

1. morphology

- the prototypical morphological operation is affixation to a base.
- usually the process applies independently of the phonology of the base:
be-ing, hit-ing, comput-ing, backtrack-ing, prefix-ing.

2. but sometimes the base must have certain phonological properties

a. size requirements

- English comparative affixes to “short” bases: red-er, yellow-er, *corrupt-er, *beautiful-er
- how is “size” measured?

b. truncations for hypocoristics

- Pámela > Pam; Elízabeth -> Liz; Samántha -> Sam; proféssor -> prof; professional > pro
- how small can the truncate be?
- what portion of the base is truncated: Samántha > Sam, Elízabeth > *Zab

c. infixation of affix inside base:

Tagalog	aral	um-aral	‘teach’
	abot	um-abot	‘reach’
	salat	s-um-alat	‘write’
	sulat	s-um-ulat	‘read’
	preno	pr-um-eno	‘brake’
	gradwet	gr-um-adwet	‘graduate’

- where is the infix positioned?

d. reduplication: some portion of the base is copied to mark the morphological category

Ilokano	<u>verb</u>	<u>reduplicated verb</u>		<u>no of copied phonemes</u>
	basa	bas-basa	‘read’	3
	adal	ad-adal	‘study’	2
	da.it	da-dait	‘sew’	2
	takder	tak-takder	‘stand’	3
	trabaho	trab-trabaho	‘work’	4

- what is the size and shape of the reduplicant?
- which phonemes of the base map to the reduplicant?

3. possible answers

- string transformations (e.g. Chomsky 1951); now regarded as too powerful
- prosodic units (mora, syllable, foot)

- Moravscik's (1978) generalization: survey of reduplication in 200+ languages; reduplication never clearly copies a syllable; a paradigm like the following is systematically missing:

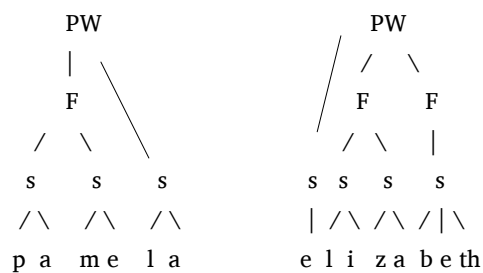
ta.pa	ta.ta.pa
ta:.pa	ta:.ta:pa
tap.ta	tap.tap.ta

- Templates: reduplication is not copying prosodic constituents of the base but affixation of abstract phonological categories, which are then filled by copying segments from the base;
- Marantz 1982: reduplication specifies an affix characterized in C-V templatic terms plus a rule copying phonemes of the base and mapping them to the affixal template in a phoneme-driven fashion:

CVC-CVCV	UR
b a s a	
CVC-CVCV	copy phonemes of base
basa b a s a	
CVC-CVCV	map phonemes to CV slots and delete unmapped segments
b asa a b a s a	

4. McCarthy & Prince 1986: Prosodic Morphology Hypothesis

- templates for reduplication and truncation are specified in terms of **natural** units of prosody (mora, syll, foot)
- Prosodic Hierarchy: phoneme -> Mora -> Syllable -> Foot -> Prosodic Word



- truncation minimizes the word while still satisfying requirement that it be a Prosodic Word: project through the Foot category
- common reduplication templates: light syllable, maximal syllable, foot

5. Problem of “transfer” (Levin 1983, Clements 1985)

Mokilese		
poki	pok-poki	‘beat’
wadek	wad-wadek	‘read’
pa	paa-pa	‘weave’
di.ar	dii-di.ar	‘find’
kookɔ	koo-kookɔ	‘grind coconut’
caak	caa-caak	‘bend’

- template is bimoraic syllable: [μμ].
- but reduplicant must remember how second mora is filled

6. Steriade (1988)

- reduplication is full copy of base
- template is output target to which reduplicant is reduced
- Moravcsik’s (1978) generalization ?

5. more examples

- Sanskrit light syllable reduplication

<u>root</u>	<u>perfect</u>	
pat	pa-pat-a	‘fly, fall’
prath	pa-prath-a	‘spread’
mna:	ma-mna:-u	‘note’

- Japanese hypocoristics: bimoraic trochee: H, LL

<u>name</u>	<u>diminutive</u>
ti	tii-tyan
yoosuke	yoo-tyan
taizoo	tai-tyan
kinsuke	kin-tyan
taroo	taro-tyan
wasaburoo	waa-tyan, wasa-tyan, sabu-tyan

- Yupik vocatives: iambic: H, LH

<u>name</u>	<u>vocatives</u>	
aŋukagnaq	aŋ	aŋuk
nipigak	nup	nupix
kalixtuq	kal	kalik
qətungaq	qət	qətun

- Ilokano: red = maximal syllable

<u>verb</u>	<u>reduplicated verb</u>		<u>no of copied phonemes</u>
basa	bas-basa	'read'	3
adal	ad-adal	'study'	2
da.it	da-dait	'sew'	2
takder	tak-takder	'stand'	3
trabaho	trab-trabaho	'work'	4

6. OT translation

- Templates are not stipulated but ideally emerge from the constraint hierarchy; various proposals
- Copying operation formalized as a correspondence (faithfulness) relation between template and base
- Maximizing template: penalizes lack of correspondence between template and base
- Directionality: Anchor (alignment) constraints tell where copying begins
- Truncatum and base word form a paradigm
- TETU (The emergence of the unmarked); since B-T correspondence is an Output-Output relation and B-R correspondence is a syntagmatic (string-internal) relation both differ from Input-Output correspondence and hence can have different ranking of F to M: IO-F » M » BT-F

7. Correspondence Constraints (McCarthy & Prince 1995)

MAX Every element of S1 has a correspondent in S2.

DEP Every element of S2 has a correspondent in S1.

IDENT(F) Correspondent segments have identical values for the feature F.

CONTIGUITY

a. I-CONTIG ("No Skipping") The portion of S1 standing in correspondence forms a contiguous string.

b. O-CONTIG ("No Intrusion") The portion of S2 standing in correspondence forms a contiguous string.

{RIGHT, LEFT}-ANCHOR(S1, S2) Any element at the designated periphery of S1 has a correspondent at the designated periphery of S2.

LINEARITY — "No Metathesis" S1 is consistent with the precedence structure of S2, and vice versa.

UNIFORMITY — "No Coalescence" No element of S2 has multiple correspondents in S1.

INTEGRITY — "No Breaking" No element of S1 has multiple correspondents in S2.

7. Case Study: Italian hypocoristics (Thornton 1996, Alber 2009)

Type A	<u>Base</u>	<u>Truncate</u>
	Francésca	Fránce
	Alessandra	Ale
	Simóna	Símo
	Celília	Céci
	Robérto	Róbe

8. Analysis (following in part Alber 2009)

- Template is single bimoraic trochee (same foot as in IO): Trochaic » Iambic
- All-Feet-Left, Parse-syll, Ft-Bin » Max-BT will restrict truncate to disyllable
- Anchor-Left » Anchor-Right, Anchor-Stressed Syll

/Simóna/	FOOT-FORM	ANCHOR-LEFT	MAX-BT
a. φ Símo			na
b. Símona	*!		
c. Móna		*!	si
d. Símon	*!		a

Tetu effects

- Sonority-driven preference for stressed open mid vowels (Kenstowicz 2010): *{é,ó} » *{é,ó}

/Robérto/	*{é,ó}	ID-BT[ATR]
a. φ Róbe		**
b. Róbe	*!	*

9. Type B

Base	Truncate
Francésca	Césca
Nicóla	Cóla
Anníbale	Níba*
Doménico	Méni*
Cristóforo	Stófo*
Agostíno	Stíno*
Luígi	Gígi
Gugliélmo	Mémo
Filippo	Píppo

Align-Str-Syll » Align-Left

/ Nicóla /	Align-Str-Syll	ALIGN-LEFT
a. φ Cóla		**
b. Nico	*!	

Contiguity » Align-Right

/ Doménico /	Contiguity	ALIGN-RIGHT
a. φ Méni		**
b. Meco	*!	

Max-BT » Align-Str-Syll

/ Agostíno/	Max-BT	ALIGN-STR-SYLL
a. φ Stíno	Ago	s
b. Tíno	Agos!	

Onset » BT-Dep

/ Luígi /	Onset	BT-DEP
a. φ Gígi	Ago	*

* found on internet

b. ígi	*!	
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No-Coda » BT-Max

/ Gugliélmo/	No-Coda	BT-Max
a. \wp Mémo		*
b. Gliélmo	*!	

10. remarks

- In a survey of truncation in c. 80 languages Alber finds that truncation templates typically anchor to the first syllable or the stressed syllable (two salient positions in lexical access)
- Fixed ranking of Anchor-Left, Anchor-Stress » Anchor-Right
- Anchor constraints must be gradient alignment constraints since like reduplication they can be displaced from left edge of word for prosodic reasons; cf. Russian Antonína > Tón'-a where Onset » Anchor(Align)-Left
- Alber proposes using lower ranked Anchor Right in place of Max since if the latter counts segments then we (apparently falsely) predict a bimoraic syllable template seeking out the largest phoneme-wise string under a Max-BT » Anchor-Left ranking: Carméla > Carm but Petrosilla > Tros
- Under Anchor-Left » Anchor-Right » Max-BT, the parse will not displace from left edge; but Anchor-R will still maximize template (consistent with the dominating metrical size-restrictor constraints)

11. isolated violations of Contiguity to satisfy Anchor-Left and Anchor-Right (Thornton)

Robérto	Róbo
Beatríce	Bíce
benzína	bénza

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