Overview

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

Syllables as rhythmic units

Speakers have pretty reliable 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 sometimes some surrounding segments) is the bearer of stress and tone.

Sonority sequencing

The sonority scale:

<table>
<thead>
<tr>
<th>most sonorous</th>
<th>→</th>
<th>least sonorous</th>
</tr>
</thead>
<tbody>
<tr>
<td>vowels</td>
<td>glides</td>
<td>liquids</td>
</tr>
</tbody>
</table>

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>
</tr>
</thead>
<tbody>
<tr>
<td>glide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>liquid</td>
<td></td>
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<tr>
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<td></td>
<td></td>
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</tbody>
</table>

and endings:

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</tbody>
</table>
sonority likes to fall, then rise smoothly between peaks (i.e., main peaks are the only local maxima)

Syllable boundaries
Speakers can usually break words into syllables.

Worry: What is the real task here? Are we just creating a series of possible/optimal one-syllable words?

Internal structure
There are many approaches to this. Here’s one:

Evidence for onset as a constituent: Pig Latin, Carny
Evidence for rime as a constituent: rhyme!

The prosodic hierarchy

Syllable typology
- 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:

Korean

<table>
<thead>
<tr>
<th>UR</th>
<th>-e ‘in’</th>
<th>-kwa ‘and’</th>
</tr>
</thead>
<tbody>
<tr>
<td>/patʰ/</td>
<td>pa.tʰe</td>
<td>pat.k’wa</td>
</tr>
<tr>
<td>/os/</td>
<td>o.se</td>
<td>ot.k’wa</td>
</tr>
<tr>
<td>/tʃətʃ/</td>
<td>tʃə.tʃe</td>
<td>tʃə.t.k’wa</td>
</tr>
<tr>
<td>/k’ɔtʃʰ/</td>
<td>k’ɔ.tʃʰe</td>
<td>k’ot.k’wa</td>
</tr>
</tbody>
</table>
Syllabification

*English*: To syllabify, English speakers must decide where to break up a consonant cluster.

Imdlawn Tachelhit Berber again (Dell & Elmedlaoui)

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-r\k/s/\quad t\̣\kṣ\quad ‘she hid’
\[/r\a-t-k\t/i/\quad ra.t\k\.t\i\quad ‘she will remember’
\[/b\d-d\l/\quad b\d\.d\l\quad ‘exchange’
\[/t-r\b/a/\quad t\̣\.b\a\quad ‘she carried on her back’
\[/i-saul/\quad i.s\a\.w\l\quad ‘he spoke’
\[/i-haul-t\n/\quad i.h\a\.w\l\.t\n\quad ‘he made them (masc.) plentiful’
\[/t-r\g-l-t/\quad t\̣\.g\l\t\quad ‘you locked’
\[/r\a-t-r\g-l-t/\quad ra.t\̣\.g\l\t\quad ‘you will lock’
\[/t-xz\n-t/\quad t\̣\.z\n\t\quad ‘you stored’
\[/t-msx-t/\quad t\̣\.m\s\x\t\quad ‘you transformed’
\[/t-flk-t/\quad t\̣\.f\l\k\t\quad ‘you sprained’
\[/t-izr\u\a-wa-lin/\quad ti.z\r\.w\a\.l\i\n\quad ‘those (fem.) from Tazrwalt’
\[/r\k-s-n\t/\quad r\k\.s\n\t\quad ‘they hid’
\[/b\a-in-n/\quad b\a\.j\n\n\quad ‘they (masc.) appear’
\[/i-ttu\i/\quad jat.t\u\j\quad ‘it is high’
\[/t-lur-t\n-t/\quad tlur.t\n\t\quad ‘she gave them (f.) back’
\[/dum-x/\quad dum\x\quad ‘I last’
\[/r\a-t-lul-t/\quad rat.lul\t\quad ‘you will be born’
\[/t-zm\t/\quad tzm\t\quad ‘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.
4. Make any stray segments into onsets.
5. Make [-continuant] initial nuclei into onsets.

Note that this adds a few more steps to our sonority scale.
Casualties of syllabification

*stray erasure*: segments that can’t be syllabified are deleted
damn, damnable
diaphragm, diaphragmatic
(dumb, dumbo?)

*Attic Greek* (Steriade1982):
\(/\text{ge-grap}^b\text{-st}^b\text{ai}/ \quad \{\text{ge}\}\{\text{grap}^b\}\{\text{s}^t\text{ai}\} \quad [\text{ge}\text{-grap}^b\text{-st}^b\text{ai}] \quad \text{‘to have been written’}

\(/\text{pep}^b\text{-an-st}^b\text{e}/ \quad \{\text{pe}\}\{\text{p}^h\text{an}\}\{\text{s}^t\text{e}\} \quad [\text{pe}\text{-p}^h\text{an-st}^b\text{e}] \quad \text{‘you have been revealed’}

Epenthesis can sometimes be analyzed as “segments that can’t be syllabified get a helper vowel”

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

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

The CV skeleton

adds another layer to the prosodic hierarchy:

```
  syll
     / \
   Ons  Rhyme
          / \
        Nuc  Cod
            / \  /
           C   V   C
```

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

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

regular Sanga  óbé múk“êêtù t“âjjáá kú múkólá
Kinshingelo  bêó mútùûk“ê jáátt“áá kú múlákó

‘You, my companion, come with me to the river!’

Preview of next time (Wed., April 10)

- Conspiracies and OT

To do for next time

- no readings or assignments for next time