Class 14: Rules and constraints: blocking

To do
• Read Kager 1996 (SQs due Tues.)

Overview: We have seen constraints blocking rules before—today we’ll focus on the OCP as discussed by McCarthy and some responses to that work.

Reminder: OCP = “obligatory contour principle”: adjacent identical elements on the melodic tier are forbidden

1. McCarthy (1986)
McCarthy presents various cases in which syncope is blocked by the OCP violation that would result.

Example from our old friend Tonkawa

reminder: the basic pattern (stress is also involved, but we’ll ignore that)

<table>
<thead>
<tr>
<th>picen</th>
<th>‘castrated one; steer’</th>
</tr>
</thead>
<tbody>
<tr>
<td>picn+o?</td>
<td>‘he cuts it’</td>
</tr>
<tr>
<td>we+pcen+o?</td>
<td>‘he cuts them’</td>
</tr>
<tr>
<td>ke+pcen+o?</td>
<td>‘he cuts me’</td>
</tr>
<tr>
<td>notox</td>
<td>‘hoe’</td>
</tr>
<tr>
<td>notx+o?</td>
<td>‘he hoes it’</td>
</tr>
<tr>
<td>we+ntox+o?</td>
<td>‘he hoes them’</td>
</tr>
<tr>
<td>ke+ntox+o?</td>
<td>‘he hoes me’ (?)</td>
</tr>
<tr>
<td>netl+o?</td>
<td>‘he licks it’</td>
</tr>
<tr>
<td>we+ntal+o?</td>
<td>‘he licks them’</td>
</tr>
<tr>
<td>ke+ntal+o?</td>
<td>‘he licks me’</td>
</tr>
<tr>
<td>naxc+o?</td>
<td>‘he makes a fire’</td>
</tr>
<tr>
<td>we+nxac+o?</td>
<td>‘he makes a fire’</td>
</tr>
<tr>
<td>ke+nxac+o?</td>
<td>‘he makes me a fire’</td>
</tr>
</tbody>
</table>

‘he is cutting it’
‘he is cutting them’
‘he is cutting me’
‘he is hoeing it’
‘he is hoeing them’
‘he is hoeing me’
‘he is licking it’
‘he is licking them’
‘he is licking me’
‘he is making a fire’
‘he is making them a fire’
‘he is making me a fire’

• Summarize what’s going on in the data above.
What’s different about these forms?

hewawo? ‘he is dead’
ham’am’o? ‘he is burning’

Further illustration: compare plain stem /jakapa/ to reduplicated /jakakapa/

jakpo? ‘he hits him’
ke+jkapo? ‘he hits me’

jakakpo? ‘he hits him repeatedly’
ke+jjakpo? ‘he hits me repeatedly’

Crucially, the OCP violation that would be created if syncope applied in the usual way to yield *[jakkap o?] can’t, for some reason, be repaired by immediate fusion of the adjacent identical Cs.

In Myers’ terms, can we analyze failure of syncope with a persistent rule instead of a constraint that blocks it?

McCarthy proposes that the OCP is universal. The only exceptions to its blocking effect on syncope can be explained by ordering syncope before tier conflation.

Do you remember how this worked?


The OCP can be a rule trigger, too.

Seri: Hokan language from the Sonora coast of Mexico with 700 speakers (data originally from Marlett & Stemberger 1983)

/ʔa+ʔa+sanx/ ?a:sanx ‘who was carried’
/ʔi+ʔa+kaʃni/ ?iʔa:kaʃni ‘my being bitten’
/kɔʔpanʃx/ kɔʔpanʃx ‘run like him’

The second of two glottal stops in the same syllable deletes.

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“But wait,” you’re thinking, “the OCP prohibits adjacent identical elements. These glottal stops aren’t adjacent.” Can those of you who are familiar with autosegmental representations think of how this might work and make the case to your classmates?

Aside: Why not fuse the two [ʔ]s, or their offending subparts? Yip proposes that in Seri [ʔ] is forbidden from associating to more than one skeletal node. Evidence:

vowel-initial roots cause gemination of prefix Cs

- i: ‘feel’
- i+tt+i: ‘feel-neutral’
- i+ss+i: ‘feel-passive’

unless that C is [ʔ]

- i+ʔ+i: ‘feel-active?’

Yip proposes that a rule includes statements of:

- domain (e.g., ‘syllable’)
- tier (e.g., ‘laryngeal’, a tier that includes features like [voice], [c.g.], [s.g.])
- trigger (i.e., the constraint)
- environment (can be left blank)
- change (e.g., ‘delete 2nd’)

In the Seri case, the environment is left blank. The trigger is also left blank. Yip proposes that the OCP is universally available as a trigger for rules whose trigger is unspecified. (This makes using the OCP as a trigger “free”, because it doesn’t add to the length (cost) of a rule.)

**English**

- ð̪ɔɹ[ð̪ɔs
- tʃ[ʃ][əz
- bɔsɔ
- kʰwizɔ

This is like McCarthy’s Damascene Arabic case, where two consonants don’t have to be exactly alike (they can differ in voice and pharyngealization) to count as ‘identical’.

Propose an analysis of English like McCarthy’s of Damascene.
3. Breaking news
If you were at Eric Baković’s talk on Friday, you’ll recall that he looked at this very case.

Baković’s proposal:
• The OCP prohibits only adjacent identical elements
• Other constraints may prohibit adjacent, dissimilar elements
• But if satisfying those other constraints makes the elements identical, the OCP is violated. So, something else should happen instead that can satisfy both constraints.

In constraint-and-rule terms, /basz/ violates the constraint *[-voice]^{+voice}_{son}, which should trigger the assimilation rule X → [αvoice]/[αvoice] __ (cf. /kʰæt+z/ → [kʰæts]).

○ What would happen if the assimilation rule applied?

○ How would this work for /dʒdʒ+z/? What does this predict about /bŋdʒ+d/ (see relevant pictures of Colin’s palate on Phonoloblog)

○ Can you think of how this idea could work to trigger fusion between ks that differ in palatalization in Japanese (/gak+kjɔ/ → [gakjɔ]; /sekj+kɔ/ → [sekjɔ])?

4. Odden (1988)³
Koya: Dravidian language from India with 330,000 speakers
(data originally from Taylor 1969⁴)

V → Ø / __ # applies only if the V is flanked by identical (modulo retroflexion) Cs:

/naːki kaːvaːli/ naːkkaːvaːli ‘to me it is necessary’
/aru ruːpaːjku/ arruːpaːjku ‘6 rupees’
/verkaːdjɪ digte/ verkaːdjɪɡte ‘the cat got down’

Yapese: Austronesian language from Yap state of the Federated States of Micronesia with 6,592 speakers
(data originally from Jensen 1977)

V → Ø applies only if the V is flanked by homorganic Cs:

/ba puw/          bpuw       ‘it’s a bamboo’
/ba ma:b/         bma:b       ‘it’s a door’
/ni te:l/         nte:l       ‘take it’
/radak+n/         rda:n       ‘its width’
/qalanve+gu/      qalanve:ɡ    ‘my headache’

These seem to be the opposite of McCarthy’s cases—but are they really?

○ Can you think of what might block syncope in Koya when the flanking Cs are non-
  identical? In Yapese when the flanking Cs are heterorganic? (Hint: think licensing)

5. If we have time, let’s see a bit more data from Japanese

Recall:
• The only permissible coda is (i) a nasal or (ii) the first half of a geminate obstruent.
• The presence of an unsyllabifiable consonant triggers insertion of a vowel slot.

The two roots we saw before were /gak/ and /sek/. How are these roots different?

<table>
<thead>
<tr>
<th>別</th>
<th>bet+taku</th>
<th>‘detached villa’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>bek+kaku</td>
<td>‘different style’</td>
</tr>
<tr>
<td></td>
<td>bep+puu</td>
<td>‘separate cover’</td>
</tr>
<tr>
<td></td>
<td>beʃ+fitsu</td>
<td>‘separate room’</td>
</tr>
<tr>
<td></td>
<td>bes+satsu</td>
<td>‘separate volume’</td>
</tr>
<tr>
<td></td>
<td>betʃu+m’oo</td>
<td>‘alias’</td>
</tr>
<tr>
<td>発</td>
<td>hat+tatsu</td>
<td>‘development’</td>
</tr>
<tr>
<td></td>
<td>hak+kaku</td>
<td>‘detection’</td>
</tr>
<tr>
<td></td>
<td>hap+p’oo</td>
<td>‘presentation’</td>
</tr>
<tr>
<td></td>
<td>haʃ+fin</td>
<td>‘dispatch’</td>
</tr>
<tr>
<td></td>
<td>hak+ka</td>
<td>‘ignition’</td>
</tr>
<tr>
<td></td>
<td>hos+sa⁶</td>
<td>‘spasm’</td>
</tr>
<tr>
<td></td>
<td>hat+tʃa</td>
<td>‘arrival and departure’</td>
</tr>
<tr>
<td></td>
<td>hatʃu+mei</td>
<td>‘invention’</td>
</tr>
</tbody>
</table>

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⁵ I’m guessing about this morpheme boundary.
⁶ In some compounds with this root, the vowel is [o].
<table>
<thead>
<tr>
<th>hatsu+an</th>
<th>‘suggestion, proposal’</th>
</tr>
</thead>
<tbody>
<tr>
<td>hatsu+i</td>
<td>‘suggestion, plan’</td>
</tr>
<tr>
<td>hatsu+iku</td>
<td>‘growth’</td>
</tr>
<tr>
<td>hatsu+en</td>
<td>‘emitting smoke’</td>
</tr>
<tr>
<td>hatsu+on</td>
<td>‘pronunciation’</td>
</tr>
<tr>
<td>hatsu+netsu</td>
<td>‘get a fever’</td>
</tr>
<tr>
<td>hatsu+rei</td>
<td>‘proclamation’</td>
</tr>
</tbody>
</table>

Itô proposes that these final Cs are underlingly *underspecified*—that is, they lack values for various features.

- How do you think the stem-final [p] in [bep+puu] gets its features?

- How can we explain the consonant quality when a vowel *is* epenthized? (Note: Japanese has a rule t → .GetObjectFileName(1899) / __ u)

- At least in Sino-Japanese and native words, Japanese does not have voiced geminate obstruents. How can we explain the following additional words?

<table>
<thead>
<tr>
<th>別 again</th>
<th>betsu+djin</th>
<th>‘different person’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>betsu+bin</td>
<td>‘separate post’</td>
</tr>
<tr>
<td>発 again</td>
<td>hatsu+gen</td>
<td>‘utterance’</td>
</tr>
<tr>
<td></td>
<td>hatsu+gan</td>
<td>‘carcinogenic’</td>
</tr>
<tr>
<td></td>
<td>hatsu+bai</td>
<td>‘sale’</td>
</tr>
<tr>
<td></td>
<td>hatsu+den</td>
<td>‘generation of electricity’</td>
</tr>
</tbody>
</table>