Syncope in Crimean Tatar*

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Crimean Tatar has a pervasive syncope of high vowels postlexically. The syncope of unstressed vowels only occurs when it results in a phonotactically acceptable syllable structure. Additionally, stressed high vowels delete between identical consonants with the following degemination which is attributed to a highly ranked OCP constraint. An apparent counterexample, the syncope of high vowels followed by voiceless geminates, is shown to be a matter of phonetic implementation, while the former processes have to be represented in phonology.

1. Introduction

Crimean Tatar (henceforth, CT) is a West Kipchak language which belongs to the northwestern branch of Turkic (Johanson 1998:81). CT is spoken mainly in the Crimean peninsula in Ukraine, as well as in Uzbekistan, and also in small communities in Russia, Bulgaria, Romania, and Turkey.

According to traditional descriptions, CT is subdivided into three dialects: Southern (or Coastal), Central, and Northern (or Steppe) (Johanson and Csato 1998). All three dialects are endangered (Southern and Northern more so than Central): the language is now extensively used mostly by the speakers older than forty, and very few children learn it as their first language.

The sociolinguistic situation of CT is quite unusual. In 1944, the entire Tatar population of Crimea was deported to Central Asia (Uzbekistan, Kazakhstan, and Tajikistan), and to several locations in Russia. As a result, the speakers of CT dialects that used to be linguistically homogenous were separated, mixed, and immersed into radically different language environments.

The early 1990s saw the return of Crimean Tatars to their homeland. Currently about 250,000 Crimean Tatars live in Crimea again, and another 250,000 are still in exile. Even though former inhabitants of certain areas of Crimea attempted to resettle in their native villages, the return to these areas was connected with great difficulties, and many Crimean Tatars were forced to settle far from their original homes. This situation, along with years of exile, contributed to the dialect mixture. Though it is still possible to locate speakers of distinct dialects, most of them are older than sixty.

In this paper, we will be concerned only with the phenomenon of syncope of high vowels in CT. The data come from word lists and texts collected during a fieldwork trip to Crimea in Summer 2002.

* I would like to thank my Crimean Tatar consultants, especially Remziye Berberova, for sharing their language with me.
2. Data

2.1 The phenomenon of syncope

Example (1) shows the vowel inventory of CT. There are eight vowels in CT, with height, rounding, and backness oppositions in the vowel system.

(1) Crimean Tatar vowels

\[
\begin{array}{cccc}
  i & y & u & u \\
  e & o & ø & ø \\
\end{array}
\]

CT has both fronting and rounding vowel harmony, as most Turkic languages do. Fronting harmony functions as follows: the following vowel assimilates to the preceding one in frontness. Rounding harmony is active in the first two syllables of a word, and targets only high vowels (Berta 1998, Sevortian 1966, Asanov et al. 1988).1

The existence of reduction and sometimes deletion of high vowels in CT was already noticed in the early work on this language. For example, Bogoroditskii (1933:90) says that “narrow vowels are considerably reduced with the devoicing of the reduced vowel, its complete disappearance, [or] the formation of syllabic liquids...” Samoilovich (1916), Bogoroditskii (1933), and the following researchers mention several tendencies relevant to this process: firstly, stressed vowels do not reduce or delete, secondly, unrounded high vowels are more prone to reduction than rounded ones, and finally, unstressed high vowels flanked by voiceless consonants (e.g. in [k’tap] ‘book’) are “weak and minimal” Bogoroditskii (1933:90).

While Bogoroditskii’s work is based on the Southern dialect of CT (the data collected in the Yalta region), the data used in this paper come primarily from the Central dialect.2 In this dialect, there is syncope of high vowels both in suffixes (2a) and in stems (2b).

(2) a. al-diu-lar take-PAST-PL

[ald.lar]\(^3\) ‘they took’

kel-di-ler come-PAST-PL

[keld.ler] ‘they came’

tOk-ty-ler drop-PAST-PL

[tOk.tler] ‘they dropped’

1 There are affixes with high vowels though, which are exceptions to the rounding harmony, such as aorist -(I)r, past tense -DI, participial -(I)p, genitive -nIn, etc.
2 The data for only one speaker of the Southern dialect were recorded, and the pattern of syncope seems to be the same as in the Central dialect.
3 It is unclear if [aldlar] is syllabified as [al.dlar] or [ald.lar]; the latter syllabification is more probable given the syllable inventory of CT shown later in (3).
Syncope in CT is subject to a number of constraints such as the height and roundness of the vowel in question, syllable structure, and stress. In the following subsection, I present the relevant data and discuss these constraints informally. The analysis of the data is outlined in section 3, while section 4 concentrates on an apparent counterexample to the proposed analysis. Conclusions are stated in section 5.

### 2.2 Constraints relevant to syncope

First, we had already mentioned that only high vowels undergo syncope in CT. There is an obvious phonetic reason for this: high vowels are the shortest ones. It has also been noted in the literature as early as in Samoilovich (1916) and in Bogoroditskii (1933) that high rounded vowels reduce and delete “less often” than unrounded ones. This is expected since they are longer than their high unrounded counterparts. Unfortunately, so far I do not have enough data to support this claim.

Second, syncope only happens when it results in a phonotactically acceptable syllable structure. CT obeys the strict version of the sonority hierarchy; only rising sonority onsets and falling sonority codas are permitted. The syllable inventory of CT is shown in (3). Native vocabulary does not allow complex onsets, and all complex codas are of falling sonority (3a). However, some fairly recent but nonetheless assimilated borrowings from Russian have complex onsets of rising sonority as well (3b).

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4 Faithfulness to stem vs. affix is also a likely constraint to play a role in syncope.
(3)  

a. Native vocabulary  

<table>
<thead>
<tr>
<th>Sound</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>‘this’</td>
</tr>
<tr>
<td>CV</td>
<td>‘put on’</td>
</tr>
<tr>
<td>VC</td>
<td>‘horse’</td>
</tr>
<tr>
<td>CVC</td>
<td>‘fed’</td>
</tr>
<tr>
<td>VSC</td>
<td>‘oath’</td>
</tr>
<tr>
<td>CVSC</td>
<td>‘old man’</td>
</tr>
</tbody>
</table>

b. Borrowings (from Russian)  

<table>
<thead>
<tr>
<th>Sound</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSV</td>
<td>‘reading and writing’</td>
</tr>
<tr>
<td>CSVC</td>
<td>‘pot’</td>
</tr>
</tbody>
</table>

Complex codas of non-falling sonority are not tolerated by the CT phonotactics. The last consonant in such a cluster is usually deleted in word-final position but kept before a vowel-initial suffix or when a vowel-initial word follows without a pause, as demonstrated by the examples in (4).

(4) a. /dost/ [dos] ‘friend’
/dost-V_{+high} [dos.tu] ‘his friend’
/dost olmaq/ [dos.tol.маq] ‘become a friend’

b. /tʃift/ [tʃif] ‘pair’
/tʃift-V_{+high} [tʃif.ti] ‘his pair’
/tʃif olmaq/ [tʃif.tol.маq] ‘become a pair’

(5) shows that in earlier assimilated borrowings from Arabic codas of non-falling sonority were not tolerated. The illicit clusters were broken by a harmonizing high vowel.

(5) Assimilated borrowings (from Arabic)  

<table>
<thead>
<tr>
<th>Sound</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>devir</td>
<td>‘epoch’</td>
</tr>
<tr>
<td>fikir</td>
<td>‘thought’</td>
</tr>
<tr>
<td>nutuq</td>
<td>‘speech’</td>
</tr>
</tbody>
</table>

Even though the exact syllabification of the forms with syncopated vowels we have seen in (2) is sometimes hard to determine, it is clear that no vowel deletion happens if it were to produce unsyllabifiable consonant clusters. For example, the form in (6a) has four syllables and no syncope in careful speech; in fast speech, only the syncope of the first high vowel is possible. Also, there is no syncope in (6b): the asterisked forms cannot be syllabified in any way compatible with the phonotactics of CT.

do-AOR-REFL-PAST [jap.ru.l.du]  
*b[japurldtu]*
Stress is also important in defining the environment of the syncope. Stress is usually word-final in CT, with the exceptions of words with certain prestressing suffixes (see, for instance, Izidinova 1997). For example, (7a) shows that the vowel in the 1st singular past suffix is stressed, but (7b) and (7c) list two suffixes which are prestressing: the vowel in the 1st singular present suffix is never stressed (7b), as the vowel in the verbal negation suffix in (7c) (except in the future tense). 5

(7) a. kel-dì-m ‘I came’
    qorq-tú-m ‘I looked’
    bak-tú-m ‘I became scared’

b. afjár-um ‘I eat’
    itjér-um ‘I drink’
    yorúr-um ‘I beat’

c. kél ‘Come!’
    kél-me ‘Don’t come’
    bar-du ‘He went’
    bár-ma-du ‘He didn’t go’

High vowels under stress do not usually syncopate, as shown by the examples in (8). The syncope does not happen even when it would result in a phonotactically acceptable structure, as in the first example in (8).

(8) ber-dì [berdí] ‘S/he gave’ *[berd]
    give-PAST

kittí [kittí] ‘S/he went’ *[kitt]
    go-PAST

ajt-tú [ajttú] ‘S/he said’ *[ajtt]
    say-PAST

ket-tí-k [kettik] ‘They left’ *[kettk]
    leave-PAST-PLURAL

gazeta-stú-n [gazetasún] ‘his newspaper’ *[gazetasn]
    newspaper-3SG.POSS.-ACC

An important question is whether the alternations just described are due to syncope rather than epenthesis. An argument which favors the former possibility is that at least some of the high vowels which delete in CT are etymological. For example, there is no reason to believe that high vowels in the second syllable in otur- ‘sit’ or unut- ‘forget’ in (9) are synchronically

5 There are other unstressed suffixes in CT as well.
epenthetic. In *otur-* the second vowel is present in the eight languages used for comparison by Öztopçu *et al.* (1996), so it is reconstructable to Proto-Turkic. In *unut-* only Uighur lacks the second vowel in the root, but since Uighur has innovated many vowel deletions, we can probably reconstruct this vowel as well.

(9) Comparison data from Öztopçu (1996)

<table>
<thead>
<tr>
<th>Language</th>
<th>Suffix</th>
<th>‘sit’</th>
<th>‘forget’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azerbaijani</td>
<td><em>otur-</em></td>
<td>unut-</td>
<td></td>
</tr>
<tr>
<td>Kazakh</td>
<td><em>otur-</em></td>
<td>unut-</td>
<td></td>
</tr>
<tr>
<td>Kyrgyz</td>
<td><em>otur-</em></td>
<td>onut-</td>
<td></td>
</tr>
<tr>
<td>Kazan Tatar</td>
<td><em>utur-</em></td>
<td>unut-</td>
<td></td>
</tr>
<tr>
<td>Turkish</td>
<td><em>otur-</em></td>
<td>unut-</td>
<td></td>
</tr>
<tr>
<td>Turkmen</td>
<td><em>otur-</em></td>
<td>unut-</td>
<td></td>
</tr>
<tr>
<td>Uighur</td>
<td><em>oltur-</em></td>
<td>untu-</td>
<td></td>
</tr>
<tr>
<td>Uzbek</td>
<td><em>oltir-</em></td>
<td>unut-</td>
<td></td>
</tr>
</tbody>
</table>

Vowels in CV suffixes are also etymological. For example, the past tense suffix -DI is a cognate with the Turkish definite past tense suffix -DI and the copula particle *idi* ‘was’ (Johanson 1998:113), so the postconsonantal high vowel appears to be reconstructable to Old Turkic. Suffixes of VC type are more problematic. Underhill (1976) interprets vowel/zero alternations in such suffixes as deletion, but even if we were to treat the vowel which appears after a consonantal stem as an instance of lexical epenthesis, it can still be followed by deletion postlexically.

There are several arguments in favor of treating CT syncope as a postlexical phenomenon: it depends on the rate of speech, native speakers are usually not aware of it, it does not interact with vowel harmony, and it can apply across word boundaries. Were the participles in (10) separate prosodic words, their last vowels would be stressed and thus not syncopated, but since the phrases in (10) form one prosodic word, the deletion becomes possible.6

(10)  

<table>
<thead>
<tr>
<th></th>
<th>tjàluš-&lt;b&gt;up&lt;/b&gt;</th>
<th>ol-yàn</th>
<th>[tjà.luš.pol.yàn]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>work-PTCPL</td>
<td>be-PTCPL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘Those who were able to work’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>baq-&lt;b&gt;up&lt;/b&gt;</td>
<td>otur-a</td>
<td>[baq.pot.ra]</td>
</tr>
<tr>
<td></td>
<td>see-PTCPL</td>
<td>sit-3SG</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘looking at’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This picture is further complicated by the existence of an additional environment where the syncope occurs. High vowels in suffixes are regularly

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6 The proposal of Marc von Oostendorp (1997:209) that “the more formal the style level, the higher ranked the faithfulness constraints” which is applied to Turkish vowel epenthesis could be of relevance with respect to syncope in Crimean Tatar as well.
deleted between two identical consonants with the following degemination of a resulting geminate (11). This deletion affects word-final stressed vowels and causes stress shift.

(11)  a.  jan-tun-da  
side-3SG.POSS-LOC  
[janda]  ‘next to him’

jan-tum-da  
side-1SG.POSS-LOC  
*[janmda]  ‘next to me’

ol-yan-u-n  
be-PTCPL-POSS-ACC  
[ol.yan]  ‘they were’

soyan-u-n  
onion-POSS-ACC  
*[so.yan]  ‘his onion’

b.  jap-tup  
do-PTCPL  
[jap]  ‘having done’

kOter-ip  
raise-PTCPL  
*[kOterp]  ‘having raised’

Note that while stressed high vowels delete between identical consonants, they never do otherwise, as was shown in (8) and in the examples given for comparison in (11).

Phonetic data confirm the existence of degemination. Figure 1 shows a waveform of the phrase ‘also burnt’ in fast speech where syncope and degemination take place.

Figure 1.  jan-tun-da [janda]  ‘next to him’

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7 Note that this is not the case in stems: there is no high vowel deletion in [yorir-um] ‘I beat’ (7b).
The duration of the coda [n] in Figure 1 is 93 ms. The recorded texts provide two more tokens of the degeminated [n] in [soyăn] ‘his onion’. The duration of [n] in the first token is 110 ms, and in the second token, [n] is 104 ms, as shown in (12). The duration of the degeminated [n] is thus the same or less than the duration of 15 singleton coda n’s taken from the same text.

(12) a. /soyăn-u-n/ [soyan] ‘his onion’  
   onion-POSS-ACC  
   n1 = 110 ms  
   n2 = 104 ms  

b. Singleton /n/ 15 tokens; Mean duration = 114 ms

Additionally (and rather surprisingly), there is syncope in forms like the one in (13). The deletion of the high vowel also seems to be determined by the presence of a geminate (or a sequence of identical consonants), but the consonants in question are adjacent and the deletion of the high vowel results in illicit syllable structure: [qt] (or [xt] in the Southern dialect) is not a phonotactically accepted coda in CT, and a geminate is not a possible onset either.

(13) vaqut-te [vaqte] ‘at that time’ (Central dialect)  
   time-LOC  

vaxut-te [vaxte] ‘at that time’ (Southern dialect)  
   time-LOC

Note that the syncope in (13) is stem-internal: [te] is an unstressed suffix, so with the deletion of the high vowel, stress shifts to [a] in the first syllable.

3. Analysis

3.1 Syncope and the phonotactics of CT

To account for the syncope formally, first, we need to posit a highly ranked constraint on syllable structure (14) which ensures that a language obeys the sonority hierarchy. It is also crucial that a constraint militating against high vowels (15) is ranked higher than the general constraint against deletion (16).

(14) SON-SEQ (Kager 1999:288)  
   Complex onsets rise in sonority, and complex codas fall in sonority

(15) *HIGH  
   High vowels are disallowed

(16) MAX_{\text{ct}}  
   Input segments must have output correspondents.  
   (‘No deletion’)
The ranking in (17) allows the optimal candidates to be picked as winners in (18) and (19).

(17) \(\text{SON-SEQ} \gg \text{*HIGH} \gg \text{MAX}_{\text{IO}}\)

(18) Syncope of high vowel; SON-SEQ is not violated

<table>
<thead>
<tr>
<th></th>
<th>/al-du-lar/</th>
<th>SON-SEQ</th>
<th>*HIGH</th>
<th>MAX\textsubscript{IO}</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. (\ddagger)</td>
<td>aldular</td>
<td></td>
<td>*!</td>
<td></td>
</tr>
<tr>
<td>b. (\ddagger)</td>
<td>aldlar</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(19) Interaction of SON-SEQ and *HIGH: no syncope

<table>
<thead>
<tr>
<th></th>
<th>/tyS-yr-di-k/</th>
<th>SON-SEQ</th>
<th>*HIGH</th>
<th>MAX\textsubscript{IO}</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. (\ddagger)</td>
<td>tSyrdik</td>
<td></td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>b. (\ddagger)</td>
<td>tSyrdik</td>
<td></td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>c. (\ddagger)</td>
<td>tySrdik</td>
<td></td>
<td>**</td>
<td>*</td>
</tr>
</tbody>
</table>

Since final vowels are usually stressed and do not undergo syncope, MAX-FINAL\textsubscript{IO} constraint ensuring faithfulness to the last vowel of the input is ranked higher than *HIGH.

(20) \(\text{MAX-FINAL}_{\text{IO}}\)

Last vowel in input must have output correspondent.

The tableau in (21) shows that given the input like /episi/ ‘all’, it is the second /i/ which gets syncopated.

(21) Final vowels do not syncopate

<table>
<thead>
<tr>
<th></th>
<th>/episi/</th>
<th>SON-SEQ</th>
<th>MAX-FINAL\textsubscript{IO}</th>
<th>*HIGH</th>
<th>MAX\textsubscript{IO}</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. (\ddagger)</td>
<td>epis&quot;@</td>
<td></td>
<td>**!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. (\ddagger)</td>
<td>eps&quot;@</td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>c. (\ddagger)</td>
<td>ep&quot;@s</td>
<td></td>
<td>*!</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>d. (\ddagger)</td>
<td>e@ps</td>
<td></td>
<td>*!</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

Since [ps] is not a well-formed coda in CT, candidate (21d) is ruled out by SON-SEQ, MAX-FINAL\textsubscript{IO}, weeds out (21c), and (21a) – the faithful candidate – loses due to the *HIGH constraint.
3.2 Gemination

Finally, we need to take into account the connection between syncope and (de)gemination. Rose (2000), building on Odden (1988, 1994), accounts for the syncope processes in Semitic languages similar to those in CT by proposing an OCP constraint which is relevant not only for the adjacent identical consonants, but also for the identical consonants separated by a vowel. The syncope of that vowel avoids an OCP violation since the resulting output is not two identical consonants, but a geminate. This entails that there is no surface difference between true and fake geminates, making this proposal relevant to CT which lacks monomorphemic geminates.

The constraints which involve gemination used in Rose (2000) are listed in (22).

(22) a. NOGEM
   Long consonants are disallowed

b. OCP-[C-Adj]
   A sequence of adjacent identical segments is disallowed
   (consonant adjacency).

   Rose (2000:102)

Given the constraints in (22) and the general constraints responsible for syncope (DELETE) and the absense of it (MAX), Rose proposes that the constraint rankings in (23) represent all possible grammars with respect to syncope. (23a) accounts for the languages which delete vowels unless flanking consonants are identical, (23b) shows the ranking for languages which delete vowels “blindly,” regardless of the nature of flanking consonants, and in (23c) there is the proposed constraint ranking for the languages which allow vowel deletion only if flanking consonants are identical.

(23) Range of identity effects in syncope

a. Delete a vowel unless flanking Cs are identical (Afar)
   NOGEM >> DELETE >> MAX, OCP
   NOGEM >> DELETE, OCP >> MAX

b. Delete a vowel blindly (Hindi, Klamath, Maltese Arabic, Accadian)
   DELETE >> MAX, NOGEM >> OCP

c. Delete a vowel only if flanking Cs are identical (Classical Arabic, Koya, Telugu)
   OCP >> MAX, NOGEM >> DELETE
   OCP >> MAX >> DELETE, NOGEM

   Rose 2000:108

This account of syncope in Semitic can be modified to cover the CT data. The fact that vowels in word-final syllables delete only between identical flanking consonants is accounted for by ranking the OCP constraint a la Rose (2000) higher than MAX-FINALV, as shown in the tableau in (24).
(24) Syncope and degemination

<table>
<thead>
<tr>
<th>(24) /jap-up/</th>
<th>SON-SEQ</th>
<th>OCP</th>
<th>MAX-FINALV₁₀</th>
<th>*HIGH</th>
<th>MAX₁₀</th>
<th>NOGEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ☞ jap</td>
<td></td>
<td>*</td>
<td></td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ☞ japup</td>
<td></td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. ☞ japp</td>
<td></td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

OCP is responsible for the fact that (24b) is not an optimal candidate, while the candidate with a geminate (24c) is ruled out by the constraint on syllable structure: geminates are not licit codas in CT.

The tableau in (25) shows that in the event of non-identity of the flanking vowels, the final stressed high vowel is not deleted.

(25) No syncope

<table>
<thead>
<tr>
<th>(25) /koter-ip/</th>
<th>SON-SEQ</th>
<th>OCP</th>
<th>MAX-FINALV₁₀</th>
<th>*HIGH</th>
<th>MAX₁₀</th>
<th>NOGEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ☞ koterip</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ☞ koterp</td>
<td></td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. ☞ koter</td>
<td></td>
<td>*!</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Both candidates (25b) and (25c) are out by virtue of the highly ranked MAX-FINALV₁₀ constraint which prohibits the deletion of final vowels.

4. Morphological geminates and syncope

The modified account presented in the previous section, however, does not extend to the forms like the one in (26) where the deletion of the high vowel seems to be determined by the presence of a geminate (or a sequence of identical consonants) but does not involve an OCP violation and produces an illicit coda. There are very few forms like this, but they do exist, so they need to be accounted for.

(26) vaxut-te [vaxtte] ‘at that time’

time-LOC

To account for the syncope in (26), it is crucial to notice that in CT high vowels can be devoiced or fully deleted between voiceless consonants, producing otherwise phonotactically unacceptable clusters. (27) shows high vowel devoicing and deletion in the infinitives of ‘cook’ and ‘think’: the onsets which are the result of the deletion are not of rising sonority and thus should not be acceptable.
(27)  

a.  
piSir-mek  
‘cook-INF’  
pSirmek  
pi8Sirmek  
pSirmek  

‘to cook’  

b.  
tySyn-mek  
‘think-INF’  
ty8Synmek  
tSynmek  

tSynmek  

‘to think’  

Even though the syncope in the examples in earlier sections is clearly a postlexical process, vowel deletion in (27) is different in some respects. It is also gradual and postlexical, but it does not depend on syllable structure. This devoicing and deletion is clearly phonetically motivated: it is well known that high vowels, which are the shortest, are prone to devoicing and deletion between voiceless consonants. I propose that this syncope is a matter of phonetic implementation rather than a (postlexical) phonological rule.

This phonetic explanation extends to the example in (26). Figure 2 shows a waveform of ‘and when’ pronounced by a speaker of the Southern dialect.

Figure 2. vaxut-te  [vaxtte]  ‘at that time’

The duration of the silence portion of the [tt] in Figure 2 is 170 ms. The mean duration of the silence of singleton coda [t] in 15 tokens from the same text is 93 ms. This confirms that there is no degemination in the token in Figure 2. Since the silence in the voiceless geminate [tt] is almost twice as long as in a singleton [t], the devoicing and deletion of the high vowel is unsurprising in this environment as well.

5. Conclusion

To conclude, the complete deletion of high vowels in CT can be attributed to two distinct processes. Postlexical phonological syncope is sensitive to syllable structure and results in degemination if the flanking consonants are identical.
This can be attributed to an interaction of the SON-SEQ constraint ensuring that CT obeys the sonority hierarchy and a highly ranked OCP constraint. Phonetic devoicing or reduction of high vowels can also result in a complete deletion of a vowel; this process does not respect syllable structure (which is a phonological construct). The latter process is a matter of phonetic implementation, while the former has to be represented in the phonology.

References


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