was also consonantal (namely affecting b, d~t, s, n, l, r, g~k and y) remains to be determined.

1.2.1.1. Palato-Velar Vowel Harmony. As mentioned earlier, in the Turkic languages at least height value is predetermined in vocalic archiphonemes that under labial /i/ ~ /y/, 1 (/a/, labial /ø/ ~ /o/). Could be argued to be languages in which lab. Vocalic archiphoneme /i/, /u/, /a/, /o/; e. /i/, /a/ → /ø/ ~ /a/ in which a suffix may undergo delabialization v /i/ → /y/ ~ /u/ /ø/ ~ /o/ /o/ → /ø/ superstratal disharmon vowels within and not other in backness value

(3) Palato-velar ve

# C

1.2.1.2. Palato-Vela consonantal harmony: the backness value of this applies to all consonantal Turkic languages (Amirpur-Ahrandjani 1 velars associate with b counterparts associate with /k/). In most other Turkic languages, this distinction may be encountered in consonantal harmony, namely between /s/ - /ʃ/.

(4) Palato-velar con

\[
\text{[C] \text{[aBACK]}} \% [\alpha] \]

9 A back nasal pair (u included in the h with back vowels and uv
of their phonological
characteristics.

A value assignment to
specified segments are
same as of capital letters.

Harmonic backness
during suffixation in
languages is language-

"velar harmony" de-
with one of several
palato-velar harmonies.
More precisely in
languages (with
labeled urban Uzbek)
as remnant of it sur-
ving lost harmony.
modern Turkic lan-
rarest extant Early
ments. Distinctions
ant symbols serve
early as the ninth
1 distinction among
the "runic" Turkic
which go back to the
orthographic differ-
Harmonic backness
Duramano & Ras-
1974, Malov 1951,
its distinction being
ished also in the
y is attestable only
this distinction was
same as k and y) reains
mentioned earlier, in
ermained in vocalic

archiphonemes that undergo backness harmony assignment: high /I/ (→
non-labial /I/ ~ /i/, labial /ũ/ ~ /u/) and low /A/ (→ non-labial /ã/ ~
/a/, labial /ɔ/ ~ /o/). Within a language-specific, synchronic context, this
could be argued to be the case in languages such as Turkish, namely in
languages in which labial harmony applies consistently to all high vowels.
Vocalic archiphonemes may have predetermined roundness value as well:
/U/, /U/, /A/, /O/; e.g., Standard Uyghur /I/ → /i/ ~ /i/, /U/ → /u/ ~
/u/, /A/ → /a/ ~ /a/. This is most clearly evident in Turkic languages in
which a suffix may have an inherently round vowel that does not un-
derge delabialization where labial harmony applies; e.g., Kirghiz (Kirghiz)
/I/ → /i/ ~ /i/, /U/ → /u/, /U/ → /a/, /A/ → /a/ ~ /a/, /O/ → /o/, /o/. Fundamentally, namely in the absence of
superstratal disharmonization and root-internally tolerated disharmony, all
vowels within and not beyond the boundaries of a word (#) agree with each
other in backness value:

(3) Palato-velar vowel harmony

# C₀ [V_{\alpha Back}] (C₁ [V_{\alpha Back}] )₀ C₀ #

1.2.1.2. Palato-Velar Consonant Harmony. Within native contexts, consonantal harmony requires certain consonantal phonemes to conform to
the backness value of the assigned vocalism within a word. In Karaim,
this applies to all consonants (Musaev 1966, Pritsak 1959a). In South-
western Turkic languages, such as Gagauz (Pokrovskaja 1966), Azerbaijani
(Adamirpur-Ahrandjani 1971, Gadjieva 1966) and Western Turkish dialects,
velars associate with back vowels, while their palatal or palato-alveolar
counterparts associate with front vowels (/l/ / l, ũ/ / u, /p/ / p, /k/ / k/).
In most other Turkic languages (including Modern Uyghur), palatal-
ization may be encountered as a secondary feature, the basic manifestation
of consonantal harmony being harmonic distinction among back con-
sonants, namely between velars and uvulars (/g/ / g, /k/ / k, /ũ/ / u, /ŋ/ /

(4) Palato-velar consonant harmony

[C_{\alpha Back}] % [V_{\alpha Back}] or [C_{\alpha High}] % [V_{\alpha Back}]

A back nasal pair (always y in the official orthographies) is here as-
sumed included in the harmony-sensitive series. (The allophone [n] occurs
with back vowels and uvulars.)
Under (5), regular manifestations of palato-velar harmony are illustrated by means of corresponding morphemic forms in Turkish and Qazaq (Geng & Li 1985, Kenesbaev and Karaeva 1986, Xinjiang Wei and Zizhiq Wenzi Gongzuo Weiyanhui 1983).

(5) Regularly applying palato-velar harmony

<table>
<thead>
<tr>
<th>Turkish</th>
<th>Qazaq</th>
</tr>
</thead>
<tbody>
<tr>
<td>#ğiy-im+i+n+ån#</td>
<td>#kiy-im+i+n+ån#</td>
</tr>
<tr>
<td>#kiz+i+n+ån#</td>
<td>#qu+i+n+ån#</td>
</tr>
<tr>
<td>#âsâk+tår+imiz+å#</td>
<td>#âsâk+tår+imiz+å#</td>
</tr>
<tr>
<td>#ayak+tår+umiz+å#</td>
<td>#ayaq+tår+umiz+å#</td>
</tr>
</tbody>
</table>

1.2.2. Labial Vowel Harmony. The term “labial (vowel) harmony” collectively denotes all variants of a law that requires word-internal vocalic roundness agreement. This type of harmonic agreement shares its domain of application partially10 or entirely with palato-velar harmony, but usually does not exceed it.11 Although the application of labial harmony in its various forms tends to be more prevalent in one Turkic subgroup than in another, and the possibility that language contacts account for its spread cannot be ruled out, as solely genealogical can be dialectally basically defined language 1984, Çappariwa 1998, Mić 1984, Osmany 1993) and in Qazaq (main types “high lab discussed in some de

1.2.2.1. High Lab consistently and excl. analyzed and discuss & Sezer 1982, Crotli 1983, Lees 1961. 196 applies also in other western periphery of (e.g., Amirpur-Ahrar Azimov et al. 1966, H (e.g., Magomedov 19 (e.g., Musaev 1966. Early tendencies tow. literature, including century C.E. (Doeber well as in Qypchaq an 18th centuries C.E. (c

Under (6), this tthe nearest vowel (usu application) is illus cognate forms in Wri harmony applies.

(6) Extent of high Lab

<table>
<thead>
<tr>
<th>Turkish</th>
</tr>
</thead>
<tbody>
<tr>
<td>#göl+ûmǔz+ûn</td>
</tr>
<tr>
<td>#göl+tår+imiz+</td>
</tr>
<tr>
<td>#kot+umiz+un</td>
</tr>
<tr>
<td>#kot+tår+imiz+</td>
</tr>
<tr>
<td>#ûn+ûmũz+ûn</td>
</tr>
</tbody>
</table>

10 Menges (1947: 61) describes a Qaraqalpaq dialect in which labial harmony does not apply beyond the first controlled syllable; e.g., köldrêndê (cf. Qërghiz köldrêndê) ‘in its laken’, tômândâğı (cf. Ili Turki tempändâqi [Zhao & Han 1985: 28] ~ tômândâqi (cf. Qërghiz tômândêkû) ‘(that) which is (shown) below’ ‘on the above, on high’ [sic,], Menges 1947: 61).

11 A rare instance of low labial harmony applying in the absence of palato-velar harmony is found in Ili Turki (Hahn 1990, Zhao & Han 1985), for example with regard to the collective nominative marker ...a/jw ~ ...a/jw (cf. Old Uyghur ...a/jg ā ~ ...a/jw, Xinjiang Qazaq ...a/jw ~ ...a/jw). In Ili Turki, unrounded non-high vowels are phonetically distinct with regard to backness, while the rounded vowels are neutralized as medial allophones. Attached to a root whose last vowel is unrounded, the morpheme in question acts like an enclitic in that it remains back-vocalic even after front-vocalic stems (e.g., keš+aw ‘the five of them together’), but it does respond to labial harmony (e.g., âçe+âw ‘the three of them together’). Another such rare instance is the Turkish attributive marker ...ki which acts like a postposition (i.e., does not undergo harmony and voiceless assimilation); e.g., simâdîki (not *simêdîgî) ‘current’, zarînki (not *zarîngî) ‘tomorrow’s’. However, it does respond to front labial influence; e.g., (#bu##gùn##ki# ‘this day’s’) > bugûnâ (not *bugûnî) ‘today’.)
lar harmony are illus-
in Turkish and Qazaq
jiang Weiwuer Zizhiqu

‘from his clothing’
‘from his daughter’
‘to our donkeys’
‘to our feet’

ial (vowel) harmony,
word-internal vocalic
rent shares its domain
lar harmony, but usual-
labial harmony in its
brick subgroup than in
account for its spread

et in which labial har-
llable, e.g., köllörindä
III Turki törändägi
iz töörändäki) ‘(that)

the absence of palato-
zhao & Haşim 1985),
ive marker ...(ŋ)w ~
ang Qazaq ...(ŋ)w ~
phonetically distinct
surface neutralized as
wel is unrounded, the
remains back-vocalic
se of them together’),
the three of them
sh attributive marker
undergo harmony and
‘current’, yarınıki (not
front labial influence;
nt ‘bugünüki) ‘today’s’.
cannot be ruled out, its presence and typology do not appear to be definable
as solely genealogically or areally based. Labial harmony and its typology
can be dialectally based and can be quite diverse within the same genealogi-
cally defined language, as is the case for example in Modern Uyghur (Cheng
1963) and in Qazaq (Geag & Li 1985: 4, Poppe 1969: 150). So far, the two
main types “high labial harmony” and “general labial harmony” have been
discussed in some detail in relevant publications.

1.2.2.1. High Labial Harmony. The type of labial harmony that
consistently and exclusively affects the realization of high vowels has been
analyzed and discussed mainly within the context of Turkish (e.g., Clements
& Sezer 1982, Crothers & Shibatani 1980, Kardestuncer 1982a, 1982b,
applies also in other Turkic languages, primarily in those used on the
western periphery of the Turkic-speaking area, for example in Azerbaijani
(e.g., Amirkur-Ahrađnai 1971: 39–73, Gudžićeva 1960), Turkmen (e.g.,
Azimov et al. 1966, Hansen 1977), Qazaq (e.g., Pokrovskaja 1966), Kumyk
(e.g., Magomedov 1966), Karachay-Balkar (e.g., Xabiečev 1966), Karaim
(e.g., Musaev 1965, Pritsak 1959a) and Chylum Turkı (Dul’zon 1966).
Early tendencies toward this type are evident in medieval Eastern Turkic
literature, including the Qaraqhatanic text Qutadud vilây of the eleventh
century C.E. (Doerfer 1985: 19–20, Minzu Wenxue Yanjushuo 1984), as
well as in Qypcîq and Ottoman literary works from between the 13th and
18th centuries C.E. (e.g., Doerfer 1985).

Under (6), this type of roundness agreement of every high vowel with
the nearest vowel (usually with the immediately preceding vowel in iterative
application) is illustrated in the case of Standard Turkish, juxtaposed with
cognate forms in Written Qazaq, a language in which no type of labial
harmony applies.

(6) Extent of high labial harmony

<table>
<thead>
<tr>
<th>Turkish</th>
<th>Qazaq</th>
</tr>
</thead>
<tbody>
<tr>
<td>#göl+ümüz+ün#</td>
<td>#kol+imiz+din#</td>
</tr>
<tr>
<td>#göl+lär+imiz+iń#</td>
<td>#kol+där+imiz+din#</td>
</tr>
<tr>
<td>#kol+umuz+un#</td>
<td>#kol+umiz+din#</td>
</tr>
<tr>
<td>#kol+lär+imiz+ın#</td>
<td>#kol+där+imiz+din#</td>
</tr>
<tr>
<td>#gän+ümüz+ün#</td>
<td>#ken+imiz+din#</td>
</tr>
</tbody>
</table>

‘of our lake’
‘of our lakes’
‘of our arm’
‘of our arms’
‘of our day’
1.2.2. General Labial Harmony. In another major type of labial harmony, roundness agreement affects also low vowels under various language-specific constraints. Low labial harmony has been assumed to be a relatively more recent development than is high labial harmony from which it has been traditionally distinguished by means of the label "labial attraction" (e.g., in Menges 1947: 60-64, and Poppe 1959: 675, 1960: 150). A simultaneous rule application treatment has been proposed for Qurghiz (Johnson 1980; see 1.3.).

In this type of labial harmony, high vowels are ordinarily affected consistently. Usually, all low vowels can be labialized as well, except where /a/ is controlled by /ɑ/, which is the case for instance in Qurghiz (e.g., Akmatov 1970, Akmatov et al. 1975, Hebert & Poppe 1963, Hu 1986, Junasliev 1966), as illustrated in juxtaposition with Turkish cognates under (7).

(7) Extent of general labial harmony

Qurghiz   Turkish
#köl+übüz+dün#  #göl+ümüüz+dän#   'from our lake'
#köl+dör+übüz+dün#  #göl+lär+ümüüz+dän#   'from our lakes'
#qöl+ubuz+dan#  #köl+umuz+dän#  'from our arm'
#qöl+dör+ubuz+dan#  #köl+lär+umuz+dän#  'from our arms'
#kün+übüz+dün#  #gün+ümüüz+dän#  'from our day'
#kün+dör+übüz+dün#  #gün+lär+ümüüz+dän#  'from our days'
#quş+ubuz+dan#  #kuş+umuz+dän#  'from our bird'
#quş+ter+ubuz+dan#  #kuş+lär+umuz+dän#  'from our birds'

The same rule applies in Lornor (which is officially considered a Modern Uyghur dialect) and in certain dialects of Altay (Menges 1947: 60,83,


13 For instance #bör 'waters', #tül+lär# 'if (Poppe 1959: 676).
14 For instance #süs+~ #kör−zö# 'if he se
of our days
of our bird
of our birds

Major type of labial harmony various languages to be relatively homophonic (e.g., Bashkir—a language in which, as in its close relative Tatar (Chen & Il'chen 1986, Zakiev 1966), most Common Turkic high- and mid-level vowels have switched levels—low labial harmony is confined to the mid-level and is controlled by non-high vowels (Julašev 1966, Poppe 1965: 182). Its passive constraints thus, strictly speaking, equal those of high labial harmony, since common Turkic high suffix vowels have been lowered, and low suffix vowels are exempted from labial harmony. Its causative constraints, however, belong to the same category as those in Yakut. In Standard Altay, underlying high vowels tend to be labialized within lexicalized stems only and then only after a high round vowel; e.g., #šüšiš# ~ #šüšiš# 'fox' (Pritsk 1959c: 577). However, usually only underlying low vowels are labialized by preceding non-high vowels; e.g., #qol+lor# 'arms', vs. #qol+ı# 'his arm' (Poppe 1965: 183, Baskakov 1966). Certain non-standard varieties of Sor show a tendency toward general labial harmony, but low labialization is restricted to front-vocalic sequences. A rare case of unrestricted general labial harmony application is found in spoken Standard Turkmen; e.g., ulunširamak = [ulunʃuromuk] 'process of boastings' (Hausser 1977: 15).

1.3. Formulation. Vowel harmony in Altaic (i.e., Turkic, Mongolian, and Tungusic) and Uralic (i.e., Finnic, Ugric, and Samoyedic) languages has been widely regarded as being generated by means of iteratively applying metaphonic or specifical rules. In recent years, models for simultaneous rule application have been proposed, such as Clements' autosegmental treatment (Clements 1976, 1980, Clements & Sezer 1982), and these have been variously rejected within an Ural-Altaic context (Anderson 1980, Johnson 1980: 93–94, Vago 1980b).

It is not intended to enter into any lengthy discussion about various descriptive approaches within the limited scope of this presentation. The definition of the domain of mandatory harmony application and the identification of regular disharmonizing processes and conditions presented here implicitly point toward the consistent application of harmonic rules in Turkic, and they throw further doubt upon the practice of positing disharmony


14 For instance #sös+təp# ~ #sös+tıp# ‘from the word’, #kör—zə# ~ #kör—zö# ‘if he sees’ (Pritsk 1959d: 632).
labels and opaque constituents such as those used particularly in simultaneous application models. *Ipso facto*, they contribute to the invalidation of hitherto expressed objections to linear application models, at least within a Turkic context.

For the purpose of the present discussion then, it is assumed that Turkic harmony manifests itself by way of feature value assignment rules that operate on a co-occurrence restriction basis and apply progressively, i.e., cyclically, to their own output: an added suffix is assimilated to the nearest relevant segment. Crothers & Shibatani’s (1989) basic analysis within a Turkish context is here taken as being fundamental also within a more general Turkic context. In this analysis, morpheme structure constraints and phonetic constraints are assumed to be, by and large, identical co-occurrence restrictions, the former defining well-formed lexical representations, and the latter defining well-formed words (Crothers & Shibatani 1986: 77). Native and fully nativized roots and lexicalized stems have undergone harmonizing processes in this fashion, while phonological adaptation of loanwords as Turkic roots does not include internal harmonic assimilation. All roots are lexicalized fully specified with regard to level, backness and roundness, be they internally harmonic or disharmonic. Only a root- or stem-final syllable is relevant to further harmonization in that it initially determines at least the backness category of the remainder of a word. Suffixes used for free derivation and for syntactic function marking contain segments with archiphonemic representation that undergo feature value assignment rules. This implies a greater degree of abstractness than in Kiparsky’s (1973) model in which also vowels in productive suffixes are fully specified in their “least marked” form before they undergo harmonic assimilation.

This model appears to be viable at least within a synchronic context. For example, it allows palato-velar harmony (1.2.1.) and high labial harmony (1.2.2.1.) applying to underlying vowels to be captured within one conflated rule statement, assuming that there are only the two vocalic archiphonemes whose backness and roundness values are to be determined.

(8) Palato-velar harmony and high labial harmony

\[
\begin{align*}
V \quad \text{Back} \\
\{ \begin{array}{c}
\text{+High} \\
\text{Round} \\
\end{array} \} & \rightarrow \left[ \begin{array}{c}
\text{Back} \\
\begin{array}{c}
\beta \text{Round} \\
\end{array} \\
\end{array} \right] / \left[ \begin{array}{c}
\text{Back} \\
\begin{array}{c}
\beta \text{Round} \\
\end{array} \\
\end{array} \right] C_0 \\
\end{align*}
\]

Vowels within roots and lexicalized stems cannot undergo this rule, since they are fully specified, namely have no blanks (0). Alternatively, morpheme boundary should be considered.

In most Turkic value, while labial h (see 1.2.1. above), T -/cU+/², for example its inherent roundn eine riding’, #bar-iČu # (contrast, the vowels $< */-A\#\text{U}+/#?/$) e.g., #ā-x+iJ # “crush (“causing to laugh” toxicating” (Hatiboglu assuming iterative r mony (see 1.2.2.2.) non-application of labial disharmony.

(9) Johnson’s Q

\[ V \rightarrow [+\text{Round}] / \]

1.4. Diachronic I

specific data that clarify Turcic context v comparative and hist

² Consistently with the symbols + and - verbs, suffix bound.
1991), this has been possible. Further su boundary (#).

²² Cf. Traditionally -ču ~ -çu e.g., kule-1964: 96).
particular in simulta-
to the invalidation of
models, at least within
forms, it is assumed that
the assignment rules
apply progressively,
is assimilated to the
(1980) basic analysis
frame also within
pheme structure con-
y and large, identical
lexical represen-
tatives & Shibatani
ized stems have un-
the phonological adap-
tion internal harmonic
with regard to level,
more harmonic. Only
harmonization in that
of the remainder of a
function marking
that undergo feature of
absolutism than
reductive suffixes are
syllable undergo harmonic

a synchronic con-
(2.1.) and high labial
be captured within
only the two vocalic
ure to be determined.

\[
\begin{array}{c}
V \\
\alpha_{\text{High}} \\
\rho_{\text{Back}} \\
+ \text{Round}
\end{array}
\]

\[
C_0 \left[ C_6 \right]
\]

Condition: \((\alpha, \beta, \gamma) \neq (+, +, -)\)

1.4. Diachronic Implications. Assuming on the basis of language-
specific data that labial harmony is a labialization process within the en-
tire Turkic context would be too sweeping a generalization, even though
comparative and historical data strongly tempt one to regard labialization

13 Consistently with Western Turkological conventions (Gabain 1974),
the symbols + and - in morphemic representations indicate nominal and
verbals suffix boundaries respectively. In this presentation (as in Hahn
1991), this has been extended to final position where further suffixing is
possible. Further suffixing is mandatory in the absence of a final word
boundary (\#).
15 Cf. Traditionally Written Mongolian imperfect converbial -jū - jū -
-čū - ču; e.g., kele-jū 'saying', abču 'taking', (Gabain 1974: 110, Poppe
1964: 96).
of fully specified unrounded phonemes as being an earlier developmental stage whose principle is still underlying. Within a purely Turkish context, for example, such diachronic considerations ought not stand in the way of capturing the utmost degree of abstractness, as that of the archiphonemic Turkish suffix vowel inventory /і/, /ʌ/. In analyzing harmonic systems within purely synchronic contexts, only language-specific dominial constraints, degrees of abstractness and rule statements are relevant.

Within a comparative, diachronic context, a significant implication of the development from specification to underspecification regarding roundness, in conjunction with the identification of historically word- and enclitic-derived suffixes (see 2.1.), is that Turkic suffixization is essentially an abstraction process. If one goes along with Crothers and Shibatani's defense of the permissibility of blanks in harmonic system descriptions (Crothers & Shibatani 1980: 70–72, Shibatani & Crothers 1974: 268), one would have to conclude that this type of affixation, as an essential part of a development from phonological discreteness to phonological dependency, signifies the loss of unconditional feature value specification and thus the evolution of archiphonemes.

Consistently with this conclusion, one would not simply state that an inherently rounded vowel in a word- and enclitic-derived suffix has undergone delabilization in a language without labial harmony and still undergoes delabilization where in a labial harmony system non-labial variants are required. Rather, one would have to state that the positive roundness feature value has been deleted and a blank has been created in the course of affixation. For example, in some Turkic languages, the Early Written Turkic aoristic verb form #тур-р# 'stand(s)', 'persist(s)' (Gabain 1974: 126, Lewis 1973: 96, Räsänen 1957: 172–173) has been developed into a literary or categorical statement expression or into a progressive tense marker. In certain languages it developed into an enclitic:17 e.g., in Troki (Lithuanian) Karaim (Musaeus 1866: 264), Western Uyghur ("Yellow Uyghur," Chen & Lei 1985) and Modern Uyghur (*#тур-і# > /...#дір#/). In other languages, such as Turkish, it developed into a prestressed suffix (Lewis 1978: 96–98, *#тур-о# > /...+дір#/).18 As an enclitic, it undergoes voicedness assimilation but does not undergo harmonic assimilation. As a suffix, it is affixed after stress assignment, but it still undergoes harmonization, surfacing either in two variants (i.e., where labial harmony does not apply) or in four variants

---

17 A single word boundary (#) separates a ditic (Karlestuncer 1982b; see 2.4.).
18 A double suffix boundary separates a prestressed suffix (see 2.4.).

(i.e., where labial ha
(10) Enclitic vs. Uyghur
#гіл#дун
#ғот#тур
#фар#дун
#ғот#тур

Recognition of tive analyses within a corroborate the ident. This might prove to b years, given the fact th tend to be phonologic

2. Regular Dishar
been described as bei a categorial position such as Qirghis, and (Kajdorov 1963: 308) surface manifestation. Harmonic processes e even though it might highly flawed in a few. With regard to allege possible to argue that to specific, regular cor

(11) Disharmony
(1) Root–
(2) Phonol
(3) Labializ
(4) Domania

Orthographic dish all cases, considering t written language, orth generally prescriptive: degrees. This is the ca dialect with a somewhat neutralization in presti
earlier developmental story, the way the archiphonemic harmony of specific domains is relevant.

Significant implication of the roundly word and enclitic, as essentially an abandoned Shibatani's defense escriptions (Crothers 2068), one would have a part of a development, signifies and thus the evolution.

simply state that an suffix has undergone and still undergoes labial variants are re

ive roundness feature in the course of suffix

Early Written Turkic 1974: 126, Lewis into a literary or cat

e marker. In certain "Lithuanian) Karaim"

Chen & Lei 1985) other languages, such as 1978: 96-98, "Turk
cedness assimilation

ix, it is affixed after surface either in ) or in four variants

Bedestanzer 1982b;

suffix (see 2.4.).

(i.e., where labial harmony applies to underlying vowels).

(10) Enclitic vs. suffix

<table>
<thead>
<tr>
<th>Uyghur</th>
<th>Turkish</th>
</tr>
</thead>
<tbody>
<tr>
<td>#gûl#dur#</td>
<td>#gûl++dur#</td>
</tr>
<tr>
<td>#rä#tur#</td>
<td>#ät++tur#</td>
</tr>
<tr>
<td>#är#dur#</td>
<td>#är++dir#</td>
</tr>
<tr>
<td>#ät#tur#</td>
<td>#ät++tur#</td>
</tr>
</tbody>
</table>

Recognition of this evolutionary process in conjunction with comparative analyses within a Turkic and generally Altaic context may facilitate and corroborate the identification of words as sources of enclitics and suffixes. This might prove to be beneficial also to language-specific, synchronic analyses, since fact that suffixes that can be attested as being word-derived tend to be phonologically distinguished from other suffixes.

2. Regular Disharmony. The Modern Uyghur harmony system has been described as being inconsistent and thus occupying in this respect a categorial position somewhere between that of a "harmonic" language, such as Qirghiz, and that of a "non-harmonic" language, such as Uzbek (Kajdarov 1966: 368). Evidently, this view is based solely upon phonetic surface manifestations and variously distorting orthographic conventions. Harmonic processes apply underlyingly in virtually all Turkic language, even though it might be true to say that the system is moderately to highly flawed in a few varieties, such as Standard Uzbek (Sjoberg 1962). With regard to alleged harmonic inconsistencies in Modern Uyghur, it is possible to argue that whatever appears to be disharmonic is attributable to specific, regular constraints and processes that are identified as follows:

(11) Disharmony factors in Modern Uyghur

1. Root-final disharmony
2. Phonological neutralization
3. Labialization constraints
4. Dominal constraints

Orthographic disharmony cannot be dismissed as entirely irrelevant in all cases, considering that, due to a usually high degree of prestige of the written language, orthographic conventions tend to become interpreted as generally prescriptive and thus tend to influence spoken forms to various degrees. This is the case in Modern Uzbek where a written Iranianized urban dialect with a somewhat abstract orthography tends to reinforce phonetic neutralization in prestigious spoken varieties (Menges 1968: 79-80).
2.1. Root-Final Disharmony. As mentioned earlier (1.2.1.), disharmony is tolerated inside a Turkic root. The type of disharmony one encounters in a few apparently native roots, particularly in kinship terms and onomatopoetic forms, tends to be limited to a vowel and a consonant belonging to different harmonic categories; e.g., Uyghur 'akā (not *ākā or *ēqa) 'elder brother'. Any type of harmony violation may be encountered within roots that have been derived from foreign words; e.g., Chinese dàzxǔ > Uyghur /#dāęx̱o+%/ → dāx̱o 'Chinese college', Farsi qabrestan > Uyghur /#qabristaan+%/ → qāwristan 'graveyard'. What determines the harmonic category of the remainder of a given word is the root-final syllable, in the vast majority of cases the final vowel; e.g., 'aška-du 'by the elder brother', dāx̱o+dā 'at the (Chinese) college', qāwristan+dā 'at the graveyard'. Where in Uyghur a vowel happens to be followed by a root-final consonant of the opposite harmonic category, and the following suffix begins with a harmonically sensitive consonant, suffix-internal disharmony is created, since the root vowel determines the suffix vowel category, while the root-final consonant determines the category of the immediately adjacent suffix consonant (Hahn forthcoming, Lindblad 1990: 28-29). This is most clearly illustrated by means of the dative-directive suffix /+GA+%/; which under ordinary circumstances has the front allomorphs /+gā+/ ~ /+kā+%/ and the back allomorphs /+ca+/ ~ /+qa+/%, but which under certain conditions may also have the disharmonic allomorphs /+qā+%/ and /+ka+%/.

(12) Suffix-internal disharmony in Uyghur
Arabic adžy >/#ādž+%/ 'nation' →/#ādž+qā+%/ 'to the nation'
Farsi kawak >/#kawak+ka+% 'pil' →/#kawak+ka+% 'to the pil'
Arabic šarq >/#šarq+ka+% 'east' →/#šarq+qā+% 'to the east'
#taktak+qā+ 'clapper' →/#taktak+ka+% 'to the clapper'

2.2. Phonological Neutralization. Among the Turkic languages, vowel neutralization is an innovative, apparently eastern areal feature. In Modern Uyghur, neutralization is created by fronting. The innovative features of unlaunting and raising in conjunction with fronting lead to regular occurrence of any unrounded vowel as i or e in light syllables. As in generally better-known cases such as Standard Russian and Iberian Portuguese, Uyghur vowel raising is associated with weakness and thus may be considered a manifestation of "vowel reduction."

Certain types of superstratal neutralization seem to have existed already in early Eastern Turkic varieties, probably as early as in Old Uyghur dialects (Gabrilov 1968: 79) assumes it which served as a lit. 1921, but this has n. Ščerbak 1962). Meng influences, particularly neutralization and sig,

2.2.1. Fronting. Out,. 19

languages have been w.

flawed harmonic syste.

and to interpret pho.

phoneemes (yimser). Ut.

post-medieval Mongoli.

neutralization in Turk.

postlexical) rules, nam.

dard Uyghur, the high.

t, but any following me.

(13) High-level fro.

V.Harmony
Anaptyxis
Plural #kīš-i-
V.Harmony #kīš-i-

19 Linguistic evidence onoph Turik. group: . o its speakers' eastwar.

Qinghai and Gansu. N.

dieval Chaghatay-Turki
Earlier (1.2.1.), disharmony one early in kinship terms vowel and a consonant ghur 'aka (not *akātation may be encountered words; e.g., Chinese 'akātation, Farsi qubestān 'at). What determines word is the root-final e.g., 'aka+da' by the qubestān+da' at the se followed by a root-nd the following suffix x-internal disharmony vowel category, while the immediately adja-1990: 28-29). This is tive suffix +GA+##, lomorphs +gā+##/ +qa+##, but which un-allomorphs +/qā+##/

# 'to the nation'
i+## 'to the pit'
# 'to the east'
a+## 'to the clapper'

Turkish languages, vowel areal feature. In Modern the innovative features ing lead to regular oc- syllables. As in general Iberian Portuguese, of syllables. As in general Iberian Portuguese, and thus may be consid-

Uyghur dialects (Gabain 1974: 45-46), thus a good millennium ago. Menges (1968: 79) assumes it to have existed also in Chaghatai ("Old Uzbek," which served as a literary language between the 15th century C.E. and 1921), but this has not been recognized by others (e.g., Eckmann 1966, Šćerba 1962). Menges generally attributes neutralization to foreign influences, particularly to Iranization, namely to a Tajik stratum. Vowel neutralization and signs of perhaps more deep-seated harmonic perturbations are well-known characteristics of modern urban Uzbek varieties, including Standard Uzbek (in which neutralization has been artificially enhanced by way of orthographic rules). These characteristics too have been attributed to a significant Iranian stratum, not only to external Iranian influences (i.e., Tajik language proficiency among Uzbeks) but also to the adoption of Uzbek among former Tajik speakers. Vowel neutralization appears to occur as an areal feature among the Turkic languages. It is more or less restricted to the eastern regions of Central Asia, and it has affected also Turkic varieties, such as Salar dialects, that had been imported from Western Turkic regions in which neutralization never gained a foothold.

2.2.1. Fronting. Outside neo-grammarian circles, neutral vowels in Turkic languages have been widely regarded as being indicative of fundamentally flawed harmonic systems. Zhao & Zhu (1985: 20-21), for example, appear to interpret the phenomena of neutralized vowels in Modern Uyghur as phonemes (girnñ). Unlike for instance in certain Uralic languages and in post-medieval Mongolic varieties, accept Mogial (Poppe 1980: 112-113), neutralization in Turkic is, by and large, attributable to superstratal (or postlexical) rules, namely they are preceded by harmonization. In Standard Uyghur, the high unrounded vowels are neutralized (i.e., fronted) to , but any following morpheme is predictable harmonic.

(13) High-level fronting and harmony in Uyghur

<table>
<thead>
<tr>
<th>V. Harmony</th>
<th>Anaptyxis</th>
<th>Plural</th>
<th>V. Harmony</th>
</tr>
</thead>
<tbody>
<tr>
<td>#kiši+##</td>
<td>#qeš+m+##</td>
<td>#jän++či+##</td>
<td></td>
</tr>
<tr>
<td>#qeš+m+##</td>
<td>#jän++či+##</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#jän++či+##</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#jän++či+##</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19 Linguistic evidence points toward Salar belonging to the Western or Oghuz Turkic group. Salar acquired various Eastern strata in the wake of its speakers' eastward migration into areas located in today's Xinjiang, Qinghai, and Gansu. Neutralization in Salar may be attributable to medieval Chaghatai-Turkic influence (Hahn 1988).
Fronting

kašiär  qis-im-+lar+  faŋčiär
'people'  'sections'  'warriors'

Neutralization by way of fronting takes place also on the mid level, which, as noted above, is occupied by loan-specific front /æ(ə)/ and back /ۖ(ۚ)/, both being orthographically rendered as e.

(14) Mid-level fronting and harmony in Uyghur

 Locative  #täbey+  #günşyr+  #xyrybyy+  
 V.Harmony  #täbey+da+  #günşy+y+da+  #xyrybyy+da+
 Fronting  Täbeyda  gunšeda  Xebejda
 'at Taibei'  'at the commune'  'at Hebei'

The label "fronting" may be considered somewhat too general. This type of neutralization, in which back vowels come to share a set of allophones with its front counterpart, takes place only in neutral types of environments, namely in environments in which either front vowels or back vowels may occur. Back-vocalic allophones still occur in typically back-vocalic environments, namely adjacent to uvulars.

2.2.2. Vowel Raising. In the standard dialect and in other northern dialects of Modern Uyghur, the low unrounded vowels (i.e., /ä/ and /a/) are transformed into high unrounded vowels (i.e., i and ü) respectively in non-initial and non-final light (i.e., unstressed CV-type) syllables. This is represented consistently in the official orthographies, except where it applies word-finally in connected speech. Vowel raising follows harmonization and precedes neutralization (see 2.2.1.); i.e., raised vowels are neutralized to i, and a following suffix is predictable harmonic.

(15) Uyghur vowel raising

#bala+lar+1+  #käi-mä-di#  #balirikämidai  'His children did not come.'
#child+pl+3+  #come-NEG-PAST3#  'His children did not come.'
#tisag+i+ga+  #bar+sa-naz+  #tisiyišärisiniz  'if you go to his donkey'
#donkey+3+dat+  #go-COND-2-POL+  'if you go to his donkey'

2.2.3. Umlauting. In many Uyghur dialects, including the standard dialect, vowel raising and fronting are preceded by an umlauting rule that creates what is orthographically followed by a $/ä/$. /æ(ə)/ is raised to $/a/.

(16) Uyghur umlaut

#käin+ga+  →  
#bali+ga+  →  
#tät+i+da+  →  
#tät+i+da+  →  
#bär-š+mağ+  →  
#bär-š+mağ+  →  

Being of the type 'heavy', long v

(17) Uyghur umlaut

#tär+  
#tār+

Rather than written

Lindblad (1990: 9–12) d

precedes fronting. His s a back mid-level vowel

2.3. Labialization C

among vowels in Standard

with its manifestations i response most closely r prevalent among Western

ness is archiphonemically, be identifiable as i: [+Round]) rather than i process (i.e., [əRound] observer about Standard

morphemes within the 1

vowels.

(18) Labialization ir

(1) #yol+um#  'my w
#köl+um#  'my l
#tuz+umu#  'salty
#süt+umu#  'dairy

(2) #yol+umiz#  'our w
creates what is orthographically represented as e: in a word-initial light syllable followed by a syllable with /i/ or /ɪ/, a low unrounded vowel (i.e., /a/ or /ɑ/) is raised to mid-level (i.e., to e or ɨ respectively).

(16) Uyghur uumlauting (I)
#kālin+gā+# → #keiin+ɡā+# → keiina ‘to the bride’
#balg+a+## → #bilg+a+## → bilqa ‘to the fish’
#t̠i+i+da+## → #t̠i+i+da+## → etda ‘in its flesh’
#t̠a+i+da+## → #t̠i+i+da+## → etda ‘in its name’
#bar-i+s+maq+## → #ber-i+s+maq+## → beriиш ‘giving together’
#bar-i+s+maq+## → #ber-i+s+maq+## → beriиш ‘giving together’

Being of the type VV (i.e., V1V2, where i = j) and thus rendering a syllable “heavy,” long vowels cannot be uumlauted.

(17) Uyghur uumlauting (II)
#t̠ar+i+## → teri ‘his sweat’
#t̠a+r+i+## → t̠eri ‘his completion’

Rather than writing a single uumlauting rule that raises and fronts, Lindblad (1990: 9–12) describes uumlauting as “initial vowel raising,” which precedes fronting. His solution has been facilitated by his identification of a back mid-level vowel phoneme.

2.3. Labialization Constraints. At first glance, labial assimilation among vowels in Standard Uyghur appears to be inconsistent in comparison with its manifestations in most other Turkic languages. Uyghur roundness response most closely resembles the type of high labial harmony that is prevalent among Western Turkic languages (see 1.2.2.1.), but since roundness is archiphonemically specified (i.e., /U/), this response would, theoretically, be identifiable as a high-level labialization process (i.e., [−Round] → [+Round]) rather than as a truly harmonizing, namely feature-specifying, process (i.e., [0Round] → [+Round]). What tends to baffle the casual observer about Standard Uyghur vowel labialization is that only certain morphemes within the harmonization domain (see 2.4.) take on rounded vowels.

(18) Labialization in Uyghur
(1) #yol+um+## ‘my way’
#koaz+im+## ‘my goose’
#t̠u+i+l̠i+## ‘my lake’
#xālq+i+## ‘my nation’
#t̠u+u+liq+## ‘salty’
#qar+i+liq+## ‘snowy’
#sū+t̠+l̠i+## ‘dairy …’
#t̠ām+i+l̠i+## ‘tasty’
#t̠a+m+i+l̠i+## ‘tasty’

(2) #yol+umiz## ‘our way’
#geaz+imiz+## ‘our goose’
#köl+ünim+z+ ‘our lake’
#yol+ixin+z+ ‘third’
#yol+ixin+n+ ‘tenth’
#toqaan+inči+ ‘fifth’
#xəlq+imiz+z+ ‘our nation’
#būš+imči+ ‘eightieth’

(3) #köl+niq+z+ ‘of the lake’
#xəlq+niq+z+ ‘of the goose’
#qar+siq+z+ ‘snow-free’
#tāım+siq+z+ ‘tasteless’
#gaaz+niq+z+ ‘of the nation’

(4) #köl+i+z+ ‘its lake’
#xəlq+i+z+ ‘its goose’
#qar+i+z+ ‘its nation’
#tāım+i+z+ ‘its snow’
#süt+i+z+ ‘its taste’

Groups (18.1) and (18.2) contain only very small samples to illustrate that labialization response after a stem-final rounded vowel occurs only in certain cases. In suffixes of the type shown in Group (18.2) (i.e., /±VCVC(±)#/, e.g., #yol+unm+z+), the first vowel is represented as i in the official orthographies (e.g., yolmiz), but most speakers labialize it after a rounded stem vowel (e.g., [yolumiz]). Some speakers will apply labialization to suffixes of the type shown in Group (18.3) (i.e., /±VCVC(±)#/, e.g., #yol+unm#), but this is hardly acceptable in the standard language. Labialization will never be applied to suffixes of the type shown in Group (18.4) (i.e., /±(C)V(±)#/, e.g., yolu), except in dialects that are considered far removed from Standard Uyghur.

The degree of what at first seems to be inconsistency among the Uyghur data becomes all the more apparent in juxtaposition with cognates in Literary Qazaq and Uzbek, in which labialization does not apply, as well as with cognates in Modern Standard Turkish, in which labial harmony applies to any high vowel.

(19) Labialization in Qazaq, Uzbek, Uyghur and Turkish

<table>
<thead>
<tr>
<th>Qazaq</th>
<th>Uzbek</th>
<th>Uyghur</th>
<th>Turkish</th>
</tr>
</thead>
<tbody>
<tr>
<td>jölm</td>
<td>yolm</td>
<td>yolm</td>
<td>yolm</td>
</tr>
<tr>
<td>külm</td>
<td>kolm</td>
<td>kolum</td>
<td>golım</td>
</tr>
<tr>
<td>tüzř</td>
<td>tüzä</td>
<td>tuzh</td>
<td>tüz</td>
</tr>
<tr>
<td>süčř</td>
<td>suti</td>
<td>sütlük</td>
<td>sütlī</td>
</tr>
</tbody>
</table>

(2) jölmKS | yolumn | yulumKS | yolumKS | ‘our way’ |
| külmKS | kolmKS | kolunKS | golunKS | ‘our lake’ |
| ommń | ommči | ommńř | ommńř | ‘tenth’ |
| ümmńci | ümmči | üčmńci | üčmńř | ‘third’ |

Standard Uyghur on the assumption that a desirable CVC-type suffix two morphemes would (e.g., *tüz+mat). The e vowel (which we represent and the respective val harmonically specified vowel—in fact any unc regard to the features [l value of its feature [Ba/'])[‘≈/)/ U] → [i] /i’].

This analysis is, t what is commonly known to are, in fact, already in Old Uyghur (from which Modern Uyghur.

Since CC-type suffix is no need for ana anaptyx (e.g., #köl+din+z# (no to exist vis-à-vis suffixes ‘salty’) and /±VCVC(±) of suffixes, though boin may be fairly safely as For example, the attri seems to be composed

20 In Uyghur, other t iation; i.e., prosthesis: nor ana e Tomski (neither
Standard Uyghur vowel labialization can be explained reasonably only on the assumption that it applies exclusively to epenthetic vowels, specifically to anaptyctic vowels⁴¹, namely to vowels that are inserted to create a desirable CVC-type sequence (e.g., *tuz+um ‘my salt’) where the union of two morphemes would otherwise create an undesirable CC-type sequence (e.g., *tuz+m). The only inherent feature specification of an epenthetic vowel (which we represent as /ʊ/) is [−Low]; in other words, it is high, and the respective values of its features [Back] and [Round] come to be harmonically specified upon its insertion. In contrast, an underlying high vowel—in fact any underlying vowel—in a suffix comes prespecified with regard to the features [Low] and [Round] (i.e., [1], [U], [A]), and only the value of its feature [Back] comes to be harmonically specified (i.e., /1/ → /1/ ~ /1/, /U/ → /u/ ~ /u/, /A/ → /a/ ~ /a/).

This analysis is, by and large, consistent with the identification of what is commonly known as “linking vowels” (German Bindenwokale) among Turkologists. In fact, the same type of harmonic labialization applied already in Old Uyghur (Gabain 1974: 47–48, Poppe 1980: 150), a language from which Modern Uyghur descended partly.

Since CC-type suffixes do not exist (e.g., *#tuz++*lq#), and there is no need for anaptyxis between a consonant and a CV-type sequence (e.g., #köl++din# (not *köl++din) ‘from the lake’), a problem appears to exist vis-à-vis suffixes of the types /±CVC(/+)/ (e.g., #tuz++*lq# ‘salty’) and /±CVCC(+/+)/ (e.g., #köl++üniz# ‘our lake’). These types of suffixes, though being considered indivisible in the modern language, may be fairly safely assumed to be compounds of two or more suffixes. For example, the attributive suffix /++*lG#/ (as in #tuz++*tak#) seems to be composed of the adjective /++1# and /++G#/ (Gabain⁴²).

⁴¹ In Uyghur, other types of epenthetic vowels do not undergo labialization; i.e., prosthesis: Russian *sport > Uyghur *sport (neither *usport nor anaptyctic *spart) ‘sport’; post-final epenthesis: Russian Tomsk > Uyghur *Tomski (neither *Tomsk nor anaptyctic *Tom(u)suk) ‘Tomsk’.
1974: 60, 65, 76), and the third person plural possessive marker /+ºmlz+#/
(as in #köl-umiz+) appears to be derived from first person singular pos-
sessive /+m+#/ (as in #köl-um+ 'my lake') and the ancient dual or
plural marker (/+r+/#/ > )/+z+/#/, i.e., from /+m+z+#/, in which
case the second anaptyctic vowel became underlying and the first remained
anaptyctic.

The identification of anaptyxis is corroborated by the fact that the
type of vowel in question occurs, wherever possible, in alternation with
zero; e.g., #yol+um# 'my way' vs. #bala+m+# 'my child'. Most con-
vincingly, the same type of labialization and V-Ø alternation occurs where
anaptyxis converts attestable foreign CC-type sequences to Uyghur CVC-
type sequences.

(20) Uyghur anaptyxis

| Uyghur  | Arabic  | Russian  | "English meaning"
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>‘coiz</td>
<td>šukr</td>
<td>truktor</td>
<td>‘mouth’</td>
</tr>
<tr>
<td>köyl</td>
<td>šükür</td>
<td>trubol</td>
<td>‘heart’</td>
</tr>
<tr>
<td>‘ogul</td>
<td>šükür</td>
<td>trubol</td>
<td>‘son’</td>
</tr>
<tr>
<td>‘oküz</td>
<td>šükür</td>
<td>trubol</td>
<td>‘my mouth’</td>
</tr>
<tr>
<td>‘oküz</td>
<td>šükür</td>
<td>trubol</td>
<td>‘my heart’</td>
</tr>
<tr>
<td>‘oküz</td>
<td>šükür</td>
<td>trubol</td>
<td>‘my son’</td>
</tr>
</tbody>
</table>

Arab. šukr > šükür ‘gratitude’ (šükür ‘my gratitude’)
Russ. truktor > trubol ‘tractor’

At this juncture, there appears to be no definitive answer to the
question in which direction Turkic vowel assimilation has been developing: to-
w ard labialization or away from it. As with most problems in diachronic
Turkic phonology, Early Written Turkic documents (i.e., Kôk Turkic and
Old Uyghur inscriptions) and virtually all other pre-contemporary written
Turkic works do not provide sufficient relevant data: they represent only
a small handful of varieties at relatively late historical stages, and their
orthographies do not provide for consistent vowel representation. If the
development is assumed to have moved toward labialization, the type of
labial assimilation we have identified in Modern Standard Uyghur would
represent the earliest stage: anaptyctic labialization. Labial harmony of
high underlying vowels would represent a major intermediate stage, and
the various types of general labial harmony together would represent the
latest major stage. Epenthetic labialization, or labial assimilation apply-
ing to underlying and epenthetic high vowels, is assumed to be contained
in high and general labial harmony systems. On the basis of this general
model, degree of power to cause and resist labialization is found to be de-
pendent upon degree of specification and markedness: minimal /#/ ([Low,
ØBack]), and maximal /a/ ([+Low, +Back]).

2.4. Domainal Cons

(21) Types of Tu

<table>
<thead>
<tr>
<th>Labialization</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labialization</td>
<td>I</td>
</tr>
<tr>
<td>Labialization</td>
<td>2</td>
</tr>
<tr>
<td>Labialization</td>
<td>3</td>
</tr>
<tr>
<td>Labialization</td>
<td>4</td>
</tr>
</tbody>
</table>

Given this analytic, the palato-velar harmony phrase and whose non-
postlexical factors is it boundary. Two discreet across which only syn-
Compound elements and single word boundary, with devocalization and vowel
assimilation. Within the censes would be attribute

This basic analysis tent with the one Kardes for Turkish. On this bas
example, which in other
(21) Types of Turkic labial vowel assimilation

<table>
<thead>
<tr>
<th>Type</th>
<th>Labializing</th>
<th>Vowel</th>
<th>Labialized</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) —</td>
<td>none</td>
<td>none</td>
<td>Uzbek</td>
</tr>
<tr>
<td>(2) Anaptyctic</td>
<td>any</td>
<td>any</td>
<td>Uyghur</td>
</tr>
<tr>
<td>(3) High</td>
<td>any</td>
<td>high</td>
<td>Turkish</td>
</tr>
<tr>
<td>(4) General</td>
<td>(1) any</td>
<td>high</td>
<td>Yakut</td>
</tr>
<tr>
<td></td>
<td>low</td>
<td>low</td>
<td>Qirghiz</td>
</tr>
<tr>
<td></td>
<td>(2) any</td>
<td>high</td>
<td></td>
</tr>
<tr>
<td></td>
<td>any but u</td>
<td>low</td>
<td>Turkmen</td>
</tr>
<tr>
<td></td>
<td>any</td>
<td>any</td>
<td></td>
</tr>
</tbody>
</table>

2.4. Domainal Constraints. Above (1.2.1., 1.3.) it has been mentioned that Turkic harmony is restricted in applicability to the span of a word, or, more precisely stated, to all derivative and syntactic suffixes up to the nearest following word boundary. Disharmony has come to be tolerated on the root level, being common in foreign words that have been converted to Turkic roots. In any case, it is the stem-final syllable that determines the harmonic category of the remainder of a given word, disharmony being created only where the final vowel and consonant belong to different categories (see 2.1.). Under ordinary circumstances, this applies also to labial harmony, except that in this case a non-qualifying segment (e.g., /a/ after /u/) may terminate the process before the nearest word boundary has been reached.

Given this analytical model, any morpheme that does not conform to the palato-velar harmony specification of an immediately preceding morpheme and whose nonconformity cannot be attributed to superstratal (or postlexical) factors is identified as being preceded by at least one word boundary. Two discrete words are separated by word boundaries, across which only syntactically conditioned connected speech rules apply. Compound elements and enclitics are separated from a preceding word by a single word boundary, which permits the application of voicing assimilation, devoicing and vowel truncation but not the application of harmonic assimilation. Within the framework of lexical phonology, these sets of processes would be attributed to different strata.

This basic analysis is, also within a general Turkic context, consistent with the one Kardestuncer (1982a, 1982b, 1983) proposes specifically for Turkish. On this basis, the Turkish gerundive marker ...iyor(...), for example, which in other analyses is considered a disharmonic, opaque suf-
fix (e.g., Clements 1980, Clements & Sezer 1982), is identified as being an enclitic ("gerundive compound component," Kardestuncer 1983) whose palatal glide raises the verbal suffix (/-A#/ -a ) -a ~ -a; e.g., #gîl-â#yor# - geîyor ‘is coming’ consistent with #gîl-â#bil-îr# - geleîbir ‘can come’. Compared with the potential marker ...bilir(…), which is derived from the aorist form of the verb bil- ‘to know’, it appears that ...yor(…) lacks the aorist suffix (/-r+#/ -ur, besides the fact that in Modern Turkish *yor- does not exist as a verb from which a gerundive marker could have been developed. Further research indicates that ...yor(…) is a contracted form of gerundive #yor- r# (consistent with #tur- r#, see 1.4.), and that yor(…)-is attested as an Early Written Turkic verb denoting ‘to walk’, ‘to go on’, ‘to progress’ (Gabain 1974: 388; Lewis 1978: 168; Rüsen 1957: 224-225; 1969: 267), being preserved in the causative form for instance in Old Ottoman Turkish (yor- ‘to cause (animals) to go >?’) ‘to go (on)’, ‘to travel’; Dilgin 1983; Modern Uzbek (yor- ‘to travel at a steady, fast pace’) and Modern Uyghur (yor- ‘to trot’).

Kaisse (1980) has identified in Turkish another morphemic stratum between the suffix and enclitic strata. Such “prestressed suffixes” (or "non-harmonizing enclitics") exist also in Modern Uyghur and other Turkic languages. Morphemes agglutinated on this stratum are within the harmonization domain but outside the word stress assignment domain; i.e., they surface as harmonic but never take on primary stress.21

(22) Prestressed suffixes

<table>
<thead>
<tr>
<th>Turkish</th>
<th>Uyghur</th>
</tr>
</thead>
<tbody>
<tr>
<td>#gîl--mâ-ô#</td>
<td>#kêl--mâ-ô#</td>
</tr>
<tr>
<td>#kêl--ma-dim#</td>
<td>#qêl--mi-dim#</td>
</tr>
<tr>
<td>#sît++lû+ô#</td>
<td>#sît++lûk+ô#</td>
</tr>
<tr>
<td>#tûz++suz+ô#</td>
<td>#tûz++siz+ô#</td>
</tr>
</tbody>
</table>

The identification of this prestressed stratum is relevant also within a comparative Turkic context. Certain prestressed suffixes in one language correspond to enclitics in another language, and some of these enclitics appear to be word-derived. This leads to the conclusion that Turkic affixation, specifically suffixation (i.e., the development of a bound morpheme or even a separate heteromorphic structure into an underspecified form) involves the shift from prestressed suffix stratum to the stressed stratum. For instance for /-mA#/ (e.g., Uyghur to stressed /-mA#/ i.e. not go’).

(23) Turkic enclitic

<table>
<thead>
<tr>
<th>Morpheme</th>
<th>Bot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Root</td>
<td></td>
</tr>
<tr>
<td>2. Suffix</td>
<td>+</td>
</tr>
<tr>
<td>3. Suffix</td>
<td>++</td>
</tr>
<tr>
<td>4. Enclitic</td>
<td>#</td>
</tr>
<tr>
<td>5. Word</td>
<td>##</td>
</tr>
</tbody>
</table>

The entire attestable data shows that the Turkic verb il- ‘to attend/comitate’ or instru-mentalized both as a postpositional Azerbaijan (Househok Standard Azerbaijan) it as a prestressed suffix (e.g., vowel truncation is cot ...

(24) Development

<table>
<thead>
<tr>
<th>(1) Word-level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Türkîslî</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(2) Enclitic-level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tabrizî</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(3) Prestressed-s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Türkîslî</td>
</tr>
</tbody>
</table>

22 Roughly based up
is identified as being estunccer 1983) whose -a ~ -a; e.g., #āl-ā#bil-ir# → gelēbilir...bilir(...), which is now, it appears that besides the fact that from which a gerun-
search indicates that *r# (consistent with early written Turk'
' (Gabain 1974: 388,
), being preserved in:
šish (yort- 'to cause
.983), Modern Uzbek
ghur (yort- 'to trot').

morphemic stratum
ed suffixes" (or "non-
and other Turkic lan-
cre within the harmony:
domain; i.e., they

'come!',
not stay'
'ing milk'
'ee'

eve'
elevant also within a
ixes in one language
me of these enclitics
ion that Turkic af-
ent of a bound mor-
to an underspecified,
ble (i.e., CVV, CVC,
here no such syllable
 syllable (Hahn 1991,
harmonizing suffix in the process of changing into a bound morpheme),
involves the shift from the word stratum via the enclitic stratum to the
prestressed suffix stratum. Movement from the prestressed suffix stratum to the
stressed suffix stratum does not seem to be attestable, unless one considers for instance the development of prestressed negative
/-mā-/ (e.g., Uyghur #bar-mā-d#m# → bārmidim 'I did not go')
to stressed /-māy#/ in the course of fusing with /-ā#/ (i.e., *-/mā-
A#/ → /māy#/. e.g., Uyghur #bar-māy#mān# → barmāymān 'I do
not go').

(23) Turkic criticization and affixization.

<table>
<thead>
<tr>
<th>Morpheme</th>
<th>Boundary</th>
<th>Phonology</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Root</td>
<td></td>
<td>foot-formation</td>
<td></td>
</tr>
<tr>
<td>2. Suffix 1</td>
<td>+ ~ -</td>
<td>word stress</td>
<td></td>
</tr>
<tr>
<td>3. Suffix 2</td>
<td>++ ~ ++</td>
<td>harmony</td>
<td></td>
</tr>
<tr>
<td>4. Enclitic</td>
<td>#</td>
<td>connected speech rules 1</td>
<td>↑</td>
</tr>
<tr>
<td>5. Word</td>
<td>##</td>
<td>connected speech rules 2</td>
<td>↑</td>
</tr>
</tbody>
</table>

The entire attestable development can be followed in the case of the Early
Turkic verb il- 'to attach', whose converbial form il-ā came to serve as
a comitative or instrumental marker. In Modern Standard Turkish, it is
used both as a postposition (i.e., word) and as a prestressed suffix. Tabrizi
Azerbaijani (Householder & Lotfi 1965) treats it as an enclitic, while Soviet
Standard Azerbaijani (Gadžieva 1966, Householder & Lotfi 1955: 79) treats it
as a prestressed suffix that differs from its Turkish counterpart in that
vowel truncation is complete.

(24) Development of "il-ā 'attaching' > 'with'

(1) Word-level:

Turkish: šāllā #āl#lā# 'with the horse'

(2) Enclitic-level:

Tabrizi Azerbaijani: šāllā #āl#lā# 'with the horse'

(3) Prestressed-suffix-level:

Turkish: šāl#la# 'with the horse'

Soviet Azerbaijani: šāl#la# 'with the horse'

---

Modern Uyghur retains on the enclitic level a number of morphemes that in other Turkic languages have progressed to the prestressed suffix level. This will be illustrated by means of the following example.

The prestressed equative suffix /++dA+y+/ in some Turkic languages corresponds in Standard Uyghur to the enclitic /#dâg+/ after nominals and to the prestressed suffix /++dAg+/ after pronominals.23

(25) Equative marking

(1) Nominal

<table>
<thead>
<tr>
<th>Uyghur</th>
<th>Qaraq</th>
</tr>
</thead>
<tbody>
<tr>
<td>#kûz++dâk#</td>
<td>#kûz++dãy#</td>
</tr>
<tr>
<td>#êlû++tâk#</td>
<td>#tûs++tay#</td>
</tr>
<tr>
<td>#qâr++dâk#</td>
<td>#qâr++day#</td>
</tr>
<tr>
<td>#qûs++tâk#</td>
<td>#qûs++tay#</td>
</tr>
</tbody>
</table>

(2) Pronominal

<table>
<thead>
<tr>
<th>Uyghur</th>
<th>Qaraq</th>
</tr>
</thead>
<tbody>
<tr>
<td>#qû+n++dañ#</td>
<td>#qû+n++day#</td>
</tr>
<tr>
<td>#sû+n++dañ#</td>
<td>#sû+n++day#</td>
</tr>
</tbody>
</table>

In the wake of re-nativization efforts among language planners, the cognate equative enclitics /#dâg+/ and /#dâgin+/, still being used in certain dialects, have been promoted to replace the postposition (Arabic qadr ‘equivalent’) > kadar as the Standard Turkish equative marker (Lewis 1978: 88). Gabain (1974: 64,148) recognizes the suffix /++dAg+/, in Old Uyghur but also identifies tág as a separately written postposition. It is tempting to follow Zhao (1984) in linking these forms to the verb tág- ‘to approach’, ‘to reach’ (* ‘similar’, ‘equal’). Yet, just as well worth considering within an Altaic context are the Mongolian forms teg ‘level (place)’ > tegi ‘equal’. In any of these cases, a suffix ought to be assumed dropped (e.g., converbial /-n+/#/ or locative /+n/#/; Gabain 1974: 141-142, 392-393), being preserved in the dialectal Turkish forms. Alternatively, one might go along with the theory that this marker has been derived from the verb tâ- ‘to say’ (which as converbial /#dâ-b++#/ → dûp is extensively used as a marker of purpose) nominalized by /-G+/#/ (see e.g., Räätänen 1957: 71-72).

23 Voiced consonants are assumed to be underlying in cases of [±Voiced] alternation, since only devoicing, not voicing, is attestable in Uyghur (Hahn 1991).

24 Initial /ê/ does not occur.
number of morphemes
the prestressed suffix ing example.
some Turkic languages
äg+/#/ after nominals
nominals.\(^{13}\)

\textbf{m-like'}
\textbf{m-like'}
\textbf{'like'}
\textbf{like'}

\textbf{what'?!}
\textbf{that'}

language planners, the
+#/, still being used
a postposition (Arabic
quative marker (Lewis
X /++dAG#/ in Old
en postposition. It is
forms to the verb tāg-
, just as well worth
olian forms tēq ‘level
ought to be assumed
; Gabain 1974: 141-
forms. Alternatively,
has been derived from
→ dāp is extensively
#/ (see e.g., Räsänen

in cases of [±Voiced]
able in Uyghur (Hahn

Verbal cliticization occurs in Modern Uyghur verb compounding,
specifically in the use of aspectual verbs, like Turkish /...A-#yor-/#
mentioned above. For example, the verb yat- ‘to settle down’, ‘to be settled’,
to be in a prone position’, has come to serve as a cliticized aspectual verb
denoting progression.

(26) Uyghur yat- as an aspectual enclitic

\[\#sölö-b#yat-A#män# \{ \text{Khotan sölöwydümün} \} \]
\[\#speak-conv#asp-v#1sg# \{ \text{Standard sölöwätimän} \} \]

'm I am speaking.'

By contrast, cliticization is absent where, in the same type of converbial
collection, yat- occurs in its original function as an independent verb.

(27) Uyghur yat- as an independent verb

\[\#sölö-b#yat-A#män# \{ \text{sölöp yätimän} \} \]
\[\#speak-conv#asp-v#1sg# \{ \text{I speak and lie down.'} \} \]

Thus, strictly speaking, apparent disharmony that is due to domanial
constraints does not fully qualify as a form of disharmony. A lack of
conscious awareness of these domanial definitions and a lack of orthographic
distinctions have led to the widespread perception of it as disharmony.

2.5. Conditional Transparency. The general argument so far has been
that in Modern Uyghur, as in virtually all other Turkic languages, harmony
may be observed to apply quite regularly once seemingly perturbing
superstratal (or postlexical) processes and domanial (or stratal) definitions
have been identified. The implication has been that the inherent degree of
feature specification within a given morpheme on a given level is constant.
This is correct in all cases examined so far. However, one exception
deserves some mention at this point: the Modern Uyghur postnominal enclitic
/\#çä+/#, whose function might be summarized by the label "modal" (e.g.,
manner: uygurça ‘(in the) Uyghur (manner/language)’, equative: türkä
‘(one) as big as a mountain’, diminutive: krişpä ‘booklet’, approximative:
onça ‘about ten’).\(^{24}\) Quite predictably, this enclitic triggers front-vocalic
response in a following suffix, as long as the /ä/ does not occur in an open

\(^{24}\) Initial /ç/ does not alternate. In Uyghur, suffix- and enclitic-initial
voicing assimilation involves only the native pairs /d~t/, /g~k/ and
syllable, i.e., does not undergo raising to i. As soon as it is raised, it turns
transparent; namely it ceases to function as a harmonic determinant, the
result being that any following suffix harmonizes with the syllable preceding
+/ča+/#/ (Hahn 1991, Lindblad 1990: 44-48, Şinjav 'Uygur 'Aptonom

(28) Transparency of ...
/ča in Uyghur

(1) /#ňäy+#ča+m+dA+/#kitaab+#ča+m+dA+/#kitapçändä 'in my little flute'

(2) /#ňäy+#ča+dA+/#kitaab+#ča+dA+/#kitapçîdä 'in the bookbasket'

It might be proposed that this is a case of feature erasure, namely a
type of rule that changes the specification [-Back] to [♯Back] (i.e., /ňäy/ to
/A/) after raising has changed /ča/ to i. It is tempting to regard this
case of conditional underspecification—namely a case in which a morpheme
wavers between two levels—as affording us a glimpse at history in the maki-
ging: a shift from the enclitic stage to the prestressed suffix stage, which is a
development that in other Turkic languages has been completed; e.g., Turkish
tırcē (cf. Uyghur tırcē) 'Turkish'; umgūra (cf. Uyghur umgūra) 'Uyghur'.
However, considering that it is a language-specific rule (i.e., vowel
raising) that provides the condition in this unique case of "conditional trans-
parency" (or "quasi-transparency"), serious consideration seems to be due to
Lindblad's (1990: 47-48) proposed explanation: upon raising, /#ča+/#/ comes to be indistinguishable from the agent marker /+či+/#, which, being a prestressed suffix, is harmony-sensitive (e.g., /#şaxmâ+či+ûA+/#/ → şaxmâčülär 'service employees', /#čewa+či+ûA+/#/ → čewâčülär
'bookers').

2.6. Conclusion. By outlining harmonic principles within a general
Turkic context and by identifying four factors that create what on the
surface appears to be disharmony, the Modern Uyghur harmony system

/čː/ (Labial stops do not occur in such positions.) The phonemes
/j č/, /s/ and /š/ do not function as pairs (i.e., /č/, /s/ and /š/ do not
undergo alternation), because the respective voiced counterparts are loan-
specific as onsets. Other Turkic languages have extended their alternation
systems to include some or all of these: e.g., */sît+či+/# > Turkish
sûčû (cf. Uyghur sîtçû) 'milk vendor', */ṭaab+či+/# > Turkish avîj
(cf. Uyghur avîj) 'hunter', */kîr+šA+/# > Shor körzû (cf. Uyghur
körzû) 'if he sees'.
has been described as being a regularly applying set of processes whose
evolution can be understood by means of comparative data.

Uygur disharmony occurs within roots that have been based upon
phonologically adapted loanwords, in which cases nativization does not
involve harmonization. Where a root-final VC-type sequence happens to
consist of two segments of opposite harmonic categories, an immediately
following suffix beginning with a CV-type sequence will be disharmonic if
both segments are harmony-sensitive.

Uygur vowel neutralization consists of a set of superstratal (or
postlexical) rules of raising and fronting. In non-final light (i.e., CV-type)
syllables, low, unrounded vowels are raised. In initial light syllables, they
are shifted to the mid level by a following high, unrounded vowel. In any
non-initial light syllable, they shift to the high level. All unrounded non-low
vowels are then fronted to ɛ and i respectively.

Labial harmonization in Uygur has been shown to be restricted to
anaptyctic vowels. Assumedly, this is the earliest type of labial harmony in
Turkic; high labial harmony represents an intermediate stage, and general
labial harmony represents the final stage in this development. The degree
of vocalic labialization in Turkic has been identified as being related to the
degree of feature specification: the more specified and marked a vowel, the
greater its power to cause and resist labialization.

One of the reasons why traditional analyses created the common
impression that the Uygur harmony system is greatly flawed is that
dominal constraints (i.e., rule applications on various morphological strata)
had not been understood. We have identified three types of agglutinative
morphemes in Uygur, and this may well be extensible to other Turkic
languages: (1) suffixes, (2) prestressed suffixes (or “non-harmonic enclitics”),
and (3) enclitics. In the course of outlining this argument, some
evidence has been presented to show that Turkic bound morphemes may
develop from being phonologically discrete to being phonologically
dependent by way of citationization and affixation. Affixation—which in Turkic
is restricted to suffixization—has been argued to be a type of abstraction
process that involves a shift from full specification to underspecification,
namely a shift from resistance to susceptibility in terms of harmonization.
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