

## Announcements and Roadmap

### Course Announcements:

- HW # 8 deadline changed to *Wednesday December 5<sup>th</sup>*.
- Read Baayen *et al.* for Wednesday, as well.
- I'm switching today and Monday's lectures.
- Chris Kennedy's talk "Incremental Theme: 'Measuring out' is measuring change" 4pm in the Stevenson Fireside lounge.

### Roadmap:

1. One more LPM factoid.
2. Autosegmental phonology primer
3. Reduplication
4. *Monday*: How to really do Semitic

## 1 Two Kinds of English Conversion

There are two kinds of zero-conversions in English

### (1) NON-NEUTRAL CONVERSION:

- a. re'cord<sub>V</sub> → 'record<sub>N</sub>
- b. sur'vey<sub>V</sub> → 'survey<sub>N</sub>
- c. tor'ment<sub>V</sub> → 'torment<sub>N</sub>
- d. pro'test<sub>V</sub> → 'protest<sub>N</sub>

### (2) NEUTRAL CONVERSION:

- a. 'pattern<sub>V</sub> ← 'pattern<sub>N</sub>
- b. 'advocate<sub>V</sub> ← 'advocate<sub>N</sub>
- c. 'patent<sub>V</sub> ← 'patent<sub>N</sub>
- d. 'lever<sub>V</sub> ← 'lever<sub>N</sub>

Kiparsky's (1982) claim: these are formed at different strata.

1. DEVERBAL NOUNS are formed at Stratum 1 — non-neutral wrt. stress.
2. DENOMINAL VERBS are formed at Stratum 2 — neutral wrt. stress.

**Corroborating Evidence:** denominal verbs formed from nouns ending in STRONG-VERB-like phoneme sequences still have regular past tense forms:

- a. sink ~ sank
- b. ring ~ rang

- a. link<sub>N</sub> → link<sub>V</sub> → linked (\*lank)
- b. ring<sub>N</sub> → ring<sub>V</sub> → ringed (\*rang)

Because the words in (4) are formed at Stratum 2, they can't be subject to Stratum 1 irregular inflection such as that seen with Strong Verbs (despite the fact that these look like strong verbs).

## 2 Autosegmental Phonology: A (Quick) Primer

SUPRASEGMENTAL=*def* phonological property which logically exists independently of the phoneme it associates with. Examples of suprasegmentals include stress, pitch accent, and tone.

AUTOSEGMENTAL PHONOLOGY is a framework for understanding suprasegmental effects.

**Basic Idea:** Different phonological properties are arranged on AUTONOMOUS, LINKED tiers; the final phonetic form is computed by CONFLATION OF TIERS. Some commonly assumed tiers include:

1. PHONEME TIER: the tier on which phonemes appear.
2. TONAL TIER: the tier on which tones appear.
3. CV-SKELETAL TIER: tier of CV segments to which phonemes and other tiers are linked.

*Excursus:* tone diacritics:

- H is HIGH TONE (́)
- L is LOW TONE (̀)
- HL is FALLING TONE (̂)
- LH is RISING TONE (̃)

*Example:* Tone in Medne (Niger-Congo; Sierra Leone):

- |     |                     |                          |
|-----|---------------------|--------------------------|
| (5) | a. kó, ‘war’        | e. kómá, ‘on war’        |
|     | b. bèlè, ‘trousers’ | f. bèlèmà, ‘on trousers’ |
|     | c. mbù, ‘owl’       | g. mbúmà, ‘on owl’       |
|     | d. mbă, ‘rice’      | h. mbàmá, ‘on rice’      |

There are principles which guide the association of different tiers via linking:

- (6) UNIVERSAL LINKING CONVENTIONS:
- a. Link a series of autosegments with a series of elements on the skeletal tier that are capable of bearing them.
  - b. Perform the linking going from the beginning of the word to the end of the word. Unless specific instructions given in the grammar of the language dictate otherwise, link autosegments with units that are capable of bearing those autosegments in a one-to-one fashion.
  - c. Associations *do not* cross in the linking process.

Finally, we can perform “relinking” when a phonological process has applied on only one tier but not any others.

- (7) Compensatory Lengthening in Luganda:
- a. /ba-e-laba/ → [be:laba], ‘they (human) see themselves’
  - b. /tu-e-laba/ → [twe:laba], ‘we see ourselves’
  - c. /bi-e-laba/ → [bye:laba], ‘they (nonhuman) see themselves’

Compensatory lengthening is deletion *only* on the phoneme tier.

### 3 Reduplication and Morphology

#### Terminology:

- BASE: the input to reduplication/what gets copied.
- REDUPLICANT: the material that appears after reduplication.

#### 3.1 Kinds of Reduplication

Nominal reduplication is often used to express plurality, quantification, “various,” diminutive, contrastive focus, *etc.*:

(8) Examples of Nominal Reduplication:

- |   |                   |
|---|-------------------|
| a. bana, ‘coyote’ → baabana, ‘coyotes’              | (Papago)          |
| b. bar, ‘two’ → barbar, ‘all two’                   | (Tzeltal)         |
| c. ren, ‘man’ → renren, ‘everybody’                 | (Mandarin)        |
| d. anak, ‘child’ → anakanak, ‘various children’     | (Various Malayic) |
| e. xóyamac, ‘child’ → xoyamacxóyamac, ‘small child’ | (Nez Perce)       |
| f. salad → salad-salad                              | (English)         |

Verbal reduplication is often used to express repetition, pluractionality, continuation, *etc.*:

(9) Examples of Verbal Reduplication:

- |  |             |
|--|-------------|
| a. -pik, ‘touch it’ → -pipik, ‘touch it lightly, repeatedly’ | (Tzeltal)   |
| b. guyon, ‘to jest’ → guguyon, ‘to jest repeatedly’          | (Sundanese) |
| c. wu, ‘die (one pers. or many)’ → wuwu ‘die in numbers’     | (Twi)       |
| d. dolu, ‘full’ → dopdolu ‘really full’                      | (Turkish)   |
| e. dii, ‘to be good’ → díidii, ‘to be extremely good’        | (Thai)      |

**Question:** what gets copied in reduplication?

- Very often a well-formed prosodic unit (word, syllable, foot, segment) from the base.
- But it *need not be in some languages*.

(10) Prosodic Unit Reduplication:

- |   |            |
|---|------------|
| a. buya, ‘crocodile’ → buyabuya, ‘(various) crocodiles’ | (Acehnese) |
| b. mardukuja, ‘woman’ → mardukujamardukuja, ‘women’     | (Warlpiri) |
| c. whero, ‘red’ → whewhero, ‘reddish’                   | (Maori)    |

(11) Non-Prosodic Unit Reduplication:

- |   |            |
|---|------------|
| a. pango, ‘black’ → papango ‘blackish’      | (Maori)    |
| b. nui, ‘big’ → nunui ‘big (pl)’            | (Maori)    |
| c. qax, ‘bone’ → qaqax, ‘bones’             | (Quileute) |
| d. gen, ‘to sleep’ → ggen, ‘to be sleeping’ | (Shilh)    |

Finally, some languages have reduplication with FIXED SEGMENTISM: some part of the reduplicant is pre-specified for a particular segment in one spot:

## (12) Fixed-Segment Reduplication:

- |   |            |
|---|------------|
| a. table → table-schmable                           | (English)  |
| b. pal → pal-gil                                    | (Kolami)   |
| c. gbóná, ‘be warm, hot’ → gbí-gbóná ‘warmth, heat’ | (Yoruba)   |
| d. cuac, ‘to message’ → ?it-cuac, ‘to message’      | (Nancowry) |

**3.2 Analysis****Some Questions:**

- What exactly is the input to reduplication?
- Is there a morpheme involved, or is this pure process?
- How does the copying work, exactly?
- Why don't some languages have this process?

Reduplication is like regular affixation, and not a pure process.

A very popular opinion (Broselow & McCarthy 1984: 25, emphasis mine):

*...reduplication is a special case of ordinary affixational morphology, where the affixes are phonologically underspecified, receiving their full phonetic expression by copying adjacent segments.*

Marantz (1982): the grammar must minimally specify the following information for this view of reduplication to work:

1. the shape of the reduplicative CV-template
2. whether the reduplicative template is prefixed, infix, or suffixed
3. the part of the base which is copied
4. the direction of mapping: L-t-R or R-t-L

Broselow & McCarthy propose the following mapping principles:

## (13) MAPPING PRINCIPLES IN REDUPLICATION:

- a. Introduce an underspecified affix, RED;
- b. create an unassociated copy of the phonemic melody of the root or stem or base;
- c. associate the copied phonemic melody on to the CV-skeleton RED one-to-one, with vowels being linked to V-slots and consonants with C-slots. In the case of a prefix this association goes from left to right while in the case of a suffix it goes from right to left;
- d. finally, erase all superfluous phonemic material or any CV-slots on the skeletal tier that remain unassociated at the end.

**Question:** What do we do about fixed-segmentism in this kind of theory?

### 3.3 Examples

#### 3.3.1 Prefixing

(14) Plurals in Agta (Malayo-Polynesian; Philippines):

- |                  |                     |
|------------------|---------------------|
| a. takki, 'leg'  | c. taktakki, 'legs' |
| b. uffu, 'thigh' | d. ufuffu, 'thighs' |

#### 3.3.2 Suffixing

(15) Plurals in Saho (Cushitic; Eritrea & Ethiopia):

- |                        |                          |
|------------------------|--------------------------|
| a. lafa, 'bone'        | f. lafof, 'bones'        |
| b. illa, 'spring'      | g. illol, 'springs'      |
| c. gaba, 'hand'        | h. gabob, 'hands'        |
| d. rado, 'animal hide' | i. radod, 'animal hides' |
| e. of, 'mouth'         | j. nef, 'faces'          |

#### 3.3.3 Infixing

(16) Verbal Plurality in Samoan:

- |                   |                     |
|-------------------|---------------------|
| a. nofo, 'sit'    | f. nonofo, 'sit'    |
| b. moe, 'sleep'   | g. momoe, 'sleep'   |
| c. alofa, 'love'  | h. alolofa, 'love'  |
| d. savali, 'walk' | i. savavali, 'walk' |
| e. maliu, 'die'   | j. maliliu, 'die'   |

## 4 Metathesis Morphology

**Question:** What might we say about this kind of data?

(17) Hanunoo (Malayo-Polynesian; Philippines):

- a. ?usa, 'one' → kas?a, 'once'
- b. ?upat, 'four' → kap?at, 'four times'
- c. ?unum, 'six' → kan?um, 'six times'