Class 7: The duplication and conspiracy problems

<table>
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<th>To do</th>
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<tr>
<td>• Read Prince 1984 and turn in study questions on Tuesday</td>
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<td>• Finish Kalinga assignment (turn in on Tuesday)</td>
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(Apologies to Aaron, Christina, Jen, Lauren, and Sameer, who have heard a similar lecture from me before.)

Overview: When multiple parts of the grammar seem to be doing the same thing, some phonologists have smelled a rat.¹

1. Dynamic vs. static phonology

The ‘dynamic’ phonology of a language is the phonology that shows up in alternations. We have analyzed this with rules:

ca[ts]   wal[kt]
do[gz]   jo[gd]
pea[z]   flow[d]

The ‘static’ phonology is the generalizations that hold of monomorphemic words. Often analyzed with morpheme structure constraints or morpheme structure rules:

*'[ligt], *[nubs]

o At what point in the derivation would morpheme structure rules have to apply?

o Let’s write a mini-grammar for English that captures these facts.

2. Conceptual aside

Morpheme structure rules are funny: no one is claiming that the English lexicon actually contains words like /ækd/, repaired by m.s.r. to ӕkt (after all, how would a learner construct such a lexical entry?).

But the prohibition on ӕkd must be expressed somewhere in the grammar of English, since speakers know it (they would reject ӕkd as a new word).

This comes back to the ‘lexical symmetry’ idea we saw in K&K’s discussion of Russian final devoicing: the grammar needs to explain, one way or another, why certain types of underlying forms don’t occur.

¹ to smell a rat: English idiom meaning to suspect something
Learning problem: how do English speakers know to reject *ækd* anyway?

An even harder learning problem: how do English speakers know that *snom* and *smæy* sound funny?² (Consider *after the snow melts* and *this mangled mess of machinery.*) What is the morpheme structure rule that fixes them??

3. **Example: Estonian**

(Indo-European language with 1,100,000 speakers, mainly in Estonia. Written in Roman script.)

Estonian content morphemes have a minimum size: at least two syllables or one heavy syllable.

*/ko/*, */ma/*

Estonian also has a rule deleting final vowels in the nominative sg.:

/matsi/ matːs 'lout, bumpkin, nom. sg.'
/konna/ konːn 'frog, nom. sg.'
/tænava/ tænav 'street, nom. sg.'

But it cannot apply in certain cases:

/kana/ kana 'hen, nom. sg.'
/koi/ koiː 'clothes-moth, nom. sg.'
/maa/ maaː 'country, land, nom. sg.'

Let’s try to write a mini-grammar for Estonian that captures these facts.

4. **The duplication problem (Kenstowicz & Kisseberth 1977³)**

This term refers to cases where rules and morpheme structure constraints seem to be doing the same thing (‘duplicating’ each other’s effects). This troubled researchers from the late 1970s onwards, because it seems that single phenomenon (avoidance of sub-minimal words) should have a single explanation.

5. **Shortening a grammar**

Using the brace notation to collapse $∅ \rightarrow V / C \_ _ C#$

$∅ \rightarrow V / C \_ _ C{C, #}$ says that these rules have something significant in common.

² I’ve found just 5 sNVC0N words in the OED, all but *smarm* previously unknown to me: *smon* (acronym), *snam*, *snum*, *smalm* (a variant of *smarm*), *smarm*.

6. **Kisseberth: cases where the notation doesn’t allow shortening**

These rules have something in common too (what?), but they can’t be collapsed using curly brackets:

\[
\begin{align*}
\emptyset & \rightarrow V / C \_ \_ CC \\
C & \rightarrow \emptyset / CC + \_ 
\end{align*}
\]

Cases like this are called *conspiracies*, and their widespread existence is the *conspiracy problem*.

(The difference between a case of the duplication problem and a case of the conspiracy problem is sometimes fuzzy and the terms are sometimes used interchangeably.)

7. **Constraints**

Kisseberth proposes using a constraint to make the rules of Yawelmani simpler:

Instead of \[ V \rightarrow \emptyset / V C \_ \_ C V \] 

use \[ V \rightarrow \emptyset / C \_ \_ C \] subject to the constraint \(*CCC*\) 

The constraint can *trigger* rules or *block* them.

- Blocking isn’t too problematic—how does it work in the example above?

But triggering might be problematic. What if a constraint triggers multiple competing rules in some cases: how do you choose which rule to apply?

Many more conspiracies have been identified, giving rise to more constraints.

8. **The international conspiracy problem (Kiparsky)**

Sometimes different rules in different languages seem to be aiming for the same surface patterns.

Example on next page: cognate infixes in some Western Austronesian languages
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<th>Timugon Murut (Indonesia)</th>
<th>Limos Kalinga (Philippines)</th>
<th>Palauan (Palau)</th>
<th>Paiwan (Taiwan)</th>
<th>Sarangani Blaan (Philippines)</th>
<th>Acehnese (Indonesia)</th>
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Notes and references

Muna –um- is very similar.


Examples in italic are from Ho.
Ho and Ferrell aren’t describing exactly the same dialect. Ho describes Tjuabar dialect, and Ferrell describes Kulalao. Ho transcribes the infix as [əm]/[ən], Ferrell as just [m]/[n] (no schwa). Ho and Ferrell (and all their examples) agree that the infix consistently has an [n] when the stem-initial consonant is labial. Ho additionally claims that when “the second syllable of the stem has a labial initial [onset] that is preceded by /ə/,” the infix’s [m] dissimilations to [n]. But there must be more to it given Ho’s example sonav-u, where the [v] is preceded by [a] (but cf. kamava) (Ferrell doesn’t show any examples that would support the second type of dissimilation in Kulalao.) If anyone reads Chinese well and wants to help me figure out two of Ho’s articles from the 1970s, let me know!!

Sarangani Blaan: Rhea (1995)

Acehnese: Durie (1985)
The Acehnese case has a lot of complications that I’m glossing over here.

Moral

⇒ Even if referring to a constraint doesn’t simplify the grammar of an individual language, it seems to give some insight into cross-linguistic patterns.

In the next few classes we will examine the role of constraints in rule-based phonology.

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