Reduplicant Shape Alternations in Ponapean: A Problem for Morphological Doubling Theory?

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1. Introduction

- Ponapean (Austronesian; Rehg & Sohl 1981) exhibits a partial reduplication pattern which predictably alternates in length between one and two moras.
- This poster refines Kennedy's (2002) BRCT analysis, deriving these alternations through the interaction of stress and phonotactics. This analysis requires that reduplicant shape be calculated with *direct access* to:
  - (i) the surface properties of the base, and
  - (ii) the reduplicant's position relative to the base
- Ponapean may thus pose a problem for Morphological Doubling Theory (Inkelas & Zoll 2005), where reduplicant shape is calculated without access to the base (at least in the general case).

2. Data

- The Ponapean durative is marked by prefixal partial reduplication, which alternates between one mora and two moras in length (Rehg & Sohl 1981:§3.3.4, also §2.9.5).
  - ⋆ Among bimoraic reduplicants, there are various segmental shapes, determined by segmental composition of the base. I have to skip over these issues here for reasons of space and time.
- Kennedy (2002), building on McCarthy & Prince (1986), shows that stress and syllable weight are among the properties that determine reduplicant length (in moras).
- In (1)–(3), I show that **stress and the weight of the initial syllable** are the *only* properties we need in order to determine reduplicant length. (Data adapted from Kennedy 2002:225; see Rehg & Sohl 1981.)

(1) Bases with **even #** of moras **&** initial *heavy* syllables → **1μ reduplicants**
dù-duúp, tò-toò.roór, sò-soù.pi.sék, wà-waàn.tùu.ké

(2) Bases with **odd #** of moras (∴ initial stress) → **2μ reduplicants**
pàa-pá, tè.pi-tép, dòn-dód, lìi-lì.aán, dùu-dùu.pék

(3) Bases with **even #** of moras **&** initial *light* syllables → **2μ reduplicants**
duǹ-du.né, diǹ-di.líp, si.pì-si.péd, rìi-ri.àa.lá

Per Rehg (1993): Primary stress on rightmost mora (final C's are non-moraic); R→L alternating secondary stress by mora.

3. Analysis

- This distribution can be explained by the interaction of four factors:

(4)
a. A preference for shorter (i.e. monomoraic) reduplicants [ALIGN-ROOT-L_μ ≫ MAX-BR]
b. A requirement that the reduplicant bear stress [STRESS-TO-RED]
c. A ban on moraic clash [*CLASH$_\mu$]
d. A ban on adjacent identical light syllables [*REPEAT(light)]

- When (4b–d) can all be satisfied, the default preference for a monomoraic reduplicant is actualized:

(5) Bases with even number of moras & initial heavy syllables → **1μ reduplicants** (1) by default

/RED, duup/		STRESS-TO-RED	*CLASH$_\mu$	*REPEAT(light)	ALIGN-ROOT-L_μ
a. du-duúp	[0-01]	*!			*
b. ☞ dù-duúp	[2-01]				*
c. duù-duúp	[02-01]				**!

4. Analysis (cont.)

- Bases with *odd* number of moras (2) don't allow preferred 1μ red. because they stress their initial mora:
  - An *unstressed* 1μ red. violates STRESS-TO-RED (6a); a *stressed* 1μ red. violates *CLASH$_\mu$ (6b)
  - ⇒ The reduplicant is extended to **two moras** (6c) to alleviate the problem.

(6) Bases with odd number of moras → **2μ reduplicants** (2) due to STRESS-TO-RED and *CLASH

/RED, duupek/		STRESS-TO-RED	*CLASH$_\mu$	ALIGN-ROOT-L_μ
a. du-dùupék	[0-201]	*!		*
b. dù-dùupék	[2-201]		*!	*
c. ☞ dùu-dùupék	[20-201]			**

- Bases with initial .CV. syllables (3) don't allow the preferred 1μ red. because of *REPEAT(light):
  - ↪ a phonotactic constraint against adjacent identical light syllables (cf. Yip 1995, Hicks Kennard 2004)
  - ⇒ The reduplicant is extended to **two moras** (7c) to alleviate the problem.

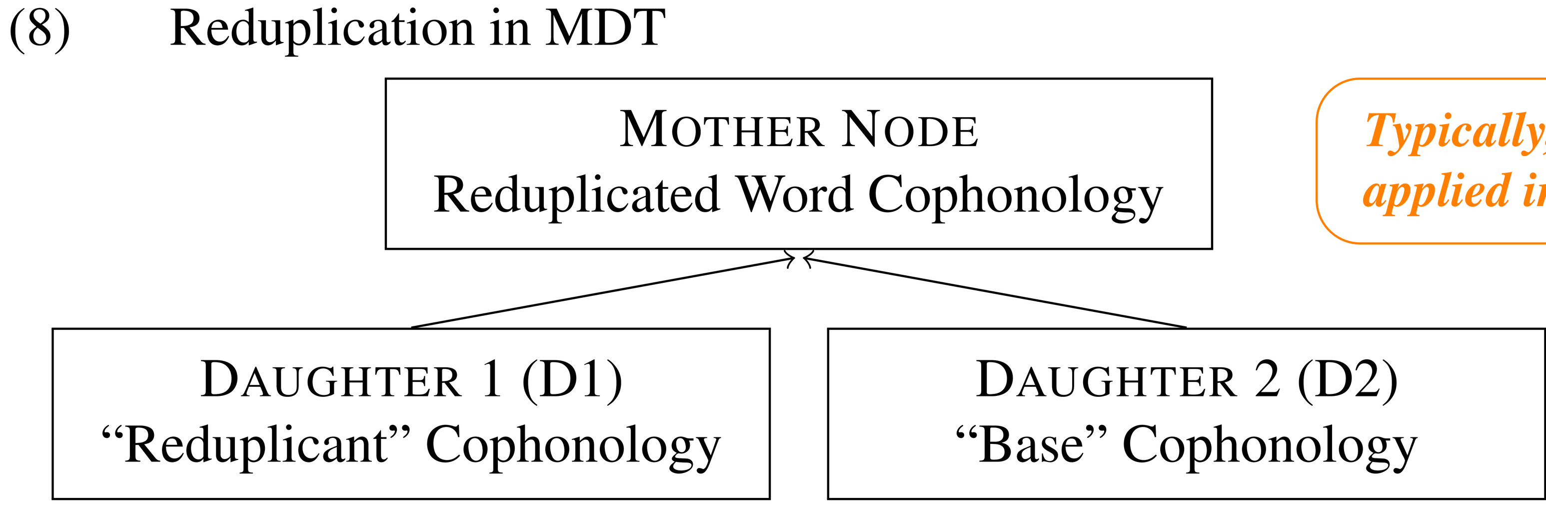
(7) Bases with even number of moras & initial *light* syll → **2μ reduplicants** (3) due to *REPEAT(light)

/RED, riaala/		STRESS-TO-RED	*REPEAT(light)	ALIGN-ROOT-L_μ
a. ri-ri.àa.lá	[0-0201]	*!	*!	*
b. rì-ri.àa.lá	[2-0201]		*!	*
c. ☞ rìi-ri.àa.lá	[02-0201]			**

5. Theoretical Ramifications

- This analysis may pose a problem for Morphological Doubling Theory (MDT; Inkelas & Zoll 2005).

(8) Reduplication in MDT



Typically, partial red. is the result of truncation applied in the "Reduplicant" Cophonology.

- But truncation in D1 won't work for Ponapean, because D1 cannot see D2 and the structural description of *CLASH$_\mu$ and *REPEAT(light) is not met in D1; they are only met in the Mother Node.
  - → Therefore, the choice of truncating to one vs. two moras must be made *in the Mother Node*.
- Truncation can be effectuated in the Mother Node by ascribing the "BRCT" analysis's constraint ranking to the Reduplicated Word Cophonology.
  - ∘ This means that the Reduplicated Word Cophonology must derive the full range of bimoraic shape alternations in a way that is consistent with the rest of the phonology of that node.
  - ∘ BRCT has more freedom, since it governs those shape alternations through BR-faithfulness constraints.
- ⋆ **Crucial question (still TBD):** *can MDT fully explain the bimoraic reduplicant shape alternations?*
  - → Follow-up question: *how well can BRCT account for that set of alternations?*