Class 19: Phonology-morphology interface, part II

To do
- Quechua assignment (on last week's material) due Friday
- No more reading
- PhonoFest II Monday!

Overview. 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 An example of a tricky case

- Reduplication in Samoan (Austronesian, Samoa & American Samoa; Milner 1993 and field methods class)

basic verb	*pluractional verb*	
faanáu	faananáu	'be born'
láfi	laláfi	'hide'
móe	momóe	'sleep'
ʔanapóŋi	ʔanapopóŋi	'fast'
toʔúlu	toʔuʔúlu	

- Filling in this tableau involves two trick questions:
  - how do we evaluate MAX-BR?
  - does (d) violate AFFIX=σ?

	/RED$_{affix}$+ toʔulu /	MAX-IO	AFFIX=σ	MAX-BR
a	toʔulutoʔulu			
b	toʔuluʔulu			
☞ c	toʔuʔulu			
d	toʔulu			
e	toʔuʔu			

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 relation are regulated by constraint too!

- Walker & Feng's Zoque ex. (Mixe-Zoque from Mexico, nearly extinct; data orig. Wonderly[1])
  - /N-/ place-assimilates to following stop
  - But deletes before a fricative

(2) a.

pama	'clothing'	/N-pama/ → [mbama]	'my clothing'
tatah	'father'	/N-tatah/ → [ndatah]	'my father'
gaju	'rooster'	/N-gaju/ → [ŋgaju]	'my rooster'

(p. 773)

b.

faha	'belt'	/N-faha/ → [faha]	'my belt'
sɨk	'beans'	/N-sɨk/ → [sɨk]	'my beans'

(p. 774)

	$N_1{}^a+s^b{}_2\text{ɨ}^b{}_3k^b{}_4$	*#[nas][cont]	MAX-MorphMoprh (input morph. must have output corr. morph)	IDENT-MorphMorph (phono. material can't change morph. affiliation)	MAX-MorphPhon (output morph. must have phono. material indexed to it)	MAX-PhonMorph (output phono. material must be indexed to a morph (replaces DEP-IO))	MAX-Phon-Phon (input segments must have output corr. segments (replaces MAX-IO))
a	$N_1{}^as^b{}_2\text{ɨ}^b{}_3k^b{}_4$	*!					
☞ b	$Ø^as^b{}_2\text{ɨ}^b{}_3k^b{}_4$				*		*
c	$s^b{}_2\text{ɨ}^b{}_3k^b{}_4$		*				*
d	$s^a{}_2\text{ɨ}^b{}_3k^b{}_4$			*			*

- What does this buy us?
  - Way to analyze double affixation as in English *picker-upper*
    - Intuitively, the suffix wants to be both word-final and after the main verb—result is violation of INTEGRITY-MorphMorph
  - Way to analyze reduplication in arguable absence of RED morpheme:

Anxiang diminutives, adapted from Walker & Feng's (27)

	$k_1{}^ae_2{}^a+r_3{}^b$	MORPHSALIGN TOSYLLABLES	IDENT-MorphMorph	INTEG-PhonPhon
a	$k_1{}^ae_2{}^ar_3{}^b$	*!		
☞ b	$k_1{}^ae_2{}^a.k_1\text{ə}r_3{}^b$	*!		
c	$k_1{}^ae_2{}^a.k_1{}^b\text{ə}^br_3{}^b$		*	*

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

- Let's work this out for /RED$_{affix}$+ toʔulu/ and see how much it can solve our problems.

4 What's in the candidate set?

- Some more Samoan pluractionals

basic verb	*pluractional verb*	
ánu	feánu	'spit'
ínu	feínu	'drink'
ólo	feólo	'coo'
sóli	fesóli	'trample'
síli	síli	'put something up'
tóo	tóo	'give outright'
úlu	úlu	'go into'
fána	tafána	'shoot'
íli	taíli	'blow'

- Ponder: should all the pluractionals be derived from the same pluractional affix? Or are there multiple competing affixes?

- An interesting gap: VCV verbs never take the reduplicated pluractional we saw above.

- In light of your recent Fijian assignment, let's discuss why this might be...

- Let's consider the possibility of a very <u>abstract input</u>.

	anu^{a}+*pluractional*^{b}	?	*V_iV_i	TROCHAIC SHORTENING
a	a^{b}anu		*!	
b	t^{b}a^{b}anu		*!	
☞ c	f^{b}e^{b}anu			
d	μ^{b}μ \ / a:nu			*!
☞ e	Ø^{b}anu			
☞ f	a^{b}n^{b}u^{b}anu			
g	m^{b}o^{b}anu	*!		

  - Clearly there's some lexical listing/idiosyncracy, but at least ths allows us to rule out things that never occur.

- We also 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	$\mu^{b}\mu$ \ / la:fi		
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:

- Deadjectival-verb-forming *–en* : ideas on what the generalization is?

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

- Raffelsiefen treats this as a paradigm gap: the output is...well, no output

- Here's the Prince & Smolensky 2004 analysis of paradigm gaps:

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

  - MPARSE: just penalizes the null candidate (i.e., "Do say it"). Can you translate MPARSE into Walker & Feng's terms?

- Let's apply this to the Samoan case.

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.)

- Will it work for Samoan?

7 What about a broader candidate set instead for *-en*?

green→*verb*	*[son]-en	DEP-C	MAX-MorphPhon	?	?
greenen	*!				
greenden		*!			
☞ greenØ			*		
☞ greenify				*	
☞ make green					*

- This seems fine for cases like *green* or Samoan pluractionals, and the like:
  - names for people from a place (New Yorker, Torontonian, Tulsan, Denverite, Viennese...)
  - Clintonian/Clintonesque/Clintonoid/Clintonish/Clintony...
-

8 Inflectional paradigm gaps

I've discovered that I'm lactose-intolerant. Sadly, from now on, I'll have to forgo dairy. This afternoon I _____ the ice cream I normally would have relished on such a hot day.

- The funny thing is that speakers know exactly what the options are and can produce them—*forgoed, forwent*—but they just feel icky about both options.
- The most famous and surprising paradigm gaps involve productive inflectional morphology:
  - 'He abolishes' in Spanish: *abuele, *abole
  - 'I win' in Russian: *pobežu (see Daland, Sims & Pierrehumbert 2007)
  - 'We fry' in French: *nous frions, *nous fritons, *nous frisons (Baronian 2009)

- Spanish *abolir* in more detail (see Albright, Hayes, & Andrade 2001)

pres. ind.	sg.	pl.	also no pres. subj.	*imp. ind.*	sg.	pl.
1	—	abolimos		1	abolía	aboliamos
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**$_{\textbf{subj}}$ the statute"? My feeling is that a broad candidate set is less appealing here, but maybe you feel different...

9 This opens up a question about modularity: How big is a paradigm, really?

The Life and Opinions of Tristram Shandy, Laurence Sterne, 1761 (Chapter 1.XXIV, Project Gutenberg version)

> "A man and his Hobby-Horse [...] by long journies and much friction, it so happens, that the body of the rider is at length fill'd as full of **Hobby-Horsical** matter as it can hold;—so that if you are able to give but a clear description of the nature of the one, you may form a pretty exact notion of the genius and character of the other."

- Smallest tableau

hobby-horse + {-al, -ar}	*R...R	PREFER-AL
hobby-horsal		
hobby-horsar	*	*

- A little broader

hobby-horse + {-al, -ar, -ical}	*R...R	PREFER-AL	ENDDACTYL?
hobby-horsal			*
hobby-horsar	*	*	*
hobby-horsical		*	

- Broad

hobby-horse → *adjective*	*R...R	...
hobby-horsal		
hobby-horsar	*	
hobby-horsical		
hobby-horsic		
hobby-horsy		
hobby-horsish		
hobby-horsian		
hobby-horsoid		
hobby-horsesque		

- Really broad

express the idea of 'related to a pet topic'	...
hobby-horsal	
hobby-horsical	
hobby-horsian	
characteristic of a hobby-horse	
pet-topic-related	
having to do with his favorite subject	

or even:

behave suitably:	...
you know how he always likes to talk about fortifications and stuff	
How about this weather we're having?	
[get up to refill guest's glass]	

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?

Thursday: Relationships between words. Which outputs correspond, lexical conservatism...

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