Reduplication and its basic laws

(1) Summary

- main issues in analysis of reduplication; connection to correspondence theory
- templates and theories of templates
- the prosodic theory of templates and its consequences for Base RED corresp.
- markedness and RED

- over and under rule application in RED and correspondence-based analyses.

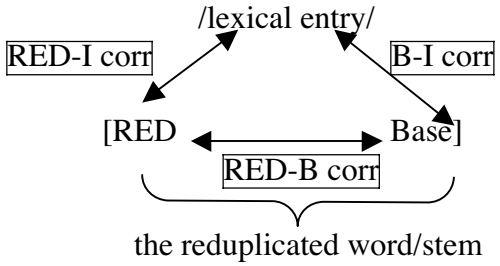
(2) Reduplication types (examples from Madurese: Austronesian)

- simple reduplication: copy everything change nothing
  sakola?an-sakola?an 'schools';
- partial reduplication: copy a fragment, change nothing
  dus-garadus 'fast-and-sloppy';
- partial and prespecified reduplication: copy a fragment, change a segment or more
  das-garadus 'fast-and-sloppy';
- total, prespecified: (not Madurese) *table schmable*

(3) Partial RED parameters and corresponding constraints:

(a) **size**: RED = (specify a prosodic unit: σ or $\breve{\sigma}$, Φ, PrWd)
(b) **location** wrt base or edge of PrWd: Align Edge, RED, Edge, PrWd
(c) **source** in base (preliminary): Anchor Edge:RED/Base
(d) **segmental contents:** phonotactics interacting with Contiguity, MAX + the above

(4) Base of RED vs. Input of RED and Base



(5) Why study Reduplication?

- Output-to-Output correspondence: surface RED corresponds to surface Base [debated]
- syntagmatic (B-RED) + paradigmatic (RED-I, B-I) correspondence in one construction
- unique evidence of markedness effects
- interactions with both prosodic and segmental phonology
- a self contained universe with rich typology

(6) **Size constraints on partial RED:** why is just *dus* copied in *dus-garadus*
RED is subject to a template constraint

(7) **What is a possible template**? (McCarthy and Prince 1986, now on ROA)

a. A sequence of segmentally empty other skeletal slots? (CVCCVCCCV?)
b. A sequence of segmentally empty syllable nodes? (σσσσσσσ?)
c. A sequence of syllables with specified internal structure (CVC.CV:CC.CV?)
d. A foot, a (heavy/light) syllable: "the units of authentic prosody"

(8) **Reminder**: Semitic stems (McCarthy 1979 MIT diss) [<y >= IPA [j])

Form	Past active	Non-Past act	Past Pass	Non-Past Pass	Imperative
1 write	katab-a	ya-ktub-u	kutib-a	yu-ktab-u	ktub-
2 caus	kat:ab-a	ya-kat:ib-u	kut:ib-a	yu-kat:ib-u	kat:ib-
3 recip	ka:tab-a	yu-ka:tib-u	ku:tib-a	yu-ka:tab-u	ka:tib-
4 dictate	ʔa-ktab-a	yu-ktib-u	ʔu-ktib-a	yu-ktab-u	ʔa-ktib-
6 write letters to e.o.	ta-ka:tab-a	ya-ka:tab-u	tu-ku:tib-a	yu-ta-ka:tab-u	ta-ka:tab-
7 sub-scribe	n-katab-a	ya-n-katib-u	n-kutib-a	yu-n-katab-u	n-katib-
8 copy	ktatab-a	ya-ktatib-u	ktutib-a	yu-ktatab-u	ktatib-
9 ask s.o to	sta-ktab-a	ya-sta-ktib-u	stu-ktib-a	yu-sta-ktab-u	sta-ktib-

(9) **Compare**:

Form	Past active
1 study	daras-a
2 caus	dar:as-a

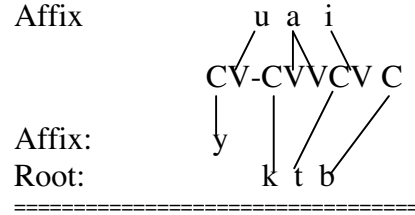
(10) **Morpheme shapes** (not exhaustive)

(a) Derivational morphemes
form 1: CVCVC (syncope in yV-kVtVb-u)
form 2: CVCCVC
form 3: CV:CVC
form 3: ʔa- CCVC
form 6: ta-CV:CVC
form 7: n-CVCVC
form 8: CtVCVC
form 9: sta-CCVC --- CV slots: dominated by syllable nodes; dominate segments

(b) Non-derivational morphemes
Active: *(u)-a-i*[1]
Passive: *u-a*
Non-Past *yV-*[2]

(c) Invariant root shape: here *ktb*

(11) **Autosegmental assembly of morphemes**:
• L-R association of segments to template slots yields actual syllables.
(in some cases the strict L-R order is replaced by other conventions)
• Too many slots, not enough segments? E.g. *sm* 'poison': *samam-, sam:am*
Spread the rightmost segment.
• Too many segments, not enough slots? E.g. *magnati:ʃ* 'magnetize'
magnat. Delete the segments, add a coda position.
• Critical assumption: features of each morpheme occupy distinct tiers from features of other morphemes.



yields *yu-ka:tib* (form 3, non-past active)

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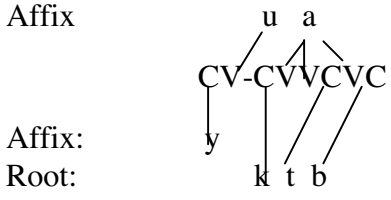
[1] Vocalism is subject to further rules. Thus in the non-past active: u-a-i -> a-i in 7-9; u-a-i -> a in 5, 6.
[2] Past and non-past vowels are subject to dissimilatory conditions. Thus *ya-kt**u**b-u* but *kat**a**b-a*



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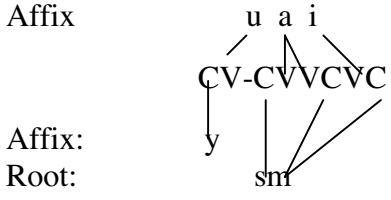
• Biliterals work similarly but here the C's must spread too: cf. *sm* 'poison'



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• LR association (+ OCP) explains why *sa:mim* and not **sa:sim*
• Quadriliterals have form 2 without gemination.

(12) **Templatic morphology without consonantal roots**: Miwok (Smith 1984), English

Basic	Derived 2	Derived 5	Derived 6	Derived 7	Derived 8
polaat	polat	pollat	polta	poolat	polaat
kelti	kelit	kellit	kelti	keelit	keliit
halh	halɨh	hallɨh	halhɨ	haalɨh	halɨɨh
tappu	tapuʔ	tappuʔ	tapʔu	taapuʔ	tapuuʔ

- [ɨ] and [ʔ] are epenthetic segments.
- V and C on same tier, hence *polat* vs. *polta* difference requires reordering.
- But same "LR" effect in mapping: running out of segments at R edge.

(13) **What is a possible template**? (McCarthy and Prince 1986, now on ROA)
a. A sequence of segmentally empty other skeletal slots? (CVCCVCCCV?)
b. A sequence of segmentally empty syllable nodes? (σσσσσσ?)
c. A sequence of syllables with specified internal structure (CVC.CV:CC.CV?)
d. A foot, a (heavy/light) syllable: "the units of authentic prosody"

(14) **Why (13. a) could not be right**: English nicknames

Base	Truncated left	Truncated and augmented	Truncated right
William	*Will,*	*Willie*	
Elizabeth	*Liz,*	*Lizzie*	*Beth*
Barbara	*Barb,*	*Barbie*	
Gabriel	*Gabe*	*(Gabi)*	
Herbert	*Herb*	*Herbie*	*Bert*
Diana	*Di*		
Stuart	*Stu*		
Arthur	*Art*	*Artie*	
Christine	*Chris*	*Chrissie, Christie*	
Agnes		*Aggie*	

[3] An invented form.

- template can't be CVC: *Herb, Stu*
- can't be (C(C))V(C(C)): *Gabe*, **Gabrie; Aggie *Agnie*
- must be: 1 syllable (+ [i]),
  plus rules/principles on how to map the full word onto template.
- **Contiguity (nickname to base)**:
  segments in nickname are adjacent only if their full form correspondents are
  *(Di, *Dine, *Dinie; Stu, *Stur, *Sturt; Will, *Wilm)*
- **Ident stress (nickname to base)**:
  syllables in nickname are stressed iff their full form correspondents are
  *(Liz, Beth, *El; Stu; *Art)*
- **MAX (base to nickname)**:
  the largest number of segments from the base must be present in the nickname,
  (subject to the requirements of the template, Contiguity and MAX)

Hérbèrt[4]	Template: σ + (i)	MAX
Herbert	*!	
☞Herb(ie)		***
☞Bert(ie)		***
Her		****!
Ber		****!

William	Contiguity	MAX
☞Will(ie)		***
Wilm	*!	**

Agnes	Ident Stress	MAX
☞Agg(ie)		***
Ness(ie)	*!	**

(15) Why (13. b) could not be right:

Vast majority of templates fall into a small number of options:
1 heavy syllable
1 light syllable
1 foot: an iamb (CVCV:, CVCVC) or a trochee (σσ or σ̄ or ŏŏ)
A small number of cases (Miwok, Semitic) display templates consisting of two syllables, whose weight and internal structure is specified. Virtually no templates consisting of sequences of syllables longer than 2.

(16) Original template theory to original RED theory: **Marantz 1982**

- RED template = sequence of C, V slots, a McCarthy style 1979 Semitic template.
- copy base segments, base tones (= 'melody').
- association follows from the direction of affixation (LR-for prefixes; RL suffixes)
- association is segment driven (gives priority to segment association rather than filling template slots) and subject to crossing line condition.
- results wrt the correspondence relation between base and RED:

[4] Effect of stress on preservation more clearly seen in Elizabeth -> Beth, Liz, *El, *Zab

(a) RED doesn't copy base syllables: rather, RED is a syllable (sequence) defined on the string of segments of the base, independently of how base is syllabified.
(b) Locality: RED is (typically) adjacent to its source in the base.
(c) Contiguity: *CVC-nait* yields *na(:)-nait* and not *nat-nait* .
(d) MAX: empty slots must be filled. This causes the maximal number of segments and tones to be copied subject to slot availability, existing phonotactics, and the crossing line constraint.

(17) What changed:
• theory of templates: CVC is not a possible template, only σ̄ or σ̆ is.
⏩ if no CVC slots then nothing to link copied segments to: some other mechanism must be adopted to "fill the template" with base segments.
• discovery of Base-RED identity effects that go beyond copying of the melody.
• discovery of markedness effects in RED that were unanticipated by early work.

(18) Reduplication in Ilocano
a. Nouns

kaldíŋ	*kal-kaldíŋ*	'goats'
púsa	*pus-púsa*	'cats'
kláse	*klas-kláse*	'classes'
ró.ot	*roː-ró.ot*	'litter-pl'

b. Verbs

basa	*bas-basa*	'be reading'
adal	*ad-adal*	'be studying'
trabaho	*trab-trabaho*	'be working'
takder	*tak-takder*	'be standing'

(19) **The Ilocano analysis**:
• Template for the reduplicating affix?
• Location of affix? Source in the base?
• Why *kal-kaldíŋ, *kald-kaldíŋ* ?
• Why

ró.ot	*roː-ró.ot*	not **rot-ró.ot*
basa	*bas-basa*	not **baː-basa*

(16) **Mokilese reduplication** (Levin 1983):
a. CVC… stems

pɔdok	*pɔd-pɔdok*	'plant'
mwiŋe	*mwiŋ-mwiŋe*	'eat'
kasɔ	*kas-kasɔ*	'throw'
poki	*pok-poki*	'beat'

b. CV stems

pa	*paː-pa*	'weave'
di.ar	*diː-diar*	'find'

c. CV:… stems

sɔːrɔk	*sɔː-sɔːrɔk*	'tear'
tʃaːk	*tʃaː-tʃaːk*	'bend'

(17) **Sanskrit desiderative reduplication** (similar to perfect reduplication: Steriade 1988):

Root	Reduplicated form	Gloss
pa:	*pipa:-s-a:mi*	'drink'
tvar	*titvar-iʂ-a:mi*	'hasten'
pr̥c^h	*pipr̥c^h-iʂ-a:mi*	'fashion, make'
ji:v	*jiji:v-iʂ-a:mi*	'live'
skand	*kiskand-iʂ-a:mi*	'leap'
mu:r	*mumu:r-ʂ-a:mi*	'die'
d^{h}ma:	*did^{h}ma:-s-a:mi*	'blow'
b^{h}aj	*bib^{h}aj-iʂ-a:mi*	'divide'
vid	*vivid-iʂ-a:mi*	'know'
kʂub^h	*kukʂub^h-iʂ-a:mi*	'quake'
çay	*çiçay-iʂ-a:mi*	'lie'
man	*miman-iʂ-a:mi*	'think'
stan	*tistan-iʂ-a:mi*	'thunder'
p^{h}al	*pip^{h}al-iʂ-a:mi*	'burst'
syu	*susyu-ʂ-a:mi*	'sew'
syand	*sisyand-iʂ-a:mi*	'move on'
smay	*sismay-iʂ-a:mi*	'smile'
sup	*susup-s-a:mi*	'sleep'
sru	*susru:-ʂ-a:mi*	'flow'
sp^{h}urj	*pusp^{h}urj-iʂ-a:mi*	'rumble'