

## Class 8: Stratal OT

**To do for next time**

- Read Kiparsky
- Start Catalan assignment (due Wednesday, May 5 in class)

**1. Palestinian Arabic again!**

- In a fully parallel (monostratal) version of OT, how can account for the stress and distribution of *i* (given that normally unstressed *i* is deleted in an open syllable, and stress is on the ultima if superheavy, else the penult if heavy, else the ultima)?

	<i>'he understood X'</i>	<i>'she understood X'</i>	<i>'You (masc. sg.) understood X'</i>
<i>object</i>	he understands: <i>fī.him</i>	she understands: <i>fīh.m-at</i>	you (masc. sg.) understand: <i>fhīm-t</i>
1sg.	fī.hīm.-ni	fīh.m-át.-ni	fhīm-t.-ni
2sg. masc.	fīh.m-ak	fīh.m-a.t-ak	fhīm-.t-ak
2sg. fem.	fīh.m-ik	fīh.m-a.t-ik	fhīm-.t-ik
3sg. masc.	fīh.m-u	fīh.m-a.t-u	fhīm-.t-u
3sg. fem.	fī.hīm.-ha	fīh.m-át.-ha	fhīm-t.-ha
1pl.	fī.hīm.-na	fīh.m-át.-na	fhīm-t.-na
2pl.	fī.hīm.-kum	fīh.m-át.-kum	fhīm-t.-kum
3pl.	fī.hīm.-hum	fīh.m-át.-hum	fhīm-t.-hum

(see Kager 1999 for an analysis—data go back to Brame 1974 and Kenstowicz)

- And what about these additional data (for clarity, I'm writing verbs as *stem-subj.-obj.*, though I don't want to make any claim about whether there are actual Ø affixes here, especially for objectless verbs):

/fihim/ 'understood'	
fihim-Ø-Ø	'he understood'
fihim-Ø-Ø il-wálad	'he understood the boy'
fhīm-Ø-na	'he understood us'
fhīm-na-Ø	'we understood'
/fihm/ 'understanding'	
fihm	'understanding'
fihm il-wálad	'the boy's understanding'
fihm-na	'our understanding'

(Kager's definition of a potential base for a derived word: a freestanding word all of whose syntactic and semantic features are contained in the derived word)

## 2. Kiparsky's LPM-OT (lexical phonology and morphology in OT) proposal

There are three different constraint rankings in every phonology: the *stem* phonology, the *word* phonology, and the *postlexical* phonology.

Each level is a standard OT grammar (no CORR-OO, no sympathy). Opacity is possible only between those levels, not within them.

- Can you think of what it would look like if there were opacity within a single level?
- Which Arabic suffixes must be stem-level and which must be word-level, in the data above?

Additional evidence (Tripoli Arabic) for assigning subject and object suffixes to levels:

/ḡarab-Ø-Ø/	ḡarab-Ø-Ø	'he hit'	
/ḡarab-et-Ø/	ḡarb-et-Ø	'she hit'	$a \rightarrow \emptyset$ / <i>unstressed light</i> $\sigma$
/ḡarab-Ø-ik/	ḡarab-Ø-ik	'she hit you (f.)'	

(not sure which dialect—how does stress have to work here?)

/qallam-na-Ø/	qillám-na-Ø	'we taught'	$a \rightarrow i$ / <i>unstressed closed</i> $\sigma$
/qallam-Ø-na/	qallám-Ø-na	'he taught us'	

## 3. Kiparskyan analysis of Arabic (data are kind of a mix of dialects)

- Let's come up with rankings for each of the three levels.

Some additional data on epenthetic *i*:

/katab-at-Ø/	kátab-at-Ø	'she wrote'	
/katab-t-Ø/	katábi-t-Ø	'I wrote'	$\emptyset \rightarrow i$ / $C\_C\#$

/ʃaaf-at-Ø/	ʃáaf-at-Ø	'she saw'	
/ʃaaf-t-Ø/	ʃífi-t-Ø	'I saw'	$V \rightarrow [-long] / \_C]_\sigma$

/rubat-at-Ø/	rubat-at-Ø	'she fastened'	
/rubat-t-Ø/	rubat-t-Ø	'I fastened'	<i>emphasis spreads right but not across Vs</i>

- Kiparsky proposes that there is also some lexical epenthesis—how will we get the CCCC case to work:

/ktib/	ʔktib	'write! (m.sg.)'	<i>prosodic minimality in imperatives</i>
/katab-t-l-ha/	katab-tí-l-ha	'I wrote for her'	$\emptyset \rightarrow i$ / $CC\_CC$

## 4. Epenthetic Vs and stress

Kiparsky proposes that stress occurs at an earlier level than epenthesis in Arabic, which is why epenthetic Vs are invisible to stress. He argues against a constraint that merely makes epenthetic Vs unstressable (Kager's HEAD-DEP(O/I)).

But consider a Selayarese case described by Broselow (1999):

Native, monomorphemic stress is penultimate, except for a few antepenultimate cases. In those words, the final vowel is argued to be epenthetic:

- Antepenultimate-stress words are V-final.
- Final V is copy of preceding V.
- C preceding final V is illegal coda ([r,l,s]); legal codas are [ʔ, ŋ], 1<sup>st</sup> half of geminate, nasal homorganic to following C).
- Final V disappears under V-initial suffixation.

/sahala/	[sahála]	‘sea cucumber’			
/barambaŋ/	[barámbaŋ]	‘chest’			
/lohe/	[lóhe]	‘many’	/lohe+aŋ/	[lohéaŋ]	‘more’
/sahal/	[sáhala]	‘profit’			
/baruas/	[barúasa]	‘cookie’			
/lamber/	[lámbere]	‘long’	/lamber+aŋ/	[lambéaŋ]	‘longer’

In order to make the epenthetic V invisible to stress, we have to invoke a slightly different constraint, maybe HEAD-DEP (Alderete): forbids including an epenthetic vowel in the main-stress foot.

/sahala/	HEAD-DEP	CODACOND	ALIGN(PWD,R,FT,R)	DEP-V
☞ sa.(há.la)				
(sá.ha).la			*!	

/sahal/	HEAD-DEP	CODACOND	ALIGN(PWD,R,FT,R)	DEP-V
sa.(há.la)	*!			*
☞ (sá.ha).la			*	*
(sá.hal)		*!		

PARSE-2: prohibits two adjacent unfooted syllables

/baruas/	HEAD-DEP	CODACOND	PARSE-2	ALIGN(PWD,R,FT,R)	DEP-V
ba.(rú.as)		*!			
(ba.ru).(á.sá)	*!				*
☞ ba.(rú.a).sá				*	*
(bá.ru).a.sá			*!	*	*

(Assume that head foot must be the rightmost foot.)

- Is this the same as what we’d get if stress applied before epenthesis?

Same ranking applies to loans:

<i>Bahasa Indonesia</i>	<i>Selayarese</i>	
bótol	bótolo	‘bottle’
árus	árusu	‘current’
sénter	séntere	‘flashlight’
kábal	kábala	‘cable’
kíkir	kíkiri	‘metal file’
kípas	kípasa	‘fan’
kəlás	kálasa	‘class’
bərás	bérasa	‘rice’
bələbás	balábasa	‘rule’

Loans, unlike native words, also can have word-internal epenthesis:

<i>Bahasa Indonesia</i>	<i>Selayarese</i>	
kártu	karátu	‘card’
súrğa	surúga	‘heaven’
córmin	sarámmeŋ	‘mirror’
bákri	bakári	proper name
búrhan	burúhan	proper name
rámli	ramáli	proper name

/kartu/	CODACOND	HEAD-DEP	ALIGN(PWD,R,FT,R)	DEP-V
(kár.tu)	*!			
(ká.rá.)tu		*	*!	*
☞ ka.(rá.tu)		*		*

- Why is *karatu* evidence for HEAD-DEP?

<i>Bahasa Indonesia</i>	<i>Selayarese</i>	
sólder	solodére	‘weld’
kárcis	karatísi	‘ticket’
térpal	tarapála	‘tarpaulin’
tápsir	tapasére	‘interpretation’

/solder/	CODACOND	PARSE-2	HEAD-DEP	ALIGN(PWD,R,FT,R)	DEP-V
(sól.der)	*!*				
☞ (so.ló).(dé.re)			*		**
so.(ló.de).re			*	*!	**
(só.ló).de.re		*!	*	*	**

- Is this the same as what happens if stress precedes epenthesis?
- Can we come up with a Kiparskyan analysis of Selayarese?

## 5. Bases

O-O Correspondence requires that the base be an actual output form (freestanding word).

- What predictions does this make for when we should see or not see cyclic effects?
- Does Kiparsky's theory make the same predictions?

(Tripoli dialect:  $a \rightarrow \emptyset$  / unstressed light  $\sigma$ )

/baʔar/	báʔar	'cattle'
/baʔar-a/	báʔr-a	'a cow'
/baʔar-i/	báʔar-i	'my cattle'

## 6. Prosodic correspondence

Recall Crosswhite's gemination case from last time. Can we come up with a Kiparskyan analysis of that?

## 7. Some additional predictions of LPM-OT

- Level affiliation constraints affix ordering.
- Opacity is transitive.

## 8. LPM-OT vs. rule-based LPM

- Within each level, evaluation is still parallel. So, you can still get look-ahead effects (e.g., 'stress a final heavy syllable iff the penult and antepenult aren't heavy').
- Opacity can occur only between levels.
- How about non-derived environment blocking? How can we analyze something like the classic Finnish case in regular OT or in LPM-OT?

$t \rightarrow s / \_\_ i$				
<i>to X</i>	'Let him/her X!'	<i>active instructive infinitive</i>	'she/he was Xing'	
halut-a	halut-koon	halut-en	halus-i	'want'
noet-a	noet-koon	noet-en	nokes-i	'smudge (?)'
piet-æ	piet-køøn	piet-en	pikes-i	'pitch'
juost-a	juos-koon	juost-en	juoks-i	'run'
filmat-a	filmat-koon	filmat-en	filmas-i	'film'
<i>but</i>				
tila	'room'			
æiti	'mother'			
silti	'however'			
valt <sup>i</sup> on	'public'			

e → i / ___ #			
joke-na	'river' essive sg.	joki	'river' nom. sg.
æiti-næ	'mother' essive sg.	æiti	'mother' nom. sg.
vete-næ	'water' essive sg.	vesi	'water' nom. sg.
kæte-næ	'hand' essive sg.	kæsi	'hand' nom. sg.

(proposals in standard OT: constraint conjunction, comparative markedness)

## 9. LPM-OT vs. Steriade's lexical conservatism

Some English stress effects can be attributed to cyclicity:

còm.p[ə]n.sá.tion		*còm.p[ɛ]n.sá.tion		cóm.pen.sate
còn.d[ə]n.sá.tion	~	còn.d[ɛ]n.sá.tion	cf.	con.dénse
Wì.nne.pe.sáu.kee				
but o.rì.gi.ná.li.ty		cf.		o.rí.gi.nàl

But many can't, because we don't see faithfulness to the base in Kager's sense or faithfulness to the output of the previous level:

éducàte	éducable	
démonstrate	demónstrable	cf. demónstrative
équilibraté	equilíbrable	cf. equilibrium

Steriade's survey of English speakers finds that stress shift (as in *demónstrable*) is close to obligatory when an allomorph with that stress exists elsewhere, but only a preference when no such allomorph exists (what do you think of *confiscable*?).