Week 4: Syllables and the CV Skeleton

Overview
- sonority sequencing
- syllable structure
- onsets vs. codas
- syllabification
- the CV skeleton

Syllables as rhythmic units
Speakers have intuitions about how many syllables are in a word.

The syllable peak is the center of one of these rhythmic units, usually a local sonority maximum (=more sonorous than neighbor on either side).

The syllable peak (and possible some surrounding segments) is the bearer of stress and tone.

Sonority sequencing
The sonority scale:

\[ \text{most sonorous} \rightarrow \text{least sonorous} \]

vowels  glides  liquids  nasals  fricatives  stops

Let's look at the beginnings of English root morphemes, excluding [s]:

<table>
<thead>
<tr>
<th></th>
<th>glide</th>
<th>liquid</th>
<th>nasal</th>
<th>fricative</th>
<th>stop</th>
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<td>glide</td>
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<td>stop</td>
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and endings:

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</table>
sonority likes to fall, then rise smoothly between peaks (no local maxima between peaks)

Syllable boundaries
Speakers can usually break words into syllables.

Worry: What is the real task here? Are we just creating possible/optimal utterances?

Internal structure
There are many approaches to this. You saw some in Kenstowicz, and this topic will come up more in 531B. Here’s an approach that will do for our purposes:

Evidence for onset as a constituent: Pig Latin
Evidence for rhyme as a constituent: rhyme!

The prosodic hierarchy

From the syllable up is next semester’s turf.

Syllable typology
(see attached charts)

- Languages can be more or less strict about whether codas are *allowed*
- Languages can be more or less strict about whether onsets are *required*

…but it’s never the other way around: languages never require codas or ban onsets.

Onsets vs. codas

Languages usually allow richer set of contrasts in onsets than in codas:
There are other explanations, though…

Onsets are often fortited, codas lenited.

**Syllabification**

*English*: As we saw above, to syllabify, English speakers must decide where to break up a consonant cluster.

*Imdlawn Tashlhiyt Berber* (Dell & Elmedlaoui):

Tashlhiyt (aka Tachelhit) Berber is an Afro-Asiatic language spoken by 3,000,000 people in Morocco, Algeria, and France. Dell & Elmedlaoui described the variety spoken in Imdlawn.

This is an extreme case—speakers must decide which sound should be the syllable peak!

(This example illustrates another point: languages vary in how sonorous something has to be in order to be a nucleus)

| /t-rks/   | tr ks   | ‘she hid’ |
| /ra-t-kti/ | ra.tk.ti | ‘she will remember’ |
| /bd-dl/   | bd.dl   | ‘exchange’ |
| /t-rba/   | tr.ba   | ‘she carried on her back’ |
| /i-saul/  | i.sa.wl | ‘he spoke’ |
| /i-haul-tn/ | i.ha.wl.tn | ‘he made them (masc.) plentiful’ |
| /t-rql-t/  | tr.gl.t  | ‘you locked’ |
| /ra-t-rql-t/ | ra.tr.gl.t | ‘you will lock’ |
| /t-xzn-t/  | tx.znt   | ‘you stored’ |
| /t-msx-t/  | tm.sxt   | ‘you transformed’ |
| /t-ftk-t/  | tf.tkt   | ‘you sprained’ |
| /t-izrul-in/ | ti.zr.wa.lin | ‘those (fem.) from Tazrwalt’ |
| /rks-n/   | rk.sn    | ‘they hid’ |
| /bain-n/  | ba.jnn   | ‘they (masc.) appear’ |
| /iattui/  | jat.tuj  | ‘it is high’ |
| /t-lur-tn-t/ | tlr.tnt  | ‘she gave them (f.) back’ |
| /dum-x/   | dumx     | ‘I last’ |
| /ra-t-lul-t/ | rat.lult | ‘you will be born’ |
| /t-zmt/   | tzmt     | ‘it (fem.) is stifling’ |
D&E’s rule:
1. Scanning left to right, create core (onset-nucleus) syllables whose nucleus is a low vowel. If there is no preceding segment, the syllable is onsetless.
2. Respecting the syllables already formed, scan left to right to create core syllables whose nucleus is a high vowel.
3-8. Do the same for liquids, then nasals, then voiced fricatives, then voiceless fricatives, then voiced stops, then voiceless stops.
*Note that this adds a few more steps to our sonority scale.*
9. Make any stray segments into onsets.
10. Make [-continuant] initial nuclei into onsets.
11. Make [-sonorant] final nuclei into codas.

(in another paper, D&E present evidence from verse that the syllabification resulting from steps 1-9 is real)

**Casualties of syllabification**
*Stray erasure:* segments that can’t be syllabified are deleted
damn, damnable
(dumb, dumbo?)

*Attic Greek* (Steriade1982):
\texttt{/ge-grap^{h}-st^{b}ai/} \{ge\{grap^{h}\}s\{t^{b}ai\} \ [ge.grap^{h}.t^{b}ai\] \ ‘to have been written’
\texttt{/pep^{h}an-st^{b}e/} \{pe\{p^{h}an\}s\{t^{b}e\} \ [pe.p^{h}an.t^{b}e\] \ ‘you have been revealed’

*Epenthesis:* (can sometimes be analyzed as) segments that can’t be syllabified get a helper vowel

*Cairene Arabic:* insert vowel after stray consonant (to rescue it)
\texttt{/?ul-t-lu/} \{?ul\{t\{lu\} \ [?ul.ti.lu\] \ ‘I said to him’

*Iraqi Arabic:* insert vowel before stray consonant (to rescue it)—resyllabification follows
\texttt{/gil-t-la/} \{gil\{t\{la\} \ [gi.lit.la\] \ ‘you have been revealed’

**The CV skeleton**
adds another layer to the prosodic hierarchy:

\[
\begin{array}{c}
\text{syll} \\
\text{Ons} & \text{Rhyme} \\
\text{Nuc} & \text{Cod} \\
\text{C} & \text{V} & \text{C}
\end{array}
\]

The CV (or X) skeleton can be used to represent *length*
also affricates

*Kishingelo*: language game played in Sanga (Niger-Congo language with 431,000 speakers in Zaire)

regular Sanga  óbé mûkwëtû twââjáá kú mûkólá
Kinshingelo  béó mútûkwè jáâtwáá kú múlákó
‘You, my companion, come with me to the river!’

This foreshadows…

**Preview of next time:**
autosegmental phonology
and a little bit about tones

**To do for next time (students):**

*Read*
- Kenstowicz ch. 7 (important parts: 7.1, 7.2, 7.4, 7.7)
- Hayes

*Problem*
- Serbo-Croatian