

## Class 13, 5/14/2018: Paradigm Uniformity IV; Weight I

### 1. Assignments

- Hand in Homework #4.
- Read: Gordon, Matthew (2005) A perceptually-driven account of onset-sensitive stress, *Natural Language and Linguistic Theory* 23, 595-653.
- Last homework, #5 handed out Wednesday, not due until Wednesday 5/30

### 2. Announcement

- Bruce away most of next week (details reserved for oral announcement).
- Kie Zuraw will take one of the classes (TBA) and I will cover the other in finals week at a time we can all come.

### 3. Today

- The hierarchy of levels of OO-Faith
- Weight and its possible phonetic basis

## THE HIERARCHY OF LEVELS OF OO-FAITH

### 4. Levels

- I mean, informally, things like Root < Stem < Word < Phonological Word < Phrase.

### 5. Conjecture

- OO-Faith increases the higher you go on this hierarchy.
- This must have been proposed somewhere but I'm not sure where.

### 6. A Spanish example from Harris (1983): stem to inflected form

- *Syllable Structure and Stress in Spanish*, MIT Press.
- /n/ and /ŋ/ are phonemes, but only [n] may occur in codes.
- Verbs always have a vocalic ending, so tolerate stem-final [n]:  
[desde.n-es] 'disdains'  
and same allomorph throughout the verbal paradigm
- Nouns can have no ending, in some declensions, and so we have:  
/desdeŋ/ → [desden] 'disdain-n.'
- The [n] is inherited in the plurals:

[desde.n-es] ‘instances of disdaining’

- This appears to be stem-inflected form correspondence.

## 7. Word-level: An Argentinian Spanish example from Harris (1983)

- [dʒ] is (sort of) an allophone of /j/, occurring in onset position.
- Caveat: the single learned word *paranoia* [para'noja] is an exception.
- Paradigm uniformity is enforced from word to phrase, not stem to word:

[lej] ‘law’

[leʒes] ‘laws’

[lej es], syllabified [le.j es] ‘law is’

- From UCLA Argentinian-speaking undergraduates I have obtained [le.jes] for ‘laws’ as well — stem to word correspondence.
- Since PU is usually from misacquisition I’m tempted to call this a younger-generation innovation.

## 8. Phonological-word to phrase correspondence in Cibaeño Spanish

- Harris again, citing Guitart
- This dialect (probably optionally) converts coda [r, l] to [j].

Before C

*papel blanco* = [papej]  
‘white paper’

Before V

*papel azul* = [papej]  
‘blue paper’

él da = ['ej]  
‘he gives’

él avisa = ['ej]  
‘he advises’

el dia = [ej]  
‘the day’

el aviso = [el]  
‘the advice’

- He gives no word-paradigm but I suspect plural of ‘paper’ is [papel-s]

## 9. The general law?

- Faithfulness to an element at some prosodic level implies Faithfulness to all higher levels.
- E.g. I doubt there could be a dialect that has

[leʒ es] ‘law is’  
[lejes] ‘laws’

- Conjectured possible factorial typology, assuming isolation [papej], [éj], ?[ej]

[papel-es]	[el aviso]	[él aviso]	[papel azul]	no application
[papel-es]	[el aviso]	[éj aviso]	[papej azul]	phonological word-to-phrase PU
[papel-es]	[ej aviso]	[éj aviso]	[papej azul]	word-to-phrase PU??
[papej-es]	[ej aviso]	[éj aviso]	[papej azul]	stem-to-higher PU

Even in the last row, there could still be [l]-stems, but only in verbs.

- This is a stringency hierarchy, which you can read about how to enforce in work of Prince and DeLacy:
  - Prince, Alan (1997a). Paninian relations. Colloquium Talk, University of Massachusetts, Amherst. Available August 2004 at <http://ling.rutgers.edu/people/faculty/prince.html>.
  - Prince, Alan (1997b). Stringency and anti-Paninian hierarchies. Handout from LSA Institute, Cornell University. Available August 2004 at <http://ling.rutgers.edu/people/faculty/prince.html>.
  - Paul DeLacy (2004) Markedness conflation in Optimality Theory. *Phonology* 21 (2004) 1–55.

## 10. English /l/ darkness

- This is an embarrassingly sloppy paper by me from the days of low standards, but I think the generalization is correct.
  - Hayes, Bruce (2000) "Gradient well-formedness in Optimality Theory". In Joost Dekkers, Frank van der Leeuw and Jeroen van de Weijer, eds., *Optimality Theory: Phonology, Syntax, and Acquisition*, Oxford University Press, pp. 88-120.
- The higher the level of the base form, the stronger the urge to be faithful to darkness in /l/.
  - N.B. the main cue to darkness may be allophony of preceding vowel
- "Light l goodness score" is obtained by subtracting subject ratings for light [l] vs. dark [ɫ] in the same context.

Context	Examples	"Light l goodness score"
Word initial	<i>light, Louanne</i>	4.62
Suffix-initial	<i>gray-ling, gai-ly, free-ly</i>	1.78
Medial ambisyllabic	<i>Mailer, Hayley, Greeley, Daley</i>	0.74
Stem-final pre-suffix	<i>mail-er, hail-y, gale-y, feel-y</i>	-0.97
Word-final pre-clitic	<i>mail it</i>	-3.30
Phonological word final	<i>mail Alice a letter</i>	-5 (not tested, my own guess)
Absolute final <i>mail, help</i>	-5.47	

- So, the weight of PU-XO([back] in [+lateral]) must go up as we promote X from stem, to word, to Phonological Word.

## 11. Bashing derivational approaches: optional cyclicity

- "Optional cyclicity": a rule must be made optional when it applies on an inner cycle, but then obligatory when the stem occurs by itself.

ailing ['erlɪŋ] or ['eɪlɪŋ] vs.

grayling ['erlɪŋ]

- This seems at least inelegant to me: what is actually optional is whether you carry forward the effects of the base form on the derived form, per the principle of constraint ranking.
- Indeed, the /l/ example seems to need probabilistic cyclicity.

## THE BAZAAR OF BASES

### 12. What can you be OO-Faithful to?

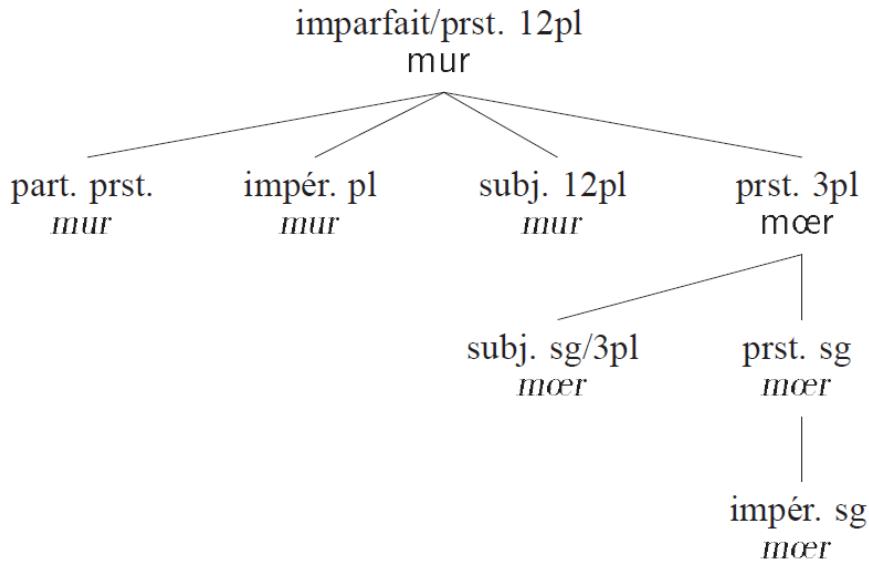
- This was already covered to some extent in Kie's 201A so I will be brief.
- Perhaps there are different answers for derivation and inflection.

### 13. Inflectional bases

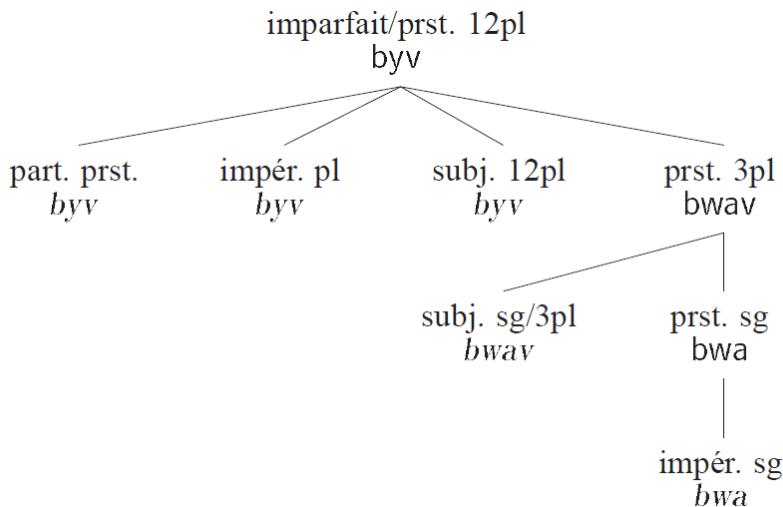
- McCarthy (2005): let the members of the paradigm take a vote!
  - This seems diachronically unstable — if you lose your 2 plur. verbs, does convulsive paradigm change then happen?
- Bochner: anything can be a base for anything.
  - Bochner, Harry (1993) *Simplicity in generative morphology*. Berlin: Mouton de Gruyter.
- Adam Albright's scholarly oeuvre argues for early discovery by the child of the most informationally-nutritious category, adopting it for life as the base for all.
  - N.B. This means a fair amount of memorization
  - A more recent ref, with refs to earlier material: Adam Albright (2010) Base-driven leveling in Yiddish verb paradigms. *Natural Language & Linguistic Theory* 28, No. 3, pp. 475-537
- Bonami and Boyé (n.d.) (sort of) extend Albright, laying out a sort of tree theory, where you can follow the tree from base to base, each node permitting memorization.
  - Olivier Bonami and Gilles Boyé (date?) Suppletion and dependency in inflectional morphology. Can't find ref.

### 14. A couple of Bonami/Boyé trees for French

- A verb with two stems, *mourir* 'die':



- A verb with three stems, *boire* ‘drink’:



## 15. Derivational bases

- Here, we often have a very direct sense of the semantics that makes the base seem obvious: *good* ~ *goodness* is trivial.
- But there are less obvious cases.

## 16. The -ation base for English word formation

- Mark Aronoff (1973) *Word Formation in Generative Grammar*, MIT Press.
- He suggests that -ee frequently attaches to X in Xation.
- We previously saw similar evidence for -able being attached to the -ate stem of verbs.

## 17. What is the base for English *-istic*?

- Again, idea taken from Aronoff; data from my searchable English lexicon.

altruistic	altruist	altruism	both
antagonistic	antagonist	antagonism	both
atheistic	atheist	atheism	both
capitalistic	capitalist	capitalism	both
chauvinistic	chauvinist	chauvinism	both
deterministic	determinist	determinism	both
evangelistic	evangelist	evangelism	both
fatalistic	fatalist	fatalism	both
futuristic	futurist	futurism	both
hedonistic	hedonist	hedonism	both
hellenistic	hellenist	hellenism	both
humanistic	humanist	humanism	both
idealistic	idealist	idealism	both
imperialistic	imperialist	imperialism	both
impressionistic	impressionist	impressionism	both
individualistic	individualist	individualism	both
journalistic	journalist	journalism	both
masochistic	masochist	masochism	both
materialistic	materialist	materialism	both
militaristic	militarist	militarism	both
moralistic	moralist	moralism	both
narcissistic	narcissist	narcissism	both
nationalistic	nationalist	nationalism	both
naturalistic	naturalist	naturalism	both
optimistic	optimist	optimism	both
pantheistic	pantheist	pantheism	both
paternalistic	paternalist	paternalism	both
pessimistic	pessimist	pessimism	both
pluralistic	pluralist	pluralism	both
pugilistic	pugilist	pugilism	both
realistic	realist	realism	both
relativistic	relativist	relativism	both
ritualistic	ritualist	ritualism	both
sadistic	sadist	sadism	both
statistic	statist	statism	both
surrealistic	surrealist	surrealism	both
anachronistic	anachronist	anachronism	ism only
atavistic	atavist	atavism	ism only
autistic	autist	autism	ism only
euphemistic	euphemist	euphemism	ism only
mechanistic	mechanist	mechanism	ism only
artistic	artist	artism	ist only
linguistic	linguist	linguism	ist only
monopolistic	monopolist	monopolism	ist only
stylistic	stylist	stylistm	ist only
ballistic	ballist	ballism	bound stem

heuristic	heurist	heurism	bound stem
logistic	logist	logism	bound stem

- What is the likely source for *-istic* adjectives?

## STERIADE'S RESEARCH PROGRAM IN BASES

### 18. References

- “Lexical conservatism”, a never-published item xxx
- Steriade, Donca (2008) “A pseudo-cyclic effect in Romanian morpho-phonology” in Asaf Bachrach and Andrew Nevins, eds., *Inflectional Identity*. Oxford: Oxford University Press.
- “Lexical conservatism in French adjectival liaison”, UCLA ms., [www.linguistics.ucla.edu/people/steriade/papers/LexicalConservatism.pdf](http://www.linguistics.ucla.edu/people/steriade/papers/LexicalConservatism.pdf)
- Steriade, Donca; Yanovich, Igor. 2015. Accentual allomorphs in East Slavic: An argument for inflection dependence. in Eulalia Bonet, Maria-Rosa Lloret, Joan Mascaro (eds.) *Understanding Allomorphy*, Equinox Press, pp. 254-313.
- Steriade, Donca. 2016. The morpheme vs. similarity-based syncretism: Latin t-stem derivatives. in Ana Luis and Ricardo Bermudez-Otero (eds.) *The morpheme debate*, Oxford University Press.

### 19. Two fundamental principles

- Lexical conservatism: you must make use of an allomorph that already exists (lexically listed, accepted for use by the speakers).
- Multiple bases possible: for some processes, you may *search through the set of lexically listed allomorphs* to find what you need.
  - I believe all here cases of this sort involve derivation, not inflection.

### 20. Two amazing things about the allomorphs you search for

- The inventory of **inflected** stem-forms can serve as the basis for derivation; violating the classical ordering principle of these two components.
- In derivation itself, a semantically-illmatched form can serve as the base.
  - examples below

### 21. The *-able* example in English (Steriade ms., “Lexical conservatism”)

The phonotactic principles at stake are:

- \*<sup>1</sup>σ ă ă # (\*preantepenultimate)
- \*Heavy stressless between stressed and stressless; cf. Liberman and Prince's *\*pódelectal*

- Representative data:

cómpensate	compensatory	compensable
ínfundate	—	*inundable, inundable
óbfuscate	obfuscatory	obfuscable, *óbfuscable
		— */✓ depending on whether you possess <i>obfuscatory</i>
rémedy	remédial	remediable, ?rémediable
parody	—	*parodiable, ?párodiable

- Semantic mismatches:

- *compensable* has the semantics of *compensate* and the allomorph of *compensatory*.
- *remediable* is claimed to have the semantics of *remedy* and the allomorph of *remedial*.<sup>1</sup>

## 22. Drawing bases for derivation from the inflection paradigm: Ukrainian and Russian

- Source: readings
- Basic picture:
  - A quite complicated system of stress alternations
  - This produces batches of accentually-distinct allomorphs
  - These can be deployed for derivational morphology

## 23. The Ukrainian case

- The stress system has a penult preference.
- So
  - monosyllabic *-nyj* begs for a finally-accented stem.
  - disyllabic *-ovyj* begs for an unaccented stem.
- 'hoop' has two allomorphs in its inflectional paradigm:
  - *obrútsj*, affixed *obrutsj-í*, *obrutsj-ú*, *obrutsj-ý*
  - hence: *obrutsj-óvyj*, *obrútsj-nyj*
- This is all worked out in constraint conflict.
  - E.g. if all the allomorphs of a stem have the same stress, just go head and use it.
  - *káktus* always has initial stress in all of its paradigm, so *káktus-ovyj*, giving up on Paradigm Uniformity.

## 24. Cleanliness of the data

- Is imperfect
- They helpfully distinguish historically old forms from new ones;
  - the latter darned well better obey the theory, and do

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<sup>1</sup> Is it perhaps instead a formation from *remediate*?

- the former might include archaisms, lexically listed

## 25. Methodology

- Waxing preachy, I feel this part of the paper would have benefited from methods taught in this class:
  - formalization of the system in maxent
  - checking of the accuracy of quantitative generalizations
  - checking for statistical significance of the constraints

## 26. The Russian case

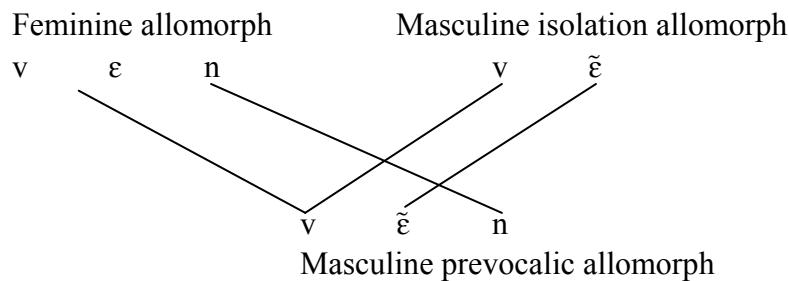
- The suffixes themselves have accentual preferences, and stem allomorphs are selected from the inflectional paradigm.
- So, *-iſſ* wants to be stressed — but can only be so only if the stem's paradigm provides a stressless allomorph; else stem stress wins.
- *-oſtj* wants to be stressless.
  - If there is a stressed stem allomorph in the inflectional paradigm, use it, and all is well.
  - Otherwise, a paradigm gap.

## 27. A controversial third principle propounded by Steriade

- Frankensteinism: you cobble together bits of a new allomorph from multiple existing allomorphs.

## 28. The best-case example of Frankensteinism: French liaison consonants

*vain espoir*      'vain hope'



- On the other hand, the single example *bureaucratism*, taking its vocalism from *bureaucracy* and its final consonant from *bureaucrat*, looks Frankensteinian to me;
  - It is the only example I know.

### 30. The Slavic cases

- Steriade and Yanovich p. 21 describe what a Frankensteinian case would look like and acknowledge that there are none.

## SYLLABLE WEIGHT

### 31. What is it good for? Clearer cases

- Heavy syllables attract stress in many languages.
  - More subtly: they attract foot-headedness: the amazing case of CVCCVCV in Cairene Arabic.
- Heavy syllables are double units in quantitative meter; e.g. the Greek/Latin dactylic hexameter.
- The prosodic templates of the world are definable by syllable weight.
  - Ilokano has contrasting heavy and light reduplication patterns, with the heavy manifested as CVC- in some cases, CV:- in others.
  - trab-trabaho, da:-da?t 'is working, sewing'
  - agin-tra-trabaho, agin-da-da?it 'pretends to be working/sewing'
- In many languages, English included, a monosyllable can be a word only if it is heavy.

### 32. What is it good for: less clear cases

- Heavy syllables often can host contour tones.
  - Caveat: often this involves a special definition of heavy, as in Lithuanian: only sonorant codas are tone-hosting.
  - See below on processs-specific weight.

### 33. This and that: Paul Newman on syllable weight in Chadic

- Reference:

SYLLABLE WEIGHT AS A PHONOLOGICAL VARIABLE  
 The Nature and Function of the Contrast  
 Between "Heavy" and "Light" Syllables  
 Studies in African Linguistics  
 Volume 3, Number 3, December 1972

- Predictable tone in Bolanci verbs is based on whether the first syllable is heavy or not:

Heavy	Light
-u	-aa
ràamú 'to repair'	tónú 'to sharpen'
sòorú 'to fall'	shírú 'to steal'
mòyyú 'to wait for'	móyú 'to see'
lèmdú 'to lick'	ŋgádú 'to eat (meat)'
wündú 'to call'	

- Look at these plurals in Hausa:

(18)	káskóo	kásàakée	'bowl'
(19)	jírgíi	jíràagée	'train'
(28)	káfáa	→ káfàafée	'hole'
(29)	wúríi	→ wúràarée	'place'
(30)	dámoo	→ dámàamée	'monitor'
(31)	zúgúu	→ zúgàagée	'roll of cloth'
(32)	kíifíi	→ kíifàayée	'fish'
(33)	gáuláa	→ gáulàayée	'idiot'
(34)	zóomoo	→ zóomàayée	'hare'
(35)	súunáa	→ súunàayée	'name'

### 34. Different criteria

- Some languages make the heavy-light divides at CVV/CVC, CV
- Others at CVV, CVC/ CV

### 35. The era of explanatory glory in syllable weight: the consistent-in-language hypothesis

- It's a structural principle, set once, obeyed thereafter.
- A case that makes you think this is true: Latin, with CVV, CVC/ CV
  - Mester, Armin. (1994) The quantitative trochee in Latin, *Natural Language and Linguistic Theory* 12. 1-61.
- This didn't last; people found inconsistencies, or indeed triple distinctions: CVV/CVC/CV
  - Hayes (1995, *Metrical Stress Theory*)
  - Matt Gordon (2004) "Syllable weight", in Hayes-Kirchner-Steriade (2004) *Phonetically-based phonology*, Cambridge.

**36. An example of a triple distinction**

- Finnish stress is left-to-right syllabic trochees.
- But you skip a syllable medial, if this will let you form better feet.
  - 'CV CVC, 'CV CVV are bad, producing the skip.
  - 'CVC CVC is bad, too

**37. Ugly little things want to come in and participate in the same area**

- They aren't as "powerful" in effect (readings)
  - Branching onsets make syllables a bit heavier
  - Onsets vs. no onsets make syllables a bit heavier.
  - Non-sonorous onsets make syllables a bit heavier.
  - Lower vowels make syllables a bit heavier

**38. But it's not a complete and total mess**

- We know what factors tend to make syllables prominent.
- We know what factors are stronger
  - We would be surprised to see a where CVV is light?<sup>2</sup>

**39. Phonetics offers hope of bringing order to the mess**

- We can develop a theory of phonetic properties lending auditory prominence, and roughly deduce the typology of what counts as heavy.
- Slogan: *syllables are heavy when they sound heavy*
- Then we need a formal theory that governs/deploys this phonetic influence as phonological grammar.

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<sup>2</sup> BH check Hebrew, Seneca