Class 2
Reduplicant Shape without Templates

4/11/2023

1 TETU and constraints on reduplicant size

- A corollary of *the emergence of the unmarked*: a language never tolerates marked structures in reduplication that are not tolerated outside of reduplication.

(1) Distribution of marked structures

Marked structure allowed in base?		Yes	No
Marked structure allowed in reduplicant?	Yes	a. ✓	b. ✗
	No	c. ✓	d. ✓

a. Marked structure allowed across-the-board
b. ***Marked structure allowed *only* in reduplicant** (no "emergence of the ***marked***")
c. Marked structure allowed only in bases (*emergence of the unmarked*)
d. Marked structure *dis*allowed across-the-board

- In OT, (1a,c,d) are easily derivable, because there is an **asymmetric** relationship to the input between base and reduplicant (McCarthy & Prince 1995, *et seq.*):
  - Base *is* subject to IO-Faith
  - Reduplicant is *not*

(2) a. IO-Faith, BR-Faith $\gg$ Markedness
c. IO-Faith $\gg$ Markedness $\gg$ BR-Faith
d. Markedness $\gg$ IO-Faith, BR-Faith

> $*$ If we adopt the Full Model w/ IR-faithfulness, things could get more complicated.
> - McCarthy & Prince (1995) propose a meta-ranking between IO and IR faithfulness:
> - Namely, IO-faithfulness constraints always outrank (the corresponding?) IR-faithfulness constraints.

- The factorial typology of these constraint types does not permit (1b).

⇒ Only the introduction of a new type of constraint – such as the *templatic constraint* – could permit (1b).

- **Generalization:** Templatic reduplication patterns never introduce violations of otherwise surface-true phonotactics.
  → An undominated templatic constraint could introduce an otherwise prohibited marked structure into the reduplicant.
  - For example, a language that generally has only open syllables (i.e. no codas) could have a templatic constraint requiring a heavy syllable, forcing codas to appear in the reduplicant:

(3) Hypothetical unattested: Red = $\sigma_{\mu\mu}$ $\gg$ NoCoda $\gg$ IO-Faith
a. *pa.ta.ka* → *pat.-pa.ta.ka*
b. **pat.ka* → **pat.-pat.ka*

- The same problem arises even in cases of minimal "a-templatic" reduplication.
  - Pima (Riggle 2006), in (4), represents a typical case where phonotactics override size preferences.
  - Pima′ (5), where size preferences override phonotactics, is not attested. (See also Yates 2017 on Cupeño.)

- Pima generally has a minimal reduplicant: C (infixed after first V) (4a), induced by *size restrictor*.
  - When copying just C would result in violation of important phonotactics (e.g. ban on coda larygneal consonants), an extra V is copied too (4b).

(4) Pima: $*\text{LAR}]_\sigma \gg$ SIZE RESTRICTOR (≫) IO-FAITH
  a. *mavit* 'lion' → *ma-m-vit* 'lions'
  b. *hodai* 'rock' → *ho-ho-dai* 'rocks' (**ho-h-dai*) $*\text{LAR}]_\sigma$

(5) *Pima′: SIZE RESTRICTOR ≫ $*\text{LAR}]_\sigma \gg$ IO-FAITH
  a. *hodai* → *ho-h-dai* (**ho-ho-dai*)
  b. **hohdai*

→ Regardless of the approach to reduplicant shape, we need to place some **condition on the operation of constraints on reduplicant shape** in order to properly account for the facts.

2 Lakhota Codas

- Lakhota seems like it might be a counter-example (Albright 2004):
  - Codas are never allowed in roots.
  - But they are allowed in reduplicants *and also in other non-root morphemes, namely affixes, clitics, and function words.*

→ **Ban** on codas is special property of **roots**, so **allowance** of codas is *not* special property of **reduplication**.

2.1 Root phonotactics

- Lakhota maximally has a three-way laryngeal contrast for obstruents (generally maintained only in prevocalic position?)

(6) Lakhota consonant inventory

stops/affricates	p, pʰ, p’	t, tʰ, t’	ʧ, ʧʰ, ʧ’	k, kʰ, k’	ʔ
fricatives		s, z, s’	ʃ, ʒ, ʃ’	x, ɣ, x’	h
nasals	m	n		ŋ	
liquid/glides		l	j	w	

- Lakhota allows various word-initial consonant clusters

(7) Lakhota word-initial clusters
  a. **Stop + stop:**
  pte 'cow'
  tke 'heavy'
  tkʰa 'but'
  ktʰũ 'wear'
  b. **Stop + fricative/affricate:**
  psĩ 'rice'
  pʃa 'sneeze'
  kʃto (emph. clitic)
  kʧi 'with'
  c. **Fricative + stop:**
  xtætu 'evening'
  xpæ 'lie down'
  stu 'in love'
  ʃkate 'play'
  d. **Obstruent + sonorant:**
  blo 'potato'
  gli 'arrive home'
  gnæ 'cheat, fool'
  sni 'cold'
  e. **Nasal + nasal:**
  mni 'water'

- Words never surface with a word-final coda that is part of the root (even though there might be roots with underlying final consonants).
- The only clusters that can surface root-internally are those which can surface root-initially.
  - Such clusters are complex onsets, not coda + simplex onset.

→ **Lakhota disallows codas where the consonant belongs to the root.**

2.2 Non-root phonotactics

- However, non-roots tolerate (certain types of) codas in final position and in medial position.
  - Laryngeally-marked obstruents are never permitted as codas.
- Codas allowed in function words (though maybe some of their codas belong to separable affixes).

(8) Function words with final codas

[l]	ˈel	'in, at, to'
	maˈhel	'on'
	ˈlel	'here'
	ˈhel	'there'
	tuˈktel	'somewhere'
[n]	eˈhan	'at that time'
	heˈhan	'then'
	leˈhan	'now, at this time'
	toˈhan	'when, until'
[m]	i.ˈsam, ˈsam	'more'
[s]	he.ˈnɔs	'they two'
[ʃ]	ˈataʃ	'now'
	naˈkũʃ	'also'
	aˈkʰeʃ	'but, although, though'
[x]	hũx	'some'
[p]	iˈthokap	'before' (time and place)
[k]	tak	'what' (cf: also ˈtaku)
	ĩʃˈtok	'is it?' (tag question) (cf: also ĩʃˈtoka)

- Certain suffixes are targeted for apocope in final position, yielding word-final codas:

(9) Codas from apocopated suffixes (e.g., animate plural *-pi*)

a. *<u>/pi/# → [-p]# by default:</u>*
/juha-pi/ 'have-PL' → [juhap]
/ʧʰãˈzeka-pi/ 'angry-PL' → [ʧʰãˈzeka-p]

b. *<u>/pi/# → [-m]# after nasal V:</u>*
/lowã-pi/ 'sing-PL' → [lowãm]
/jatkã-pi/ 'drink-PL' → [jatkãm]

c. *<u>/pi/# → [-w]# before nasals:</u>*
/oki-pi na/ 'can-PL and' → [okiwna]

2.3 Reduplication

- One of Lakhota's reduplication patterns preferentially copies a CVC string surfacing before the penult, actively creating codas.

- When the final C of the CVC string in the base is a consonant from the set that appears in coda in function words and affixes (not a laryngeally-marked obstruent), we get faithful copying:

(10) Reduplication with legal codas

[sa.pe]	→	[sap.sa.pe]	'black'
[ʃa.pe]	→	[ʃap.ʃa.pe]	'dirty'
[sa.ke]	→	[sak.sa.ke]	'hard'
[ʧʰã.ze.ke]	→	[ʧʰã.zek.ze.ke]	'angry'
[wa.ʃ'a.ke]	→	[wa.ʃ'ak.ʃ'a.ke]	'strong'

- When C_2 can be devoiced, deglottalized, or depalatalized to create a marginally possible coda, we get the plain version showing up in the reduplicant, as shown in (11).
  - Note that this can't be about a general ban on laryngeally-marked segments in the reduplicant, since they can appear as C_1, e.g. [pa.tʰuʃ.tʰu.ʒ.e]

(11) Feature-changing reduplication with would-be illegal codas

/z/ → [s] :	[pu.ze]	→	[pus.pu.ze]	'dry'
	[ble.ze]	→	[bles.ble.ze]	'clear'
/ʒ/ → [ʃ] :	[pa.tʰu.ʒe]	→	[pa.tʰuʃ.tʰu.ʒ.e]	'bend over'
	[ka.p'o.ʒe.-la]	→	[ka.p'oʃ.p'o.ʒe.-la]	
/ɣ/ → [x] :	[ka.ɣe]	→	[kax.ka.ɣe]	'do, make'
	[pi.ɣe]	→	[pix.pi.ɣe]	'boil'
/k'/ → [k] :	[ʧi.k'a.-la]	→	[ʧik.ʧi.k'a.-la]	'small'
/ʧ/ → [k] :	[ʃi.ʧe]	→	[ʃik.ʃi.ʧe]	'bad'

- There's a weird alternation for base coronals, but the result is always a legal coda:

(12) Reduplication with *t* & *l*

/t/ → [l] :	[kʰa.te]	→	[kʰal.kʰa.te]	'hot'
	[ʃka.te]	→	[ʃkal.ʃka.te]	'play'
	[ʔo.ta]	→	[ʔol.ʔo.ta]	'be many'
/t/ → [k] :	[su.ta]	→	[suk.su.ta]	'hard'
	[a.ju.ta]	→	[a.juk.ju.ta]	'look at'
/l/ → [k] :	[o.ʒu.la]	→	[o.ʒuk.ʒu.la]	'full'

- The reduplicant C_2's frequently don't form a licit onset cluster, so they must be being parsed codas (at least in those cases).

2.4 Analysis

- This shows that there is a set of consonants which are permitted as codas generally, but unacceptable if they belong to a root.
- It is not a unique property of reduplication that tolerates the presence of codas, it is a general property of non-roots. (The reduplicant must therefore not be a root; cf. GTT.)

→ This generalization is best captured by indexing a special NoCoda constraint to the morphological category ROOT: NoCoda$_{ROOT}$.

(13) **Ranking:** NoCoda$_{ROOT}$, CodaCond ≫ IO-Faith, Max-BR ≫ Ident-BR, NoCoda

- ◦ Undominated NoCoda$_{ROOT}$ prevents any consonant which is morphologically affiliated to the root from surfacing in coda position.

(14) Codas are banned in roots (hypothetical √*sap*)

/sap$_{ROOT}$/	NoCoda$_{ROOT}$	CodaCond	IO-Faith	Max-BR	NoCoda
a. sap	*!				*
b. ☞ sapV/sa			*		

- ◦ NoCoda$_{ROOT}$ is inapplicable to other morpheme classes, so codas can surface under the right conditions.

(15) Function words permit legal codas

/mahel/	NoCoda$_{ROOT}$	CodaCond	IO-Faith	Max-BR	NoCoda
a. ☞ mahel					*
b. mahelV/mahe			*!		

(16) Hypothetical function words / affixes with underlying illegal codas repaired

/maheʒ/	NoCoda$_{ROOT}$	CodaCond	IO-Faith	NoCoda
a. maheʒ		*!		*
b. ☞ maheʒV/mahe/maheʃ			*	(*)

(17) Coda consonants belonging to affixes allowed (if they satisfy CodaCond)

/ʃa$_{ROOT}$-p/	NoCoda$_{ROOT}$	CodaCond	IO-Faith	Max-BR	NoCoda
a. ☞ ʃap					*
b. ʃapV/ʃa			*!		

- ◦ As long as reduplicants are not roots, then codas can surface in a reduplicant. Max-BR would advocate for copying an extra segment as a coda.

(18) Codas created in reduplicants are allowed

/RED, sape$_{ROOT}$/	NoCoda$_{ROOT}$	CodaCond	IO-Faith	Max-BR	NoCoda
a. ☞ sap-sape				*	*
b. sa-sape				**!	
c. sap-sa.p-e	*!			*	*

∗ If this is the right analysis, it guarantees that the reduplicant is the first copy not the second, because if it were the second, there would be a root coda (at least in cases where the sequence can't be a complex onset).

- ◦ Since coda-copying occurs even if it requires changing the coda consonant relative to its base correspondent: MAX-BR ≫ IDENT-BR

(19) Feature-changing coda-copying allowed

/RED, bleze$_{\text{ROOT}}$/	CODACOND	IO-FAITH	MAX-BR	IDENT-BR	NOCODA
a. <u>blez</u>-bleze	*!		*		*
b. ☞ <u>bles</u>-bleze			*	*	*
c. <u>ble</u>-bleze			**!		

- **Moral of the story:** Reduplicants can have codas in Lakhota because they're not roots, not because of anything having to do with reduplication.

- **Open question:** Why exactly is it that these reduplicants want codas?

(20) Why not copy the vowel too?

/RED, sape$_{\text{ROOT}}$/	"RED = σ"	MAX-BR	NOCODA
a. <u>sa</u>-sape		**!	
b. ☞ <u>sap</u>-sape		*	*
c. <u>sape</u>-sape	*!		

- **"RED = σ" can't be:**
  - ◦ ALIGN-ROOT-L(by segment)
  - ◦ *STRUC(segment)
  - ◦ INTEGRITY-IO

→ These all count by segments

- **"RED = σ" could be:**
  - ◦ ALIGN-ROOT-L(by syllable)
  - ◦ *STRUC(syllable)

→ These all count by syllables

3 Reduplication and Stress

- **Question:** Can we cash in on the insight of GTT that the particular partial reduplication pattern a language picks is not random, but rather derives from independent facts of the language?
  → Looking at *stress* gets us part of the way there (Zukoff 2016).

- **Why should we be thinking about stress when we think about reduplicant shape?**
  - ◦ Reduplicant shapes tend look like prosodic categories (McCarthy & Prince 1986).
  - ◦ Stress deals with prosodic categories, so maybe there's a connection...

- **Observation:** Reduplicant shape (at least sometimes) appears to depend in a particular way on a language's stress pattern.

- **Empirical claim** (Zukoff 2016): Languages with the stress properties in (21) always have a disyllabic reduplicant.

(21) a. A prohibition on stress clash (no adjacent stressed syllables)
 b. A fixed stress relative to an edge with a reduplicant (e.g. initial stress and prefixal reduplicant)
 c. Cyclic stress (stress in derived forms is affected by stress in their morphological bases)

- **Typological gap**: No *monosyllabic* reduplicants at the same edge as the fixed stress in these sorts of languages, despite monosyllabic reduplication being a common pattern cross-linguistically. **Why?**

- Among languages with the stress properties in (21), there are many reduplication systems like Diyari (Austin 1981), but none like Diyari′, Diyari″, or Diyari‴, as shown in (22).
  - Reduplicants are underlined.
  - Stress indicated by acute V́ (distinction between primary and secondary stress suppressed).
  - The attested Diyari pattern (22.i) has a disyllabic reduplicant (stress on 1st syll, no stress on 2nd syll).
  - The unattested *Diyari primes* (22.ii–iv) together represent all viable configurations of stress with a **monosyllabic reduplicant**.

(22) Attested and unattested patterns in restrictive languages (Data from Austin 1981:38–40)

	Base	i. ✓ Diyari	ii. ✗ Diyari′	iii. ✗ Diyari″	iv. ✗ Diyari‴
2sylls:	***σ́σ***	***σ́σ-σ́σ***	***σ́-σ́σ***	***σ-σ́σ***	***σ́-σσ***
	yátha	*yátha-yátha*	*yá-yátha*	*ya-yátha*	*yá-yatha*
	wílha	*wílha-wílha*	*wí-wílha*	*wi-wílha*	*wí-wilha*
3sylls:	***σ́σσ***	***σ́σ-σ́σσ***	***σ́-σ́σσ***	***σ-σ́σσ***	***σ́-σσ́σ***
	tyílparku	*tyílpa-tyílparku*	*tyí-tyílparku*	*tyi-tyílparku*	*tyí-tyilpárku*
	kánhini	*kánhi-kánhini*	*ká-kánhini*	*ka-kánhini*	*ká-kanhíni*
4sylls:	***σ́σσ́σ***	***σ́σ-σ́σσ́σ***	***σ́-σ́σσ́σ***	***σ-σ́σσ***	***σ́-σσ́σσ***
	wílhapína	*wílha-wílhapína*	*wí-wílhapína*	*wi-wílhapína*	*wí-wilhápina*
Problem w/ red:		nothing	Clash (21a)	Edge (21b)	Not cyclic (21c)

→ This gap arises because the constraints that generate the stress properties in (21) conspire to make a monosyllabic reduplicant at the same edge as the fixed stress hopelessly ill-formed.
  - This gap holds across multiple stress parameters (more on this below).

- **Intuition:** This restriction gives us some insight into how reduplicant size is calculated.
  - Specifically: reduplicant size always obeys **high-ranked constraints on stress placement** (compare this to the Pima vs. Pima′ example).
  - No languages enforce a preferred reduplicant size that leads to violations of otherwise surface-true stress considerations.

- *Why would this be? How do we formalize it?*
  → **Provisional implementation:** Impose a meta-ranking condition on grammars:

> - Within an OT approach to stress and reduplication, the distribution of reduplicant shapes can be modeled by a meta-ranking condition on two types of constraints:
>
> (23) a. Constraints enacting size preferences for the reduplicant: "RedSize" or "**R**" constraints
> b. Constraints enacting stress requirements (i.e. unviolated stress constraints): "StressReq" or "**S**" constraints
>
> - The typological gap is predicted if there is an *a priori* ranking of StressReq constraints over RedSize constraints:
>
> (24) Stress-Reduplication Meta-Ranking: StressReq ≫ RedSize (**S** ≫ **R**)

⋆ **Possible alternative formulation:** A RedSize constraint can only dominate a stress constraint for which there is external evidence of its violation.[1]

[1] Deniz Rudin suggested this to me.

- If the reverse ranking were permitted, we'd predict languages with fixed reduplicant shapes that countermand the language's stress properties.
  → It is precisely this situation which seems not to be attested.

- **Possible extension:** The constraints that enact size preferences for the reduplicant are always subordinated to otherwise surface-true **phonotactics** of any kind, be they segmental or prosodic.
  - This would explain the absence of Pima′.

- **Desideratum:** Have this condition emerge without stipulation over rankings.
  - *Possible avenue for explanation* — it emerges as a by-product of the learning/acquisition process: e.g. how much data learners get about different patterns (and when), what learners attend to (when).

> While much of the discussion will be framed in terms of the **S** ≫ **R** meta-ranking, the broader takeaway is that patterns of reduplicant shape can be driven by prosodic markedness constraints, and obey the generalizations about where marked structures can and cannot occur.

4 Reduplication in Australian languages and the over-generation problem

- Australian languages commonly display quantity insensitive left-to-right alternating stress (QI L→R) without stressed final syllables (left-to-right syllabic trochees, in foot-based terms).
  - Many also display cyclic stress (Poser 1989, Crowhurst 1994, Kenstowicz 1998, Berry 1998, Alderete 2009, Stanton 2014).
- **Typological survey:** Whenever these languages have prefixal partial reduplication, it's **disyllabic**.
  → This is consistent with (follows from) the **S** ≫ **R** meta-ranking.

4.1 Diyari Stress

- In, e.g., Diyari (Austin 1981), monomorphemic forms display the basic QI L→R pattern (25):

(25) Diyari simplex stress (Austin 1981:38–40)
  a. 2 syllables: $\boldsymbol{\acute{\sigma}\sigma}$ — *wílha* 'woman', *kánku* 'boy', *yátha* 'to talk'
  b. 3 syllables: $\boldsymbol{\acute{\sigma}\sigma\sigma}$ — *pínarru* 'old man', *tyílparku* (bird type), *kánhini* 'mother's mother'
  c. 4 syllables: $\boldsymbol{\acute{\sigma}\sigma\grave{\sigma}\sigma}$ — *ngándrawàlka* 'to close', *wílhapìna* 'old woman'

- In a foot-free stress framework, the stress behavior of Diyari (and other QI L→R stress languages) can be modeled with the constraints in (26):

(26) Foot-free stress constraints for QI L→R cyclic stress systems (based in part on Gordon 2002)
  a. **StressLeft:** Assign one * if the initial syllable is not stressed. (= $*\#\breve{\sigma}$)
  b. **NonFinality:** Assign one * if the word-final syllable is stressed. (= $*\acute{\sigma}\#$)
  c. ***Clash:** Assign one * for each sequence of two adjacent stressed syllables. (= $*\acute{\sigma}\acute{\sigma}$)
  d. ***Lapse:** Assign one * for each sequence of two adjacent unstressed syllables. (= $*\breve{\sigma}\breve{\sigma}$)

- The ranking of these constraints shown in (27), where *Lapse is the only dominated constraint, generates the basic stress pattern of Diyari and other similar languages, as demonstrated in tableau (28).

(27) Simplex stress ranking in Diyari

StressLeft *Clash NonFinality

*Lapse

(28) Stress in 3 syllable simplex words: Diyari /pinaru/ → [pínʌru] 'old man' (Austin 1981:39)

/pinaru/	StressLeft	*Clash	NonFinality	*Lapse
a. ☞ pínʌru [100]				*
b. pínʌrù [102]			*!	
c. pínʌ̀ru [120]		*!		
d. pinʌ́ru [010]	*!			

- In three syllable words, (at least) one of the four constraints **must** be violated. Diyari chooses to violate *Lapse, as in optimal candidate (28a).
  - Candidate (28b): avoids lapse by stressing the final syllable; violates NonFinality.
  - Candidate (28c): avoids lapse by stressing second syllable; violates *Clash.
  - Candidate (28d): avoids lapse by stressing medial syllable not initial; violates StressLeft.
  - ∗ A pathological candidate **pinʌ́rù* would violate all three of the top-ranked constraints simultaneously.

- The data in (29) demonstrates that Diyari stress is cyclic.
  - The stress pattern of a morphological base must be adhered to in its morphological derivatives, even if this leads to new violations of markedness constraints.

(29) Diyari cyclic stress (a,b from Austin 1981:40, c,d from Berry 1998:39)

a. i. 'man' *kárna*
   ii. 'man-LOC' *kárna-nhi*
   iii. 'man-LOC-IDENT' *kárna-nhi-màtha* (not **kárna-nhì-matha*)

b. i. 'man' *kárna*
   ii. 'man-PL' *kárna-wàra̠*
   iii. 'man-PL-LOC' *kárna-wàra̠-ngu*
   iv. 'man-PL-LOC' *kárna-wàra̠-ngu-màtha* (not **kárna-wàra̠-ngù-matha*)

c. 'hill-CHARAC-PROP' *máda-la-nthu* (not **máda-là-nthu*) [presumed bases: *máda*, *máda-la*]

d. 'mud-LOC' *púlyudu-nhi* (not **púlyudù-nhi*) [presumed base: *púlyudu*]
   (cf. simplex (25c): *ngándrawàlka*, not **ngándrawalka*)

- This behavior can be explained by the Base-Derivative faithfulness constraint (following Benua 1997; see also Stanton 2014) defined in (30):

(30) **BD-Ident(stress):** Assign one * for each syllable in the derivative in which the presence or absence of stress differs from the corresponding syllable of the base.

- When this constraint is ranked above *Lapse (just as the other constraints needed to be to explain the simplex pattern), it derives the cyclic behavior, especially in concert with NonFinality:

(31) Cyclic stress: Diyari /mada-la-n̪t̪u/ → [mʌ́.dʌ-lʌ-n̪.t̪u] 'hill-CHARAC-PROP' (Berry 1998:39)

INPUT: /mada-la-n̪t̪u/ BASE: [mʌ́.dʌ-lʌ]	NonFinality	BD-Ident[stress]	*Lapse
a. ☞ mʌ́.dʌ-lʌ-n̪.t̪u [10-0-0]			**
b. mʌ́.dʌ-lʌ̀-n̪.t̪u [10-2-0]		*!	
c. mʌ́.dʌ-lʌ-n̪.t̪ù [10-0-2]	*!		*

- ○ The double lapse in optimal candidate (31a) is forced by the requirement to retain the same stress values as the base ([mʌ́.dʌ-lʌ]), namely that the first suffix [-lʌ] was *unstressed* (due to NonFinality).

⋆ The combination of BD-Ident(stress) and NonFinality make it such that:
  (i) No root-final syllables ever bear stress, because they are word-final in simplex forms.
  (ii) No monosyllabic suffixes ever bear stress, because they are word-final when they are the rightmost suffix.

- This yields the total stress ranking in (32):

(32) **Stress Requirements →** StressLeft *Clash NonFinality BD-Ident[stress]

*Lapse

- Recall that the **S** ≫ **R** hypothesis consists of two pieces:
  (i) The identification of two constraint meta-categories (33), and
  (ii) A meta-ranking condition on those two categories (34).

(33) a. "RedSize" (**R**): Constraints enacting size preferences for the reduplicant
b. "StressReq" (**S**): Constraints enacting stress requirements (unviolated stress constraints)

(34) Stress-Reduplication Meta-Ranking: StressReq ≫ RedSize (**S** ≫ **R**)

- With this in mind, we can identify Diyari's "StressReqs" based on the ranking in (32):

(35) **Stress Requirements in Diyari:** StressLeft, *Clash, NonFinality, BD-Ident[stress]

- The StressReq constraints will, on their own, be sufficient to generate the disyllabic reduplication pattern, when incorporated into the **S** ≫ **R** structure.

4.2 How stress determines Diyari reduplication

- Diyari, like many other Australian languages, has a consistent prefixal disyllabic reduplication pattern (Austin 1981; for analyses see McCarthy & Prince 1986, 1994a,b, *et seq.*), illustrated in (36):

(36) Diyari Reduplication (Austin 1981:38–40)

		Non-reduplicated stem	Reduplicated stem	
		Two syllable bases		
a.	'woman'	*wilha*	*wilha-wilha*	[wíd̪l̪ʌ-wíd̪l̪ʌ]
b.	'to talk'	*yatha*	*yatha-yatha*	[jɛ́t̪ʌ-jɛ́t̪ʌ]
c.	'boy'	*kanku*	*kanku-kanku*	[kʌ́nku-kʌ́nku]
		Three syllable bases		
d.	bird type	*tyilparku*	*tyilpa-tyilparku*	[t^jílpʌ-t^jílpʌrku]
e.	'mother's mother'	*kanhini*	*kanhi-kanhini*	[kʌ́d̪n̪i-kʌ́d̪n̪ini]
f.	'father'	*ngapiri*	*ngapi-ngapiri*	[ŋʌ́pi-ŋʌ́piri]
g.	'cat fish'	*ngankanthi*	*nganka-ngankanthi*	[ŋʌ́nkʌ-ŋʌ́nkʌn̪t̪i]

- If we follow the **S** ≫ **R** meta-ranking, and subordinate any and all constraints dictating the size of the reduplicant to the StressReqs from (35), we derive this disyllabic reduplicant before any RedSize constraints can enter into the evaluation.
  - ∗ I include both Red = σ and Red = 2σ (≈ Red = Foot) as RedSize constraints for illustrative purposes, though *any* RedSize constraint — templatic or otherwise — would make the same point: they play no role here.

(37) Schematic Diyari reduplication according to **S** ≫ **R**

input: /red, σσσσ/ base: [σ́σσ̀σ] (1020)		*Clash	StressL	BD-Id[stress]	Red = σ	Red = 2σ
a. ☞ σ́σ-σ́σσ̀σ	[10-1020]				*	✓
b. σ́-σ́σσ̀σ	[1-1020]	*!			✓	*
c. σ-σ́σσ̀σ	[0-1020]		*!		✓	*
d. σ́-σσ̀σσ	[1-0200]			*!**	✓	*

- Any candidate w/ a monosyllabic reduplicant incurs a fatal violation of one of the StressReq constraints.
  - ○ Candidate (37b): faithful to base stress, stresses leftmost syllable; but **creates a clash**.
  - ○ Candidate (37c): faithful to base stress, no clash; but **doesn't stress leftmost syllable**.
  - ○ Candidate (37d): stresses leftmost syllable, no clash; **but re-stresses base**.
- Adding an extra "buffer" syllable to the reduplicant escapes all of these problems.
  - ○ Candidate (37a) can stress the initial syllable without causing a clash or re-stressing the base.

As long as the templatic constraints (i.e. RedSize constraints) are subordinated to the StressReqs, they play no role in the evaluation.

4.3 The typology of reduplication systems with freely rankable Red = σ

- Since the pattern we just looked at is a disyllabic (≈ foot) "template," the same result would obtain from having Red = 2σ at the top of the ranking, regardless of the stress constraints.
  - However, this would mean that a RedSize constraint could be undominated, and thus dominate the StressReqs.
  - → We would then predict languages where Red = σ is highest ranked instead...

- If Red = σ were freely rankable w.r.t. the StressReq constraints of the cyclic QI L→R stress systems represented by Diyari (StressL, *Clash, BD-Ident[stress]), we predict the four patterns in (38).
  - These four patterns correspond to the four candidates in tableau (37), which themselves correspond to the patterns presented above in (22) as Diyari and the *Diyari primes*, respectively.

(38) Unrestrained reduplication typology

i. Candidate (37a) $\underline{\acute{\sigma}\sigma}$-$\acute{\sigma}\sigma\grave{\sigma}\sigma$ [$\underline{10}$-1020] = Diyari
Would win if : StressL, *Clash, BD-Ident[stress] ≫ Red = σ

ii. Candidate (37b) $\underline{\acute{\sigma}}$-$\acute{\sigma}\sigma\grave{\sigma}\sigma$ [$\underline{1}$-1020] = **Diyari′*
Would win if : Red = σ ≫ *Clash

iii. Candidate (37c) $\underline{\sigma}$-$\acute{\sigma}\sigma\grave{\sigma}\sigma$ [$\underline{0}$-1020] = **Diyari″*
Would win if : Red = σ ≫ StressL

iv. Candidate (37d) $\underline{\acute{\sigma}}$-$\sigma\grave{\sigma}\sigma\sigma$ [$\underline{1}$-0200] = **Diyari‴*
Would win if : Red = σ ≫ BD-Ident[stress]

- We have already seen that the first pattern is attested in Diyari. The question is: **which of these other patterns are attested in other languages with a Diyari-like stress system?**

- I conducted a survey, and found 12 Australian languages (including Diyari) with prefixal partial reduplication and cyclic QI L→R stress, i.e. those which can be characterized by unviolated StressL, *Clash, BD-Ident[stress] (and NonFinality):

(39) Cyclic QI L→R languages with prefixal reduplication:
Arabana-Wangkangurru (Hercus 1994), Bagandji (Hercus 1982), Diyari (Austin 1981), Dyirbal (Dixon 1972), Kalkatungu (Blake 1979a), Mayi (Breen 1981), Pitta Pitta (Blake 1979b), Walmatjari (Hudson 1978), Wambaya (Nordlinger 1998), Warlpiri (Nash 1980), Warrwa (McGregor 1994), Wirangu (Hercus 1999)

- Among these languages, the only attested pattern is the disyllabic pattern (38.i).
  - → The monosyllabic patterns (38.ii–iv) are all **unattested** in the surveyed languages.
  - Monosyllabic reduplication is very common cross-linguistically, so this gap is quite surprising.

- There is a common link that characterizes the unattested monosyllabic patterns (38.ii–iv) to the exclusion of the attested disyllabic pattern (38.i):
  - In each of these rankings, Red = σ dominates one of the StressReqs.
  - This ranking possibility can thus be identified as the locus of over-generation.

⋆ By instituting the **S ≫ R** meta-ranking, we prohibit exactly this set of rankings, and avoid the over-generation problem.

- **Remaining work (and a good final project idea):**
  - Check to see if these correlations hold outside of Australian languages.
  - Check to see if the logic holds for other types of stress/reduplication systems.

5 Ponapean (Zukoff 2016, 2022)

- In Australian prefixal reduplication, fixed-stress placement restricts the possible reduplication patterns that may occur at the same edge as the fixed stress.
- Ponapean (Austronesian; Rehg & Sohl 1981, Rehg 1993) represents an example of fixed stress and reduplication occurring at opposite ends of the word: rightmost stress, leftmost reduplication.
  - The fact that Ponapean has *strictly alternating* stress brings it within the scope of this discussion.

- Ponapean reduplicant size is *prosodically-variable*, but *predictable*.
  - This comes about because RedSize constraints are subordinated to the stress constraints that demand alternating rhythm, in addition to the constraints that demand fixed stress.

5.1 Ponapean Stress

- In Ponapean, the rightmost mora always bears primary stress (Rehg 1993; Kennedy 2002:223), assuming final consonants are non-moraic. (Medial codas are moraic.)

(40) **StressR$_\mu$**: Assign one * if the final mora is unstressed. (= *$\breve{\mu}$#)

- Counting leftward from this main stress, there is strictly alternating stress by mora:

(41) a. ***Clash$_\mu$***: Assign one * for each sequence of two adjacent stressed moras. (= *$\acute{\mu}\acute{\mu}$)
b. ***Lapse$_\mu$***: Assign one * for each sequence of two adjacent unstressed moras. (= *$\breve{\mu}\breve{\mu}$)

- Predictable difference in the stress of the initial mora of a word depending on its moraic parity:

(42) i. **Odd moraic parity words will have stress on the initial mora:**
1μ: *pá*; 3μ: *lì.aán*, *dùupék*

ii. **Even moraic parity words will *not* have stress on the initial mora:**
2μ: *duné*, *dilíp*; 4μ: *ri.àalá*, *toòroór*, *soùpisék*; 6μ: *waàntùuké*

- This difference will be crucial in explaining the distribution of reduplicant shapes.

5.2 Ponapean Reduplication

- Kennedy (2002) (building on McCarthy & Prince 1986) shows that the data can be grouped based on mora count of the stem and mora count of the reduplicative prefix:

(43) Ponapean reduplication (Kennedy 2002:225)

	1-mora stem	2-mora stem	3-mora stem	4-mora stem
2-mora reduplicant	**<u>pàa</u>**.pá **<u>tè.pi</u>**.tép **<u>dòn$_\mu$</u>**.dód	**<u>duǹ$_\mu$</u>**.du.né **<u>si.pì</u>**.si.péd **<u>diǹ$_\mu$</u>**.di.líp	**<u>dùu</u>**.dùu.pék **<u>mèe</u>**.mèe.lél **<u>lìi</u>**.lì.aán	**<u>rì̀i</u>**.ri.àa.lá
1-mora reduplicant		**<u>dù</u>**.duúp		**<u>tò</u>**.toò.roór **<u>sò</u>**.soù.pi.sék

  - Also one example of a 6μ stem: *waàn.tùu.ké* → ***<u>wà</u>**.waàn.tùu.ké* (Kennedy 2002:224)

- The key to explaining the pattern: **the reduplicant must always bear a stress** (Kennedy 2002:225–226):

(44) **Stress-to-Red**: All reduplicants must have at least one stressed mora.

- This potentially conflicts with undominated *CLASH$_\mu$ for **odd parity** stems.
  - Odd parity stems have initial stress due to the alternating rhythm (42.i).
  - If the reduplicant were monomoraic, and bore its required stress, then there would be a **clash**.
  - To avoid this, odd parity stems always have **bimoraic reduplicants**:

(45) Odd parity stems have bimoraic reduplicants

a.	pá$_\mu$	→	$\underline{\text{pà}_\mu\text{a}_\mu}$-pá$_\mu$	(not *$\underline{\text{pà}_\mu}$-pá$_\mu$)
b.	té$_\mu$p	→	$\underline{\text{tè}_\mu\text{.pi}_\mu}$-té$_\mu$p	(not *$\underline{\text{tè}_\mu}$-té$_\mu$p)
c.	dó$_\mu$d	→	$\underline{\text{dò}_\mu\text{n}_\mu}$-dó$_\mu$d	(not *$\underline{\text{dò}_\mu}$-dó$_\mu$d)
d.	lì$_\mu$.a$_\mu$á$_\mu$n	→	$\underline{\text{lì}_\mu\text{i}_\mu}$-lì$_\mu$.a$_\mu$á$_\mu$n	(not *$\underline{\text{lì}_\mu}$-lì$_\mu$.a$_\mu$á$_\mu$n)
e.	dù$_\mu$u$_\mu$.pé$_\mu$k	→	$\underline{\text{dù}_\mu\text{u}_\mu}$-dù$_\mu$u$_\mu$.pé$_\mu$k	(not *$\underline{\text{dù}_\mu}$-dù$_\mu$u$_\mu$.pé$_\mu$k)

(46) Odd parity stems → bimoraic reduplicants: (45d) lì$_\mu$.a$_\mu$á$_\mu$n → $\underline{\text{lì}_\mu\text{i}_\mu}$-lì$_\mu$.a$_\mu$á$_\mu$n

/RED, li$_\mu$a$_\mu$a$_\mu$n /		STRESS-TO-RED	*CLASH$_\mu$	RED = μ	RED = 2μ
a. $\underline{\text{li}_\mu}$-lì$_\mu$.a$_\mu$á$_\mu$n	[$\underline{0}$-201]	*!		✓	*
b. $\underline{\text{lì}_\mu}$-lì$_\mu$.a$_\mu$á$_\mu$n	[$\underline{2}$-201]		*!	✓	*
c. ☞ $\underline{\text{lì}_\mu\text{i}_\mu}$-lì$_\mu$.a$_\mu$á$_\mu$n	[$\underline{20}$-201]			*	✓

- Even parity stems are unencumbered by the clash problem.
  - The alternating rhythm places stress on the peninitial mora, rather than the initial one (42.ii).
  - This means that a monomoraic reduplicant can be stressed without ever causing a clash.
- This is indeed the case: even parity stems *with a (super)heavy initial syllable* have a **monomoraic reduplicant** — the preferred reduplicant shape.

(47) Heavy-syllable–initial even parity stems have monomoraic reduplicants

a.	du$_\mu$ú$_\mu$p	→	$\underline{\text{dù}_\mu}$-du$_\mu$ú$_\mu$p	(not *$\underline{\text{dù}_\mu\text{u}_\mu}$-du$_\mu$ú$_\mu$p, *$\underline{\text{du}_\mu\text{ù}_\mu}$-du$_\mu$ú$_\mu$p)
b.	to$_\mu$ò$_\mu$.ro$_\mu$ó$_\mu$r	→	$\underline{\text{tò}_\mu}$-to$_\mu$ò$_\mu$.ro$_\mu$ó$_\mu$r	(not *$\underline{\text{tò}_\mu\text{o}_\mu}$-to$_\mu$ò$_\mu$.ro$_\mu$ó$_\mu$r, *$\underline{\text{to}_\mu\text{ò}_\mu}$-to$_\mu$ò$_\mu$.ro$_\mu$ó$_\mu$r)
c.	so$_\mu$ù$_\mu$.pi$_\mu$.sé$_\mu$k	→	$\underline{\text{sò}_\mu}$-so$_\mu$ù$_\mu$.pi$_\mu$.sé$_\mu$k	(not *$\underline{\text{sò}_\mu}u_\mu$-so$_\mu$ù$_\mu$.pi$_\mu$.sé$_\mu$k, *$\underline{\text{so}_\mu}$ù$_\mu$-so$_\mu$ù$_\mu$.pi$_\mu$.sé$_\mu$k)
d.	wa$_\mu$à$_\mu$n$_\mu$.tù$_\mu$u$_\mu$.ké$_\mu$	→	$\underline{\text{wà}_\mu}$-wa$_\mu$à$_\mu$n$_\mu$.tù$_\mu$u$_\mu$.ké$_\mu$ (not *$\underline{\text{wà}_\mu\text{a}_\mu}$-wa$_\mu$à$_\mu$n$_\mu$.tù$_\mu$u$_\mu$.ké$_\mu$, *$\underline{\text{wa}_\mu\text{à}_\mu}$-wa$_\mu$à$_\mu$n$_\mu$.tù$_\mu$u$_\mu$.ké$_\mu$)	

⋆ Preference for monomoraic reduplication could be implemented using a templatic constraint (RED = μ), but it also follows from the **size restrictor** approach, as it is minimal.

- When an even parity stem begins with a *light* initial syllable, it displays a bimoraic reduplicant, contrary to the preferred monomoraic shape, despite not needing it for clash purposes.

(48) Light-syllable–initial even parity stems have bimoraic reduplicants

a.	du$_\mu$.né$_\mu$	→	$\underline{\text{du}_\mu\text{ǹ}_\mu}$-du$_\mu$.né$_\mu$	(not *$\underline{\text{dù}_\mu}$-du$_\mu$.né$_\mu$)
b.	di$_\mu$.lí$_\mu$p	→	$\underline{\text{di}_\mu\text{ǹ}_\mu}$-di$_\mu$.lí$_\mu$p	(not *$\underline{\text{dì}_\mu}$-di$_\mu$.lí$_\mu$p)
c.	si$_\mu$.pé$_\mu$d	→	$\underline{\text{si}_\mu\text{.pì}_\mu}$-si$_\mu$.pé$_\mu$d	(not *$\underline{\text{sì}_\mu}$-si$_\mu$.pé$_\mu$d)
d.	ri$_\mu$.à$_\mu$a$_\mu$.lá$_\mu$	→	$\underline{\text{ri}_\mu\text{ì}_\mu}$-ri$_\mu$.à$_\mu$a$_\mu$.lá$_\mu$	(not *$\underline{\text{rì}_\mu}$-ri$_\mu$.à$_\mu$a$_\mu$.lá$_\mu$)

- The variation within even parity stems is not stress-related, but instead due to a phonotactic restriction:
  - A monomoraic reduplicant here would lead to two identical light (i.e. monomoraic) syllables next to each other.
  - Therefore, a constraint which bans adjacent identical light syllables generates the data.[2]

- I propose to use a version of Yip's (1995) *Repeat constraint:

(49) ***Repeat(light)**: No identical adjacent light syllables.

  - Hicks Kennard (2004) employs this constraint (without the restriction to light syllables) in her analysis of durative reduplication in Tawala (see also Haugen & Hicks Kennard 2011, Zukoff 2022).
  - Tawala is an Austronesian language related to Ponapean (both are in the Oceanic sub-group).
  - Given that the Ponapean reduplication pattern under discussion is indeed the durative, this serves as comparative evidence for the use of such a constraint in the analysis.

- The ranking *Repeat(light) ≫ Red = μ causes light-syllable–initial roots to extend their reduplicants to two moras, but has no effect on heavy-syllable–initial roots.

(50) Light-syllable–initial even parity stems → *Repeat effect: (48d) ri$_\mu$.à$_\mu$a$_\mu$.lá$_\mu$ → <u>ri$_\mu$ì$_\mu$</u>-ri$_\mu$.à$_\mu$a$_\mu$.lá$_\mu$

/red, ri$_\mu$a$_\mu$a$_\mu$la$_\mu$/			Stress-to-Red	*Lapse$_\mu$	*Repeat (light)	Red = μ	Red = 2μ
a.	<u>ri</u>$_\mu$-ri$_\mu$.à$_\mu$a$_\mu$.lá$_\mu$	[<u>0</u>-0201]	*!	*!	*	✓	*
b.	<u>rì</u>$_\mu$-ri$_\mu$.à$_\mu$a$_\mu$.lá$_\mu$	[<u>2</u>-0201]			*!	✓	*
c. ☞	<u>ri$_\mu$ì</u>$_\mu$-ri$_\mu$.à$_\mu$a$_\mu$.lá$_\mu$	[<u>02</u>-0201]				*	✓
d.	<u>rì$_\mu$i</u>$_\mu$-ri$_\mu$.à$_\mu$a$_\mu$.lá$_\mu$	[<u>20</u>-0201]		*!		*	✓

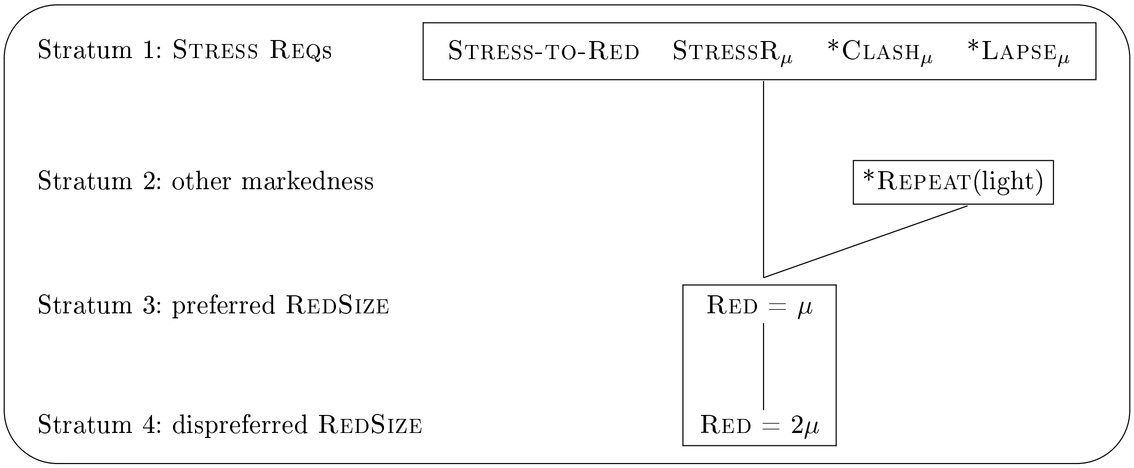
(51) Heavy-syllable–initial even parity stems → no *Repeat effect: (47a) du$_\mu$ú$_\mu$p → <u>dù$_\mu$</u>-du$_\mu$ú$_\mu$p

/red, du$_\mu$u$_\mu$p/			Stress-to-Red	*Lapse$_\mu$	*Repeat (light)	Red = μ	Red = 2μ
a.	<u>du</u>$_\mu$-du$_\mu$ú$_\mu$p	[<u>0</u>-01]	*!	*!		✓	*
b. ☞	<u>dù</u>$_\mu$-du$_\mu$ú$_\mu$p	[<u>2</u>-01]				✓	*
c.	<u>du$_\mu$ù</u>$_\mu$-du$_\mu$ú$_\mu$p	[<u>02</u>-01]				*!	✓
d.	<u>dù$_\mu$u</u>$_\mu$-du$_\mu$ú$_\mu$p	[<u>20</u>-01]		*!		*	✓

[2] The restriction to light syllables is crucial here, since, in trimoraic stems with an initial long vowel, the reduplicant is identical to the first syllable of the root: e.g. (45e) dù$_\mu$u$_\mu$.pé$_\mu$k → <u>dù$_\mu$u$_\mu$</u>-dù$_\mu$u$_\mu$.pé$_\mu$k, not *<u>du$_\mu$ù$_\mu$pi$_\mu$</u>-dù$_\mu$u$_\mu$.pé$_\mu$k. A general constraint against all sorts of adjacent identical syllables would rule out such forms, and thus is not the formulation we want.

- This gives us the following ranking:

(52) Ponapean stress and reduplication ranking



- The crucial point vis-à-vis **S** $\gg$ **R** is the alternation between (i) bimoraic reduplicants in odd parity stems, and (ii) monomoraic reduplicants in even parity stems not extended by *REPEAT(light).
  - The extension in the monomoraic stems is driven by a need to satisfy *CLASH$_\mu$.
  - This comes at the expense of creating a longer reduplicant, which is dispreferred by the constraint preferring monomoraic reduplicants.

⋆ **This is precisely the sort of relationship predicted by S $\gg$ R, where constraints which are unviolated in the general language necessarily override preferences for reduplicant shape.**

- Ponapean shows the same single-unit reduplicant gap that the Australian languages display, but with a number a stress parameters switched:

(53)

Stress parameters	Australian	Ponapean
Unit of metrical computation	*syllable*	*mora*
Orientation of fixed stress	*left*	*right*
Position of fixed stress relative to edge	*edgemost*	*edgemost*
Permission of lapses	*yes*	*no*

- This demonstrates that the requirement that reduplicant shape not countermand stress requirements is not isolated to the limited set of Australian cyclic QI L→R languages.

References

Albright, Adam. 2004. The Emergence of the Marked: Root-Domain Markedness in Lakhota .

Alderete, John. 2009. Exploring Recursivity, Stringency and Gradience in the Pama-Nyungan Stress Continuum. In Stephen Parker (ed.), *Phonological Argumentation: Essays on Evidence and Motivation*, 181–202. London: Equinox.

Austin, Peter K. 1981. *A Grammar of Diyari, South Australia.* Cambridge: Cambridge University Press.

Benua, Laura. 1997. Transderivational Identity: Phonological Relations Between Words. PhD Dissertation, University of Massachusetts, Amherst.

Berry, Lynn. 1998. Alignment and Adjacency in Optimality Theory: Evidence from Warlpiri and Arrernte. PhD Dissertation, University of Sydney.

Blake, Barry J. 1979a. *A Kalkatungu Grammar* (Pacific Linguistics, Series B 57). Canberra: Department of Linguistics, Research School of Pacific Studies, Australian National University.

———. 1979b. Pitta-Pitta. In R.M.W. Dixon & Barry J. Blake (eds.), *Handbook of Australian Languages Volume 1*, 183–242. Amsterdam: John Benjamins Publishing Company.

Breen, Gavan. 1981. *The Mayi Languages of the Queensland Gulf Country.* Canberra: Australian Institute of Aboriginal Studies.

Crowhurst, Megan. 1994. Prosodic Alignment and Misalignment in Diyari, Dyirbal, and Gooniyandi: An Optimizing Approach. In *Proceedings of the 13th West Coast Conference on Formal Linguistics*, 16–31. Somerville, MA: Cascadilla Press.

Dixon, R.M.W. 1972. *The Dyirbal Language of North Queensland*. Cambridge: Cambridge University Press.

Gordon, Matthew. 2002. A Factorial Typology of Quantity-Insensitive Stress. *Natural Language & Linguistic Theory* 20(3):491–552. doi:10.1023/A:1015810531699.

Haugen, Jason D. & Cathy Hicks Kennard. 2011. Base-Dependence in Reduplication. *Morphology* 21(1):1–29. doi:10.1007/s11525-010-9154-5.

Hercus, Luise Anna. 1982. *The Bagandji Language* (Pacific Linguistics, Series B 67). Department of Linguistics, Research School of Pacific and Asian Studies, Australian National University.

———. 1994. *A Grammar of the Arabana-Wangkangurru Language, Lake Eyre Basin, South Australia* (Pacific Linguistics, Series C 128). Canberra: Department of Linguistics, Research School of Pacific and Asian Studies, Australian National University.

———. 1999. *A Grammar of the Wirangu Language from the West Coast of South Australia* (Pacific Linguistics, Series C 150). Canberra: Pacific Linguistics, Research school of Pacific and Asian studies, The Australian National University.

Hicks Kennard, Catherine. 2004. Copy but Don't Repeat: The Conflict of Dissimilation and Reduplication in the Tawala Durative. *Phonology* 21(3):303–323. doi:10.1017/S0952675704000296.

Hudson, Joyce. 1978. *The Core of Walmatjari Grammar*. Canberra: Australian Institute of Aboriginal Studies.

Kennedy, Robert. 2002. A Stress-Based Approach to Ponapean Reduplication. In Gina Garding & Mimu Tsujimura (eds.), *Proceedings of the 21st West Coast Conference on Formal Linguistics*, 222–235. Somerville, MA: Cascadilla Press.

Kenstowicz, Michael. 1998. Uniform Exponence: Exemplification and Extension. Ms., MIT.

McCarthy, John J. & Alan Prince. 1986. Prosodic Morphology. *Linguistics Department Faculty Publication Series* 13 (1996 version).

———. 1994a. The Emergence of the Unmarked: Optimality in Prosodic Morphology. In Mercè Gonzàlez (ed.), *NELS 24: Proceedings of the North East Linguistic Society*, 333–379. Amherst, MA: Graduate Linguistics Student Association.

———. 1994b. Two Lectures on Prosodic Morphology .

———. 1995. Faithfulness and Reduplicative Identity. In Jill Beckman, Suzanne Urbanczyk & Laura Walsh Dickey (eds.), *Papers in Optimality Theory* (University of Massachusetts Occasional Papers in Linguistics 18), 249–384. Amherst, MA: Graduate Linguistics Student Association.

McGregor, William. 1994. *Warrwa* (Languages of the World 89). München: Lincom Europa.

Nash, David George. 1980. Topics in Warlpiri Grammar. PhD Dissertation, MIT.

Nordlinger, Rachel. 1998. *A Grammar of Wambaya, Northern Territory (Australia)* (Pacific Linguistics, Series C 140). Canberra: Pacific Linguistics, Research School of Pacific and Asian Studies, Australian National University.

Poser, William. 1989. The Metrical Foot in Diyari. *Phonology* 6(1):117–148.

Rehg, Kenneth L. 1993. Proto-Micronesian Prosody. In Jerold A. Edmondson & Kenneth J. Gregerson (eds.), *Tonality in Austronesian Languages* (Oceanic Linguistics Special Publication 24), 25–46. Honolulu: University of Hawaii Press.

Rehg, Kenneth L. & Damian G. Sohl. 1981. *Ponapean Reference Grammar*. Honolulu: University of Hawaii Press.

Riggle, Jason. 2006. Infixing Reduplication in Pima and its Theoretical Consequences. *Natural Language & Linguistic Theory* 24(3):857–891. doi:10.1007/s11049-006-9003-8.

Stanton, Juliet. 2014. A Cyclic Factorial Typology of Pama-Nyungan Stress. In John Kingston, Claire Moore-Cantwell, Joe Pater & Robert Staubs (eds.), *Supplemental Proceedings of the 2013 Annual Meeting on Phonology*, Washington, D.C.: Linguistic Society of America.

Yates, Anthony D. 2017. On Reduplication and Stress in Cupeño .

Yip, Moira. 1995. Repetition and its Avoidance: The Case of Javanese. Ms., University of California, Irvine.

Zukoff, Sam. 2016. Stress Restricts Reduplication. In Adam Albright & Michelle Fullwood (eds.), *Supplemental Proceedings of the Annual Meeting on Phonology 2014*, 1–12. Washington, DC: LSA. doi:10.3765/amp.v2i0.3742.

———. 2022. Reduplicant Shape Alternations in Ponapean and Tawala: Re-evaluating Base-Dependence. Ms., UCLA. https://ling.auf.net/lingbuzz/006862.