

Class 16: Phonology-morphology interface, part II

To do

- Chaha assignment (on last week’s material) due tomorrow; next assignment posted tomorrow
- Next reading: Hayes 1989 (study questions due Tuesday)
- Meet with me a second time about project by end of this week

Overview: Last time we looked at a model of phonology-morphology interaction, Lexical Phonology and Morphology. Today we turn to conceptual issues for the phonology-morphology interface: What regulates morphological affiliation? How broad is the candidate set?

1 What regulates morphological affiliation in OT?

Original idea (McCarthy & Prince 1993):

“**Consistency of Exponence.** No changes in the exponence of a phonologically-specified morpheme [i.e., not RED] are permitted” (p. 21)

→ epenthetic segments have no morphological affiliation

(also, nothing can actually be deleted, only underparsed—this is the *containment* theory of faithfulness rather than the *correspondence* theory)

2 But how does reduplication really work?

Problems some of you identified in your Samoan homeworks:

- /RED_{affix}+alofa/ → [al_lofofa]: 2 violations of MAX-BR (fa) or 3 (a,fa)? What counts as the base?
- Does /RED_{affix}+alofa/ → [alofa] violate AFFIX=SYLLABLE ? How do we know whether the output contains an instance of the morpheme RED_{affix}?
- Any other problems you remember...

3 A better theory: Walker & Feng 2004

- There’s an input-output correspondence relation between phonological entities (segments, autosegments, maybe moras...)
- But there’s a second indexing for morpheme affiliation (I used superscripts)—imperfections in this indexing are regulate by constraint too

Walker & Feng’s Zoque ex. (Mixe-Zoque from Mexico, nearly extinct; data orig. Wonderly¹)

| | | input morph. must have output corr. morph | phono. material can’t change morph. affiliation | output morph. must have phono. material indexed to it | output phono. material must be indexed to a morph (replaces DEP-IO) | input segments must have output corr. segments (replaces MAX-IO) |
|---|---------------------------------------|---|---|---|---|--|
| | $N_1^a + s_2^b \dot{i}_3^b k_4^b$ | MAX-MorphMorph | IDENT-MorphMorph | MAX-MorphPhon | MAX-PhonMorph | MAX-Phon-Phon |
| a | $N_1^a s_2^b \dot{i}_3^b k_4^b$ | | | | | |
| b | $\emptyset^a s_2^b \dot{i}_3^b k_4^b$ | | | * | | * |
| c | $s_2^b \dot{i}_3^b k_4^b$ | * | | | | * |
| d | $s_2^a \dot{i}_3^b k_4^b$ | | * | | | * |

- Let’s work this out for /RED_{affix}+alofa/ and see how much it can solve our problems.

¹ Wonderly 1951a; Wonderly 1951b; Wonderly 1951c; Wonderly 1951d; Wonderly 1952a; Wonderly 1952b

4 What's in the candidate set?

In the Samoan homework, we considered the possibility of a very abstract input.

Recall: pluractional is usually realized as CV redup. (a), but (b-f) are possible realizations too.

| anu ^a +pluractional ^b | ? | *V _i V _i | TROCHAIC SHORTENING |
|---|----|--------------------------------|---------------------|
| a a ^b anu | | *! | |
| b t ^b a ^b anu | | *! | |
| ☞ c f ^b e ^b anu | | | |
| d $\begin{array}{c} \mu^b \\ \vee \\ \mu \\ a:nu \end{array}$ | | | *! |
| ☞ e Ø ^b anu | | | |
| ☞ f a ^b n ^b u ^b anu | | | |
| g m ^b o ^b anu | *! | | |

- We need a way to rule out things like (g) that *aren't* possible realizations of pluractional. How does the grammar know what the possible realizations are?
- Related question: how do we get CV to act as the default, (usually) chosen when there's no phonological reason not to choose it:

| lafi+pluractional ^b | ? | ?? |
|--|----|----|
| ☞ a l ^b a ^b lafi | | |
| b t ^b a ^b lafi | | |
| c f ^b e ^b lafi | | |
| d $\begin{array}{c} \mu^b \\ \vee \\ \mu \\ la:fi \end{array}$ | | |
| e Ø ^b lafi | | |
| f l ^b a ^b f ^b i ^b lafi | | |
| g m ^b o ^b lafi | *! | |

5 Paradigm gaps

Raffelsiefen 1999: various phonological restrictions on English morphemes, including:

deadjektival-verb-forming *-en* :

| | |
|---------|----------|
| blacken | *greenen |
| whiten | *bluen |
| redde | *brownen |
| thicken | *thinnen |
| sweeten | *souren |
| sharpen | *dullen |
| fatten | *slimmen |
| sicken | *wellen |
| sadden | *calmen |

Raffelsiefen treats this as a paradigm gap. Here's the Prince & Smolensky 2004 analysis of paradigm gaps:

| green+en | *[son]-en | DEP-C | MPARSE |
|----------|-----------|-------|--------|
| greenen | *! | | |
| greenden | | *! | |
| ☞ ∅ | | | * |

6 A different model: Orgun & Sprouse 1999

Evaluation proceeds as usual:

| green+en | DEP-C |
|-----------|-------|
| ☞ greenen | |
| greenden | *! |

Then there's another component called CONTROL that contains only inviolable markedness constraints—if the winner of the normal grammar violates any of them, the derivation crashes:

| CONTROL | *[son]-en |
|-------------|-----------|
| ☞ [greenen] | |

(Orgun & Sprouse present some interesting cases that can't be analyzed with MPARSE, only with CONTROL.)

7 What about a broader candidate set instead?

| green→ <i>verb</i> | *[son]-en | DEP-C | MAX-MorphPhon | ? | ? |
|--------------------|-----------|-------|---------------|---|---|
| greenen | *! | | | | |
| greenden | | *! | | | |
| ☞ green∅ | | | * | | |
| ☞ greenify | | | | * | |
| ☞ make green | | | | | * |

This seems fine for cases like *green* or Samoan pluractionals, and the like:

- names for people from a place (New Yorker, Torontonion, Tulsan, Denverite, Viennese...)
- Clintonian/Clintonesque/Clintonoid/Clintonish/Clintony...

8 Inflectional paradigm gaps

It's less appealing for inflectional paradigm gaps. Here's a famous one, Spanish *abolir* (see Albright, Hayes, & Andrade 2001)

| <i>pres. ind.</i> | sg. | pl. | also no pres. subj. | <i>imp. ind.</i> | sg. | pl. |
|-------------------|-----|----------|---------------------|------------------|---------|-----------|
| 1 | — | abolimos | | 1 | abolía | abolíamos |
| 2 | — | abolís | | 2 | abolías | abolíais |
| 3 | — | — | | 3 | abolía | abolían |

→ form is missing if there would be stress on the [bol] syllable (presumably it would require deciding rather to change [o] to [we]—but see Daland, Sims, & Pierrehumbert 2007)

- What could be the broader candidate set when you want to say “I don't want them to **abolish**_{subj.} the statute”?? (Spanish speakers, what would you do?)

To sum up

We stepped back to consider some conceptual issues in phonology-morphology interface

- How is morpheme affiliation regulated?
- How do we decide between different available morphemes?
- How specific is the input: morphemes? morphosyntactic and semantic features? a general communicative intent?
- Relatedly, what does it mean when part of a word's paradigm is unutterable?

Next week: “Upward” interfaces continue with phrasal phonology and phonology-syntax interface

References

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