Yami Reduplication[1]

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Abstract

This study aims to investigate Yami reduplication based on the Morpheme Doubling Theory (MDT).   There are only two types of reduplication in Yami: full reduplication and partial reduplication.   Under the MDT model, Ca-reduplication is classified as a subtype of partial reduplication, whereas right reduplication is a type of full reduplication. In addition, reduplication can be analyzed either as infixation or prefixation depending on the patterns of morphophonemic alternation.   Most reduplication occurs in word stems; however, there are cases that target prefixes.   A stem is reduplicated to express five core functions in Yami: plurality, comparative degree, distribution, repeated actions or continuous actions.   Reduplication is essentially a doubling of identical stems to express iconicity.   In addition to these core functions, other nuances of meanings in the reduplicated forms are obtained from other derivational affixes.

Key words: Yami, reduplication, Morpheme Doubling Theory (MDT), patterns, meanings

1. Introduction

There has been a plethora of studies on reduplication in Formosan languages in the past decade.   Zeitoun and Chen (2005) have conducted a survey of these studies and identified two major patterns: partial and full reduplication.   Although these patterns have long been recognized in studies of other Austronesian languages, for example Tagalog (Wolff et al. 1991), there has generally been a lack of agreement on the terms used.[2]   Furthermore, comparative morphological studies between Formosan and other Western Austronesian languages are generally lacking, except for Ross (1995) and Blust (1998, 2003).

Yami has long been either left out of or treated briefly without sufficient data in discussions of Formosan languages.   In fact, Yami serves as an important link in comparative studies between Formosan and Western Austronesian languages.   Data

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[2] Full and partial reduplications in Tagalog (Wolff et al. 1991) refer to disyllabic-root (CVCV- or "R") and monosyllabic-root reduplications (CV- or "r") respectively.   Adelaar's classification of Siraya reduplication patterns (2000) defines monosyllabic-root reduplication as a doubled root syllable with or without a third element (an infix or a linking vowel), whereas disyllabic-root reduplication concerns entire disyllabic roots except for the last consonant if there is one.   Chang's full reduplication refers to a near-complete reduplication in which the reduplicant copies all but the last C of the base.   On the other hand, Zeitoun and Chen's (2005) full reduplication "consists of the copying of the entire disyllabic root with or without the last consonant if there is any."

from Yami reduplication will provide important information to fill in the gap, allowing for a comprehensive survey of Taiwan Austronesian reduplication patterns.

This paper begins with a discussion of the phonology of Yami, followed by a detailed discussion of the two patterns of reduplication: full and partial.   Next, two analyses based on infixation and prefixation are proposed to account for the patterns of redupliation, which may target either stems or prefixes.   Finally the core functions of reduplication in Yami are illustrated with examples based on Dong's field notes and the vocabulary list in Rau et al. (2005).

The description of reduplication patterns follows Inkelas and Zoll's Morphological Doubling Theory (MDT) (2005).   In this model, reduplication is a morphological construction, which involves semantic identity rather than phonological copying.   Both the mother and the two daughters can undergo their own cophonologies.   By adopting this approach, Lee (2005) argued that the paradox of directionality and base-reduplicant locality could be eliminated.   Thus rightward reduplication (Chang 1998) can be treated as a subtype of full reduplication, as suggested by Li and Tsuchida (2001).

2. Yami phonology[3]
2.1 Consonants and vowels

There are twenty consonants (Table 1), four vowels, and four diphthongs (Table 2) in Yami.   All the symbols in the tables represent standard Yami orthography[4].

Table 1. Classification of Yami Consonants

	Labial	Alveolar	Retroflex	Palatal	Velar	Uvular	Glottal
Stop	p, b	t	d		k, g		'
Fricative	v		s			h	
Nasal	m	n			ng		
Liquid		l	r				
Affricate				c, j			
Trill		z					
Glide	w			y			

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[3] This section is adapted from Rau and Dong (2005) with slight modification.
[4] The Yami Christian Churches adopted an orthography to translate the New Testament.   Li (1992) proposed a different version as a preliminary attempt to standardize the Austronesian language alphabets in Taiwan.   The Ministry of Education (MOE) of the Republic of China adopted a standardized version in 2002, based on the authors' proposal, as a guideline for materials development.   The Yami orthography adopted in this paper is the most current standardized MOE version of the Yami orthography.

Table 2. Classification of Yami Vowels

	Front	Central	Back
High	i		o
Mid		e	
Low		a	
Diphthong	ay, aw, oy, iw (see footnote 10 for other derived diphthongs)		

The corresponding phonemes are explained as follows.

1. /p, t, k/and /b, d, g/ are voiceless and voiced stops, respectively.
2. /'/is a glottal stop [ʔ].
3. /m, n, ng/ are bilabial, alveolar, and velar nasals, respectively.
4. /v/ is a voiced labiodental fricative. There is a sound change in progress to [f] among the younger generation (Li & Ho 1989).
5. /s/ is a voiceless retroflex fricative [ʂ].
6. /h/ is a voiced uvular fricative [ʁ].
7. /l/ and /r/ are lateral and retroflex [ɻ], respectively.
8. /c/ and /j/ are voiceless alveopalatal affricate [tʃ] and voiced palatal affricate [dʒ], respectively.
9. /z/ is an alveolar trill [ř].
10. /w, y/ are glides.
11. /i/ and /a/ are front vowel and low vowel, respectively.
12. /e/ represents a central vowel [ə].
13. /o/ represents a back vowel [ʊ] ~ [u] ~ [o].
14. The nucleus of the diphthongs /ay/ and /aw/ is centralized, raised or monophthongized, beginning in the northern part of the island, Iraralay, and spreading to the east, Iranmilek and Ivalino (Rau et al. 1995), e.g., *mangay*: [maŋəy] ~ [maŋiy] 'go', *araw*: [aɻəw] ~ [aɻuw] 'sun'. Only a few lexical items on the west coast, Imowrod and Iratay, have been affected by this change, such as *alilik<u>ey</u>* 'all very small' and *manganiáh<u>ey</u>* 'scary'. However, this sound change in the north has developed into a chain shift, in that the front vowel /i/ in some lexical items is lowered and diphthongized, e.g, *mi* 'go' becomes [məy].

2.2 Long consonant

    The length of consonants is distinguished in Iraralay on the north coast, such as *opa* 'thigh' vs. *oppa* 'hen', *aming* 'Amen!' vs. *amming* 'beard', *kaliman* 'Go to hell!' vs. *kalimman* 'the fifth month'.   Ivalino on the east coast also has a geminate consonant, e.g,

attuw 'sea water',[5] *mitattew* 'swim' (Li & Ho 1989). Although the geminate consonant can be interpreted as the result of reduplicating the root *ataw* without the coda and deleting the unstressed vowel in both the reduplicant and the base (i.e., *ata-ataw -> at-taw*), it is unclear if all the examples of long consonant in Yami are derived from reduplication.

2.3 Stress

Stress is phonemic in Yami, e.g., *mapingsán* 'tasty' vs. *mapíngsan* 'organized'. The default (unmarked) stress is on the ultimate syllable. All other stress has to be marked individually, e.g., *masáray* 'happy', *masasáray* 'every one is happy', *mapasózi* 'cause to be upset', *i'óya* 'angry at', *mámiying* 'laugh', *mamiyimíyingen* 'love to laugh', and *malavlávin* 'a cry baby'.

The prefix *tey-* 'most' attracts stress. Stress usually falls on the syllable following *tey-* 'most', such as *teymá'oya'oyaen* 'become easily upset the most', *teymámiyimiyingen* 'one who loves to laugh the most', and *teymápa'oya* 'most upsetting'. But words with *tey-* 'such and such an amount is allocated to each unit' (e.g., *teylilima* 'five for each) have ultimate syllable stress.

The auxiliary *ji* 'not', as a clitic, also attracts stress. Stress generally falls on the syllable immediately following it. For example, *ji ángay* 'can't go', *ji máncian* 'Don't say it', *ji nímiwalam* ' did not rest', *ji ká makamo* 'I am sorry that I have bothered you (lit. I did not show courtesy to you).'

In an imperative sentence, stress generally falls on the first syllable of the verb, e.g., *píanoanood pa* 'Sing!' or *ápey* 'This is for you!'

The final syllable can also be lengthened to express 'only, again, also', such as *asáa* 'the only one' (< *ása* 'one').[6]

2.4 Syllable structure

The canonical syllable structure is (C)V(C). No consonant clusters are allowed except when the syllable onset contains a glide (CG)V(C)[7] or when a geminate consonant (C)V(CC)V(C) occurs, as described in 2.2 as long consonants, e.g., *oppa* 'hen'. The vowels /i/ and /o/ are interpreted respectively as glides /y/ and /w/ in tautological syllables and in roots when /i/ and /o/ are not stressed, e.g., *siam* [syam] 'nine', *ziak* [zyak] 'word, speech', *rios* [ryos] 'bathe', *boak* [bwak] 'split wood', and *koat* [kwat] 'boiling

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[5] The form is *attaw* 'sea water' in Imowrod dialect.
[6] Other examples are as follows: *ko mangay do gakoo,* 'I am going to school, too;' *ko ji akcíin,* 'I'm also very hungry;' *ka pa komaan?* 'You are going to eat again?'
[7] The postconsonantal onglides should probably be analyzed as moraic, as proposed by Huang (2005) to account for the representation for Isbukun onglides. In other words, the glide is analyzed as part of the nucleus instead of the onset. This issue is beyond the scope of this paper; however, it is definitely worth another phonological study in the future.

hot'.   Table 3 illustrates all the possible syllable types with examples.

Table 3. All possible syllable types in Yami

Syllable type	Yami	Gloss
V	o	Nominative case marker
V.V	ai	foot
V.VC	aon	take out food from a pot
V.V.CVC	aorod	front yard
VC	am	Topic marker
V.CV	ori	that
V.CVC	icoy	egg
VC.CV	agza	fast
V.CV.V	adoa	two
V.CV.VC	avoag	male animal
VC.CVC	abcil	famine
VC.CV.CVC	apnezak	morning
V.CV.CVC	aganas	mud slide
V.CV.CVC.CVC	alibangbang	flying fish
VC.CVC.CV	aktokto	thought
CV	da	third person plural genitive pronoun, their
CVC	bos	sound made to chase an animal away
CV.V	tao	human
CV.VC	kois	pig
CV.CV	rako	big
CV.CV.V	kadai	millet
CV.CV.CV	tatala	boat
CV.CVC	tawag	summon
CVC.CVC	sipzot	hit
CV.CV.VC	cilaos	make a hole
CV.CVC.CVC.V.CVC	balangbangapat	*Cyclosoeus acuminata*

2.5 Monosyllabic bound roots

There are two types of monosyllabic bound roots that undergo vowel epenthesis in word formation.   Type A contains consonant clusters in the bound roots that violate the canonical syllable structure, e.g., -*bhes* 'throw a stone at someone', while Type B contains either a CVC bound root, e.g, -*kan* 'eat'or a bound root with a glide, e.g, -*vias*

'sweep'.   The Type A bound roots are either prefixed with *a-* in the imperative form, e.g., *a-gcin* 'Go down!' or inserted with the mid central vowel /e/ to derive new words in reduplication, e.g, *behe-behes-an* (< *-bhes*) 'throw stones at someone'.   However, if the root contains a round vowel /o/, the inserted vowel is also /o/ in reduplication, as in *mi-do-dpon-an* (< *-dpon*) 'pile up'.   The feature [+round] is observed in the vowel harmony.   More examples for Type A roots are illustrated as follows:

Type A. Monosyllabic roots with consonant clusters

Gloss	Bound form	a-prefixation	Inserted /e/ or /o/ in reduplicated form
throw stone at someone	-bhes	**a-**bhes	b**e**he-b**e**hes-an
pile up	-dpon	**a-**dpon	mi-d**o**-dpon-an[8]
go down	-gcin	**a-**gcin	mi-g**e**-gcin
put aside	-ptad	**a-**ptad	mi-p**e**ta-p**e**tad

Type B roots can be either prefixed with *a-* or without *a-*, depending on the type of roots and the type of transitive or intransitive affixes.   The following examples illustrate the two subtypes of Type B roots.

Type B. Monosyllabic CVC roots or roots with a glide

Gloss	CVC bound root	*a*-prefixation	No *a*-prefixation
eat	*-kan*	*a-kan* 'Eat!' *a-kan-an* 'place to eat'	*k-om-an* 'intransitive verb' *kan-en* 'food' *ka-kan-an* 'plate, taste'
wash clothes	*-pis*	*a-pis-an* 'transitive verb'	*mi-pi-pis* 'intransitive verb' *ni-pis-an* 'transitive, perfective verb'
	Bound root with a glide CGVC		
sweep	*-vias*	*a-vias-an* 'transitive verb'	*mi-vias* 'intransitive verb' *vi-vias* 'broom'
two	*-doa*	*a-doa* 'two	*ipi-doa* 'twice'

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[8] There is a variation between [e] and [o] in *mi-do-dpon-an* 'pile up', but so far we have not been able to find a counter example that indicates insertion of [o] is not possible before a bound root with a round vowel.

3. Patterns of reduplication

There are two types of reduplication in Yami: full reduplication and partial reduplication.

3.1 Full reduplication

Full reduplication copies the first two syllables of the base, without the coda if there is any.   In the MDT model, full reduplication is reinterpreted as the shape of a daugher node that undergoes truncation to retain only two syllables of the output without the coda. It can be further classified into four types according to its reduplicated syllable structure：1) CV.CV, 2) CV.CV-, 3) CV.V-, and 4) V.CV-, as illustrated in Table 3.

Table 3. Examples of full reduplication of the base

Syllable type	Examples
CV.CV	*rako-rako* 'bigger', *sozi-sozi* 'anger, fuming', *vato-vato* 'stones, *tapi-tapi* 'planks', *baka-baka* 'cows', *lima-lima* 'hands', *tao-tao* 'people, totem'
CV.CV-	*toko-tokon* 'mountains everywhere', *ciri-ciring* 'language', *zipo-zipos* 'relatives'
CV.V-	*koi-kois* 'pigs', *sao-saolin-in* 'back and forth'
V.CV-	*ananak (ana-anak)*[9] 'children', *avavang (ava-avang)* 'toy boat', *angangayan (anga-angay-an)* 'place one goes regularly', *onewned (one-oned)*[10] 'deep in the heart', *obowbotan (obo-obot-an)* 'place where one defecates', *ineynapo (ina-inapo)* 'ancestors', *ovowvan (ova-ovan)* 'gray hair', *avwavong (avo-avong)* 'shadows'

In the MDT model, the stem *anak* 'child' is first doubled to provide inputs for the two daughters.   Daughter 1 undergoes deletion of its coda (NoCoda >> IO-Faith) and the reduplicated mother node also undergoes merger of the two identical vowels in an unstressed syllable to form *ananak* 'children', as illustrated in (1).

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[9] One of the identical vowels *a* is deleted.
[10] When two vowels are juxtaposed in reduplication, they are diphthongized as follows:
  eo-> ow, ew: *one-oned* 'deep in the heart' -> *onowned*, *onewned*
 ao-> ow: *ota-ota* 'vomit' -> *otowta*, *ova-ovan* 'gray hair' -> *ovowvan*, *opa-opag-en* 'pound, hit' -> *opowpagen*
  ai-> ey: *ina-inapo* 'ancestors' -> *ineynapo*, *isa-isana* 'hotels'-> *iseysana*, *ila-ilamdam-en* 'test, sound out' -> *ileylamdamen*
  oa -> wa: *avo-avong* 'shadows' -> *avwavong*
  oo -> ow: *obo-obot-an* 'place where one defecates' -> *obowbotan*

(1)

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                    ana-nak
                   /      \
                ana        anak
                 |           |
               anak        anak
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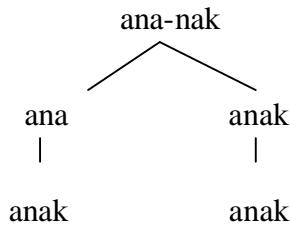
Full reduplication is by no means restricted to duplicating the reduplicant only once. There are examples (e.g., *ma-kato-kato-toing* 'contagious') that demonstrate the possibility of duplicating the reduplicant up to twice.   This will be further analyzed as a type of infixing reduplication in Section 4.1.

3.2 Partial reduplication

    Partial reduplication involves the reduplication of the first syllable of the base with or without the coda.   In the MDT model, partial reduplication is reinterpreted as the shape of a daugher node that undergoes truncation to retain only one syllable of the output with or without the coda. It can be further classified into four types according to its reduplicated syllable structure： 1) CV-, 2) Ca-, 3) CVC-, and 4) V- , as illustrated in Table 4.

Table 4. Examples of partial reduplication of the base

Syllable type	Examples
CV-	*so-soli* 'taros', *to-tozok* 'fork'
Ca-	*pa-pira* 'how many animate beings, *ra-roa* 'two animate beings'
CVC-	*kag-kagling* 'a herd of goats', *lak-laktat* 'illness, nasal mucous', *sey-seyked-an* 'place where a boat is beached'
V-	*o-oyod-an* 'plate for fish that women are allowed to eat', *i-irasan* 'oar rack'

    Ca- reduplication can be considered a subtype of CV- reduplication, where the vowel of the first syllable of the reduplicated form is changed to /a/, as in *pa-pira* 'how many animate beings' or *ra-roa*[11] 'two animate beings'.   It usually occurs in numbers to indicate plurality of animate beings, as shown in (2)[12].

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[11] *raroa* is derived from *adoa* 'two'.   /d/ is weakened into /r/ intervocalically, e.g., *adoa -> aroa -> roa.*
[12] AF= agent focus, AUX = auxiliary, CON= conjunction, EXCL = exclusive, GEN = genitive, IF= instrumental focus, NOM = nominative, LIN = linker, P = plural, RED = reduplication, S = singular, SV = stative verb, 1= first person, 2 = second person, 3 = third person.

(2) *ya   pa-pira   o   ka-kteh   mo*?
    AUX Ca-RED-many   NOM   Co-sibling   2.S.GEN
    ya   ra-roa   sira   kaka   a   mehakay.
    AUX Ca-RED-two   3.P.NOM older.sibling LIN male
  'How many brothers and sisters do you have?   I have two older brothers.'

Let us take *pa-pira* 'how many animate beings' for example.   In the MDT analysis, the stem *pira* 'many' is first doubled to provide inputs for the two daughters.   The cophonology of the first daughter retains the first syllable CV, whereas the mother node undergoes a change of the vowel of the first syllable from /i/ to /a/, as illustrated in (3). Under this analysis, Ca- reduplication is really nothing but a subtype of partial reduplication.

(3)

                       pa-pira

             pi   pira
             | |

            pira   pira
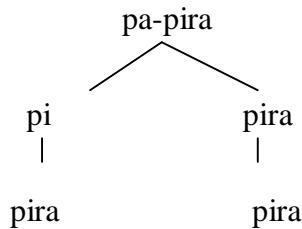
Partial reduplication, like full reduplication, does not restrict itself to duplicating the reduplicant only once.   Examples of "twice reduplication", such as *ma-te-te-teneng* 'understand even better', will be analyzed further in Seciton 4.1.   Ca- reduplication, as a subtype of partial reduplcation, is no exception in this regard.

The reduplication of the initial Ca- syllable in the following examples in (4) is done twice, as in *tey-ra-ra-roa* 'two in a group'.   The concept of 'in a group of such and such a number' is expressed by *tey-* to the reduplicated stem.   More examples are provided in (5)-(6).

(4)

Group of two	Group of three	Group of four	Group of five	Group of six
teyrararoa	*teytatatilo*	*teypapapat*	*teylalalima*	*teynananem*

(5) *tey-la-la-lima   kamo   a   somdep.*
    group-RED-Ca-five 2.P.NOM   LIN <AF>enter
    'Come in in groups of five.'

(6) *namen   tey-pa-pa-pito   do   asa aka   mibetbet.*
    1.P.NOM.EXCL   group-RED-Ca-seven LOC one CON fishing.boat
    'We have seven people to a fishing boat.'

In the MDT model, *tey-la-la-lima* 'five in a group' is composed of three constructions: truncation, reduplication, and prefixation.   The cophonology of the mother node *la-lima* is a change of vowel from /i/ to /a/, as illustrated in (7):

(7)
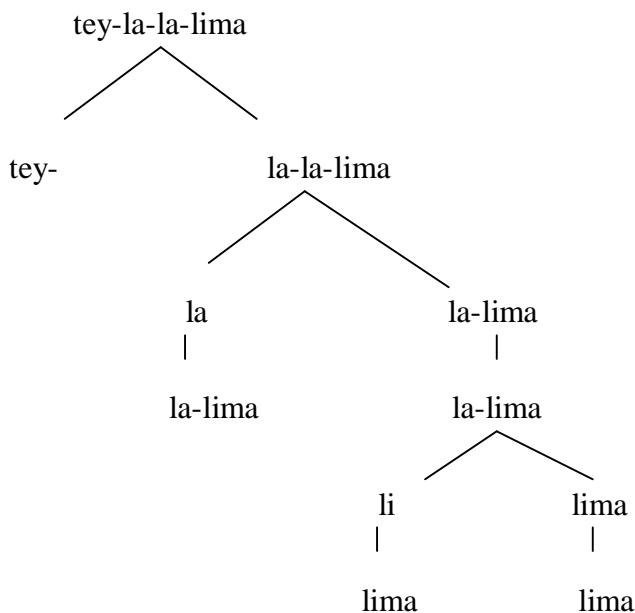
4. Infixation and prefixation

We have so far discussed the two types of reduplication in terms of the number of syllables involved in reduplication in the previous section (i.e., partial vs. full).   There are also two types of reduplication in terms of the position of the "reduplicant" within the word: i.e., infixation vs. prefixation.

Prefixation is defined as prefixing the reduplicant to the stem, as shown in all the previous examples in (1), (3), and (7), whereas infixing reduplication is defined as infixing the reduplicant between the stem and its prefix.   Most doubling of stems with prefixes, e.g., mi-, ma-, maN-, ka-, a-, can be neatly analyzed as infixation, as discussed in 4.1 and 4.2, but there are other cases involving the prefix paN-/maN- that should be either analyzed as prefixation or infixation depending on their morphophonemic

alternations, as discussed in 4.3.   Although most of the examples of reduplication analyzed in the following sections target stems, there are also cases of reduplication that target prefixes, which is taken up in 4.4.

4.1 Infixing reduplication: Second syllable reduplication

The second syllable reduplication in Tagalog was convincingly analyzed as infixation instead of prefixation in the MDT model (Inkelas & Zoll 2005: 183-185). The following example (8) *mangingibig* 'suitor' from Inkelas & Zoll (2005: 185) serves as a good example.   This structure is composed of three independent constructions: prefixation, truncation, and reduplication.   This example shows that Tagalog reduplication truncates the word to the first CV of the Proot, a morphological root plus a preceding prefix-final consonant to serve as a syllable onset, where needed. Thus, doubling of onsets and of nasal fusion in Tagalog reduplication (e.g., *pa-mu-mutul* 'a cutting in quantity', *na-ngi-ngisda* 'is/are going fishing') supports the infixation + normal application analysis over the prefixation + backcopying analysis.

(8) Tagalog example (adapted from Inkelas & Zoll 2005)

$$ma\{ngi\}\{ngibig\}$$

<-Infixation

$$\{ngi\} \qquad ma\{ngibig\}$$

Truncation ->

$$ma\{ngibig\} \qquad ma\{ngibig\}$$

<- Prefixation

$$/mang\text{-}ibig_{Rt}/ \qquad /mang\text{-}ibig_{Rt}/$$
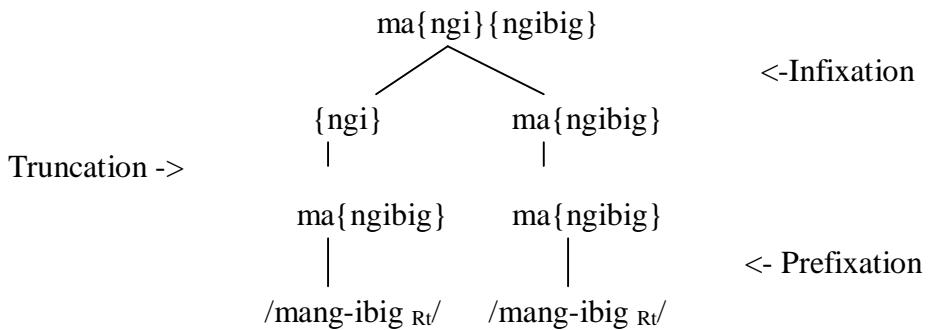
The same analysis can be applied to the Yami data.   The following examples involve infixation of the reduplicated stems with intransitive prefixes in Yami.   Let us contrast *ma-go-gózang* 'all very thin' with *ma-goza-gozáng* 'thinner'.   The infixation of partial reduplication indicates plurality whereas the infixation of full reduplication indicates comparatives[13], as illustrated in (9a) and (9b).

(9a)

$$ma\text{-}[go]\text{-}gózang$$

$$go \qquad ma\text{-}gózang$$

$$ma\text{-}gózang \qquad ma\text{-}gózang$$

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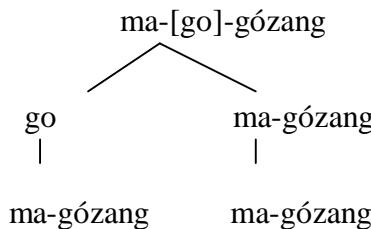
[13] Comparatives can also be formed by prefixing *ka-* after full reduplication, e.g. *ka-tava-táva no kois nio.* (very-RED-fat + GEN + pig + 2.P.GEN) 'How fat your pigs are!'

(9b)

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                    ma-[goza]-gozáng
                        /        \
                  goza            ma-gózang
                    |                 |
              ma-gózang         ma-gózang
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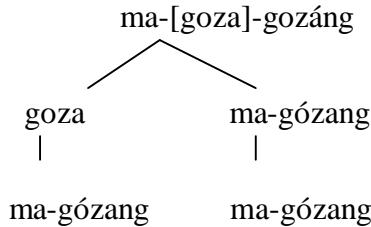
On the other hand, plurality is expressed by partial reduplication, i.e., reduplication of the first CV- of the root, e.g., *ma-le-léma* 'all lazy'.   A comparison between comparatives and plurality is illustrated in (10).   The stem of plurality is stressed in the penultimate syllable, whereas the comparative is stressed in the last syllable.   More examples are provided in (11)-(12).

(10) Comparisons of comparatives with plurality reduplication

Stem	Comparative	Plurality
apía 'good'	*a-pia-piá* 'better'	*a-pi-pía* 'all good'
matáva 'fat'	*ma-tava-tavá* 'fatter'	*ma-ta-táva* 'all fat'
anáro 'long'	*a-naro-naró* 'longer'	*a-na-náro* 'all long'
masári 'dark'	*ma-sari-sarí* 'darker'	*ma-sa-sári* 'all dark'
malóit 'dirty'	*ma-loi-lóit* 'dirtier'	*ma-lo-lóit* 'all dirty'
másngen 'near'	*ma-snge-sngén* 'nearer'	*ma-sé-sngen* 'all near'

    (11) *ko   ma-<u>tava</u>-tava aka ni   kaka.*
         1.S.NOM SV-RED-fat CON GEN older.sibling
         'I am fatter than my older sister.'
    (12) *namen   ma-<u>ta</u>-táva   sira   kaka.*
         1.P.NOM.EXCL SV-RED-fat NOM.P   older.sibling
         'We sisters are all fat.'

Although most of the examples we have discussed so far involve second syllable reduplication, this does not assume that the prefix before the "reduplicant" is monosyllabic.   There are many examples of infixing reduplication in Yami involving prefixes of various shapes and meanings, e.g., *ipi-[zi]-ziak* 'reason to speak', *icia-[ma]-mavakes* 'women as a peer group', *maka-[pi]-pia* 'can improve', *mala-[pe]-pseng* 'smells like something is burned', *mapa-[kza]-kza* 'love to show off', *masi-[zaka]-zakat* 'kill each other', *mika-[za]-zakat* 'one by one dies', *mipa-[ra]-rakeh* 'getting older and older', *maci-pa-[ngao]-ngaop* 'gather salt together',

mapaka-[zaka]-zakat 'pretend to be dead', *mapika-['ing]-'ingn-en* 'cause to have aches and pains'.　All the above examples can be analyzed as infixing reduplication.

　　As mentioned in 3.1 and 3.2, reduplication is not restriced to duplicating the reduplicant only once.　The phenomenon can be easily accounted for by infixing reduplication in the MDT model.　The examples of *ma-kato-kato-toing* 'contagious, spread around' and *ma-te-te-teneng* 'understand even better' are illustrated in (13) and (14), respectively.　Example (13) involves a reanalysis of the intermediate mother node from *maka-to-toing* to *ma-kato-toing*.　The reduplication that targets prefixes will be discussed in 4.4.

(13)

```
                    ma-[kato]-kato-toing
                   /                    \
               kato                  ma-kato-toing
                |                          |
          maka-[to]-toing           maka-[to]-toing
                                     /            \
                                   to            maka-toing
                                    |                |
                               maka-toing        maka-toing
```

(14)

```
                    ma-[te]-[te]-teneng
                   /                   \
                te                  ma-[te]-teneng
                 |                        |
           ma-[te]-teneng          ma-[te]-teneng
                                    /            \
                                  te            ma-teneng
                                   |                |
                               ma-teneng        ma-teneng
```
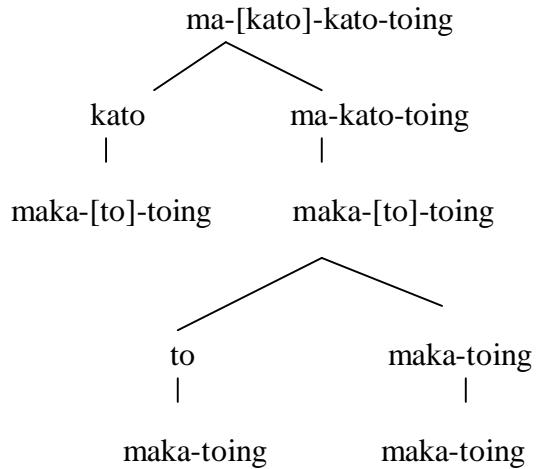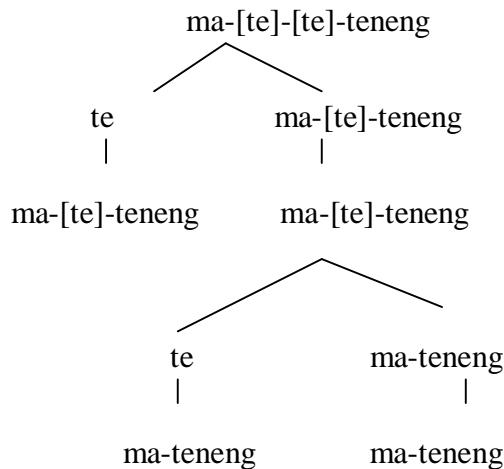
4.2 Infixation of the reduplicated stem with *a*-prefix

　　The monosyllabic bound root (See 2.5) is prefixed with a semantically empty

morpheme *a-*[14] to form a new stem.   The reduplication of the second syllable can be easily analyzed as infixation in the MDT.

For example, *a-[kdo]-kdot-en* 'pinch a little' is derived from the cophonologies of the two daughters with the same stem *a-kdot-en* 'pinch something', as illustrated in (15). The semantically empty stem-forming morpheme *a-* is prefixed to the bound root *-kdot* 'pinch' to form a legitimate syllable structure CV.CVC (*ak.dot*) and suffixed with a transitive morpheme or patient focus *–en*.   The first daughter undergoes truncation and retains the first C.CV of the stem.   The output of the first daughter is then infixed in the second syllable of the mother node to form *a-[kdo]-kdot-en*.   Therefore, the so-called "rightward reduplication" (Chang 1998) is no longer necessary and can be classified as a type of full reduplication.

(15)

```
                    a-[kdo]-kdoten
                   /            \
               kdo              akdoten
                |                  |
             akdoten           akdoten
```
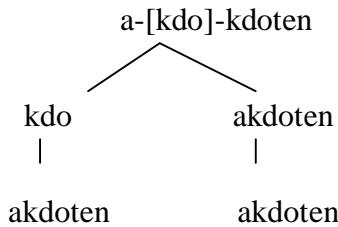
The same infixation analysis can be applied to other similar examples, such as *a-[kbe]-kbeng-en* 'press a little', *a-[dka]-dkan-an* 'kiss', *a-[sle]-slet-an* 'lock', and *a-[sde]-sdep-an* 'entrance'.

4.3 Infixing vs. prefixing reduplication with *paN-*

Next, we will examine a case of reduplication with the prefix *paN-*[15], which involves both infixation and prefixation, depending on its morphophonemic alternations.   There are two ways for *paN-* 'distributed' to be reduplicated and added to the root.   It can be first added to the root *kotas* 'pick leaves' to form a new stem *pangotas*.   After truncating the prefix and the coda, the first daughter is infixed to the mother node to form *pa-[ngota]-ngotas* 'one keeps picking leaves'.   The prefix *ka-* 'then, afterwards' is then added to the mother node to form *ka-pa-ngota-ngotas* 'then one keeps picking leaves', as illustrated in (16).

---

[14] The semantically empty stem-forming prefix *a-* should be distinguished from the inflectional *a-*, which is the subjunctive form of the derivational prefix *ma-* to form a stative verb.
[15] *N-* is an assimilatory nasal, the phonetic feature of which depends on the feature of the following segment.

(16)   ka-pa-[ngota]-ngotas

```
               ka-              pa-[ngota]-ngotas

                            ngota        pa-ngotas
                              |              |

                          pa-ngotas      pa-ngotas
```
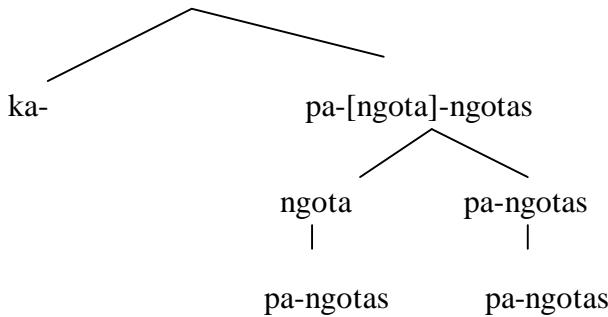
However, the second way cannot be analyzed as infixation, but rather as prefixation because the morphophonemic alternation triggered by *N-* does not affect the second daughter.   The root *ciring* 'word' is first reduplicated to form the new stem *ciri-ciring* 'words, language'.   Then prefix *paN-* is added to *ciri-ciring* to form another new stem *pa-niri-ciring* 'curse'.   Then the prefix *ni-* 'perfective' is added to form *ni-pa-niriciring* 'already cursed', as in (17).

(17)

```
          ni-pa-niri-ciring

       ni-          pa-niri-ciring

                 paN-        ciri-ciring

                          ciri        ciring
                            |            |

                          ciring       ciring
```
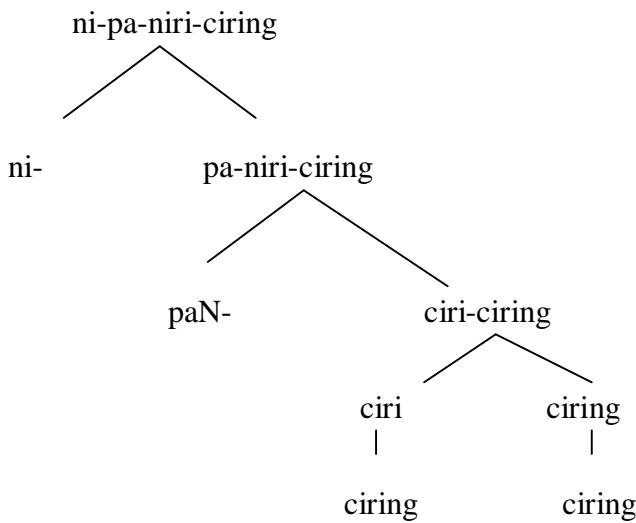
4.4. Reduplication targeting prefixes
     Most of the examples we have discussed so far involve reduplication targeting stems. In the MDT model, reduplication of the prefix can also be neatly analyzed as infixation in Tagalog (e.g., *i-ka-katakbo* 'will cause to run', *i-pa-paglinis* 'will clean for', and *ma-ka-kahalata* 'will notice').   However, examples of reduplication targeting the prefix in Yami can be analyzed either as infixation or prefixation depending on the locality of the prefix.   In the following dicussion, we will examine three cases: (1) infixed reduplicant, (2) reanalyzed prefix + stem, and (3) prefixed reduplicant.

4.4.1 Infixed reduplicant

In examples such as, *i-[key]-ka-rahet na* 'getting even worse' (*i- 'IF', ka-* 'stative', *rahet* 'bad', *na* '3SGEN'), and *i-[key]-ka-ve-vek* 'to try even harder' (*i- 'IF', ka-* 'stative', *avek/-vek* 'make an effort'), the infixed reduplicant *[key]* undergoes a change of vowel from /a/ to /ey/.   An analysis of *i-[key]-ka-ve-vek* 'to try even harder' is provided in (18).

(18)

```
            i-[key]-ka-ve-vek
             /            \
           ka            i-ka-ve-vek
            |                 |
      i-ka-ve-vek        i-ka-ve-vek
                          /        \
                        i-        ka-[ve]-vek
                                   /        \
                                 ve         ka-vek
                                  |           |
                               ka-vek       ka-vek
```
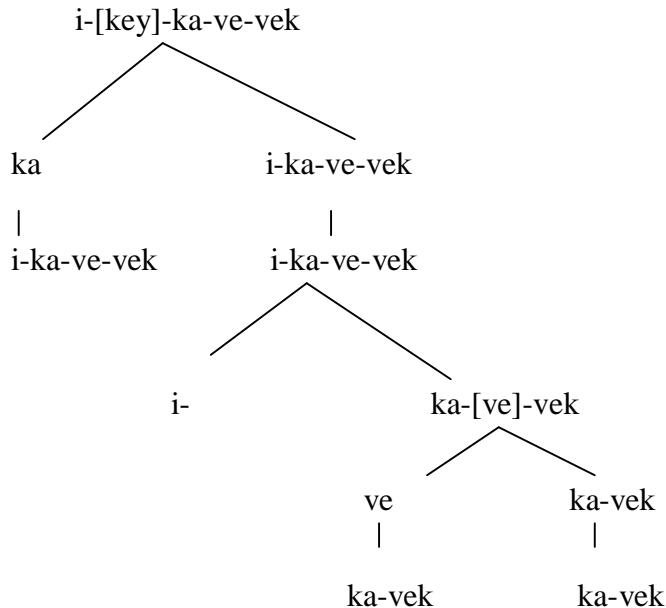
4.4.2 Reanalyzed prefix + stem

Other examples of infixation targeting the reanalyzed prefix and stem, e.g., *ma-[kato]-kato-toing* 'contagious', *ma-[kawa]-kawalam* 'many people chat together' (*ka-* 'co-', *walam* 'rest'), have been discussed in (13).

4.4.3 Prefixed reduplicant

The rest of the examples, targeting prefixes such as *ni-* 'perfective' in *ni-ni-ahap* 'everything that has been taken away' or *manga-* 'many' in *manga-manga-(a)nak no kakteh* 'cousins' (*manga-* 'many', *anak* 'child', *no* 'GEN', *kakteh* 'cousin'), can be analyzed as prefixation.   Example (19) is an illustration of how *managa-manganak* is analyzed.   The cophonologies of the two daughter nodes merge the two identical /a/ vowels to form *manganak*.   The first daughter undergoes truncation and retains only the first two syllables of the stem *manga-* before it is prefixed to the mother node to form *manga-manganak*.

(19)

```
                    manga-manganak
                   ╱            ╲
           manga              manganak
             |                     |
        manganak              manganak
        /manga-anak/          /manga-anak/
```
.
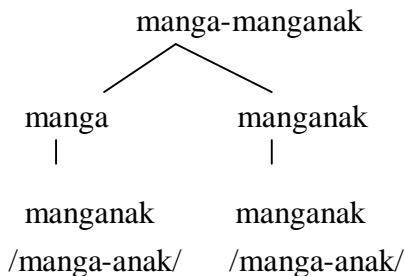
5. Core functions of reduplication

A stem is reduplicated to express five core functions in Yami: plurality, comparative degree, distribution, repeated actions or continuous actions.   In Table 5, the reduplicated forms are preceded by roots/stems and followed by the function of the reduplication.   In some cases there is overlap between the functions, so assignment of an example to one class or another is somewhat arbitrary.   It is clear from the following table that reduplication is essentially a doubling of identical stems to express iconicity.   In addition to the core functions mentioned above, other nuances of the meaning of the reduplicated form are derived from other derivational affixes.

Table 5. Examples of reduplication

Root/Stem	Gloss	Reduplication	Gloss	Function
mangeb, eb/mangeb	蹲在裡面望外看 squat inside and look out	ma-nge-ngeb	正蹲在裡面望外看 squatting inside and looking out	continuous action
acileb, cileb/manileb	俯瞰 overlook	mang-aci-acileb	俯瞰(較廣) overlook (a broader area)	distribution
ama/miama	比別人多的那一份/比別人多一份 have one more share than the others	mi-a-áma	愛現,在別人面前炫耀 show off	repeated action
angsa	老人吃的一種魚 fish for old people	mala-a-angsa	有 angsa 魚味 smells like angsa fish	plurality
anig	不好意思 sorry	pang-ani-anig-an	禮節,禮貌 courtesy	repeated action

17

arilaw/pang arilawan	同情,可憐/同情人的心 sympathy/a heart of compassion	pang-ari-arilaw-an	同情心 compassion	repeated action
atot/miatot	屁/放屁 fart	mi-ato-atot	連續放屁 fart repeatedly	repeated action
attaw, hattaw/ mahattaw	漂浮/島嶼,漂浮 float/island	ma-atta-attaw	漂盪在水上,海水 floating, sea water	continuous action, plurality
avay/ mangavay	罵/罵人 scold	ma-nga-ngaváy-in	很愛罵人 like to scold	repeated action
avay	罵 scold	mipa-ngava-ngavay	自言自語的罵 grumbling about	repeated action
awat	游 swim	mi-aw-awat	游泳 swim	repeated action
awat	游 swim	ipi-aw-awat	游泳的原因,泳具 reason to or tool used for swimming	repeated action
bayo/ mabáyo	吝嗇/很吝嗇 stingy	ma-bayo-bayo	較吝嗇 more stingy	comparative
bo, abo	無 no	mika-bo-bo	都消失了,都掉了 disappear one by one	repeated action
Bo, abo	無 no	maka-e-bo	使無 cause something to be gone	repeated acton
boang/ máboang	習慣/很習慣某人或物,對人不怕生的 get used to	ma-boa-bóang-en	很容易與人混熟(不怕生的) mingle easily	repeated action
boang	習慣 get used to	maka-bóa-boang	人緣佳,不怕生 sociable	repeated action
ciglang/ macíglang	硬的/很硬 hard, firm	ma-ci-cíglang	都很硬 all very hard, firm	plurality
cilan/ micilan	雞眼/有雞眼的 corn, callus	mi-ci-cilan	長雞眼 develop a corn	continuous action
cilat	閃電 lightning (n.)	mi-ci-cilat	閃電 lightning (v.)	continuous action

cimoy	雨 rain	mi-cimo-cimoy	淋雨 get rained on	repeated action
cimoy	雨 rain	mipa-cimo-cimoy	淋雨,不避雨的 get rained on purposefully	repeated action
cinedkeran/ micinedkera n	大船/有大船的, 建造大船 big boat/build or own a big boat	mi-ci-cinedkeran	造大船 big boat building	continuous action
cipa	啖,痰 spit	mi-ci-cipa	一直吐痰,吐啖 keep spitting	repeated action
cipa	啖,痰 spit	ipi-ci-cipa	為..吐啖,不屑 的,為覺得噁而 吐的,呸 reason to spit, disgusted	repeated action
dehdeh	外地人 foreigner	mapaka-deh-dehde h	自以為自己是 漢人(外地人) pretend to be a foreigner	pluality
dket/ mideket	粘貼/黏在一起 adhesive/stick togther	mi-de-deket	都黏在一起 all stick together	repeated action
dket; adket/ pideketen, pideket	粘貼/把..粘在一起 adhesive/stick together	pi-de-deket-en	使相連,黏起來 casue to be stuck together	repeated action
ema/ méhma	軟的,易折的/很軟 soft	ma-'e-'éma	都很軟 all very soft	plurality
ganam/ macipaganam	舞/加入跳舞的行 列 dance/join a dance	macipa-gana-gana m	參加跳舞團 join a dance troup	repeated action
gilo	彎曲 bent	mi-gi-gilo	彎曲的情形 in a bent shape	continuous action
gilo, tagilo/ pitagilo	彎曲/命人將某物 扭轉或彎曲變形 bent/bend something	pi-ta-tagilo-en	使東西扭轉或 彎曲變形 cause something to be bent or change shape	continuous action

gozang/mag ozang [1]	瘦的/很瘦 thin	ma-goza-gozang	比較瘦 thinner	comparative
gozang/ mgozang	瘦的/很瘦 thin	ma–go-gózang	都很瘦 all very thin	plurality
ingen	痛,疼痛 hurt, painful	mapa-ley-leyngen	叫人活該;見人遇到麻煩事或跌傷時,不但不安慰,反而火上加油的 cause someone to have more pain or trouble	repeated action
ingen	痛,疼痛 hurt, painful	mika-'inge-'ingen	都生病了,到處都是病 become ill one after another, get ill all over	plurality
ingen	痛,疼痛 hurt, painful	mapika-'ing-'ingn-en	使(令)人疼痛的 cause someone to have aches and pains	repeated action
ingen	痛,疼痛 hurt, painful	mapaka-'inge-'ingen-en	裝病 pretend to be ill	repeated action
itkeh	睡覺 sleep	ma-'it-'itkeh-en	很愛睡覺 like to sleep	repeated action
itkeh	睡覺 sleep	mika-'it-'itkeh	都睡覺了 all sleep one after another	plurality
itkeh	睡覺 sleep	mapaka-'it-'itkeh	裝睡 pretend to sleep	repeated action
izay	徽章,象徵 榮譽的東西 badge, emblem	mapaka-iza-izay	自以為很偉大或威風 pretend to be great and powerful	repeated action
kadkad	抓癢 scratch	mi-ka-kadkad	到處抓癢的動作 scratching all over	distribution

kan/ kanen	吃,食物 eat/food	maci-ka-kan-en	向人家討食物 吃 beg for food	repeated action
kaop/ macipangaop	一把抓/加入抓取 的行列 grab/join in a group to grab	macipa-ngao-ngaop	與人一起去採 鹽巴 join in a group to gather salt	repeated action
karang/ makarang	高的/很高 tall	ma-ka-kárang	都很高 all very tall	plurality
karo	離開 leave	mika-karo-karo	紛紛離去 leave one after another	plurality, repeated action
kawaz/ mikawaz	刨刀/做刨平的動 作 plane/planing	mi-ki-kawaz [2]	刨工 a person who does planing	repead action
kayo/ macipangayo	木柴/加入砍柴的 行列 wood/join in a group to cut wood	macipa-ngayo-ngayo	砍柴的年紀,與 人一起去砍柴 reach the age to cut wood, join in a group to cut wood	repeated action
kcin	餓 hungry	maci-ke-kcin	到處叫餓 cry hungry everywhere	repeated action
keleh	狐臭 body odor from the armpit	mala-ke-keleh	有狐臭味的 smells like body odor from the armpit	repeated action
kevet	萎縮,縐紋 shrivel, wrinkled	mi-keve-kevet	收縮,縮成一團 shrink (into a ball)	continuous action
kezdas	砍掉 chop down	mi-ke-kezdas	持鐮刀 holding a sickle	repeated action
kezen	萎縮(泡水) shrink	mi-keze-kezen	萎縮起來 become shrunken	continuous action
kna,akna	釣 to fish	mi-kena-kena	船釣 to fish from the boat	repeated action
koat/	燙的/很燙	ma-koa-koat	比較燙	comparative

mákoat	burning hot		hotter	
kza	喜歡 like	mapa-kza-kza	愛現的,很愛炫耀 love to show off	repeated action
lagaraw	魚名 fish name	maci-la-lagaraw	與人去釣 lagaraw 魚 join a group to fish for lagaraw	repeated action
laktat/ malaktat	鼻涕/流鼻涕(感冒) snot/have a runny nose	mi-la-laktat	擤鼻涕 blow one's nose	repeated action
laktat	鼻涕,疾病 snot, disease	maka-la-laktat	招來疾病 cause to have a disease	repeated action
lalam, alalam	玩具 toy	mi-ala-lam	玩耍 to play	repeated action
lavang/ malavang	白的/很白 very white	ma-lava-lavang	比較白 whiter	comparative
lavang	白色 white color	mika-lava-lavang	到處都是斑點 to have white spots everywhere	distribution
lavi	哭 cry	ma-lavi-laví-in	很愛哭 love to cry	repeated action
lavi	哭 cry	ka-lavi-laví-in	很會哭,這麼會哭 crybaby	repeated action
lavi	哭 cry	mi-lavi-lavi	哭鬧 keep crying	continuous action
lavi	哭 cry	mika-la-lavi	都哭了,一個個都哭了 all cry one after another	plurality, distribution
law, alaw/ málaw	擔心,憂慮/很擔心 worry	ma-la-láw-en	很容易焦慮的 get anxious easily	repeated action
lektek	跌倒 fall down	mika-lek-lektek	都跌倒 all fall down	plurality
likod	背	mi-liko-likod	背對背	continuous

	back		back to back	action
likod	背 back	maci-li-likod	叫喊背痛 complain about back aches	repeated action
likod	背 back	mipa-liko-likod	背對著 turn one's back on	continuous action
liman	打死 fight to kill	mi-li-liman	打架 have a fist fight	repeated action
liman/ maciliman	打死/跟某人打架 fight to kill/engage in a fight	maci-li-liman	與人打架(群 架) engage in a group fight	repeated action
lingay	轉過頭看 turn one's head to look	ipi-ling-lingay	帶人觀光,觀光 的目的 take someone sightseeing, reason to go sightseeing	repeated action
litod	拗折 bend	mi-li-litod	跪著 on bended knees	continuous action
lovot	集中,全部 gather	mapi-lovo-lovot	招集的 assemble	repeated action
mavakes/ iciamavakes	女人/同為女性的 (單) female/as a member of a group of women	icia-ma-mavakes	同為女性的,複 數 as members of a group of women	plurality
metdeh	孩童 child	icia-me-metdeh	同為孩童的 as members of a group of children	plurality
miying/ mamiying	笑/一直笑 laugh/keep laughing	ma-miyi-miyíng-en	很愛笑 love to laugh	repeated action
miying	笑 laugh	mi-kam-kamiying	開懷大笑 begin to laugh out loud	continuous action
moa/pimoan	種植/種(某物)的地 方 plant/place to grow something	pi-moa-moa-an	果園,種多種東 西的地方 orchard, place	plurality

			to grow various things	
nangwa	仰著倒下 fall over backwards	mika-nang-nangwa	都仰著倒下了 fall over backwards one after another	plurality
navak, <avak	中間 middle	macipa-nava-navak	位居中央 to be located in the middle	continuous action
ngay, angay/mang ay	去,命人去/去 go	ma-nga-gay	常常去 go regularly	repeated action
ngebngeb	整個嘴巴浸入水中喝水 put the whole mouth in the water to drink	mi-nge-ngebngeb	整個嘴巴浸入水中喝水 put the whole mouth in the water to drink	continuous action
ngina/ mingina	價錢/有價錢的,交易 price/priced, trade	mi-ngina-ngina	交易 trading	repeated action
ngina	價錢 price	maci-ngina-ngina	去購物 go shopping	repeated action
nnget/ kanngeten	汗/正熱,流滿身汗 sweat/covered with sweat	ka-nnge-nngét-en	很容易流汗 get sweaty easily	intensity
noma	先 first	macipa-noma-noma	名列前茅,位於比較前面的部份 to be ranked high, fronter	comparative
obot/ malaobot	糞便/有糞味的 feces/smells like feces	mala-o-obot	有糞味的 smells like feces	repeated action
oli/ mioli	返家(部落)/折返 go home/return	mi-oli-oli	來來回回 going back and forth	repeated action
opta	仆倒 fall flat	mika-'op-'opta	都倒臥在地上 (個個臥倒在地) fall flat on	plurality, distribution

			地） fall flat on the ground one after another	
ota	嘔物 throw up	m–otow–ta; (ma-ota-ota)	嘔吐(頻繁) throw up (repeatedly)	repeated action
otab	泡沫 bubble	mi-ota-otab	起泡沫 bubble up	continuous action
oya/ maóya	很氣某人/一臉兇兇的樣子 angry	ma-oya-oyá-en	愛生氣的 get angry easily	repeated action
oya	很氣 angry	mi-oya-oya	生氣,發脾氣 become angry	continuous action
oya	很氣 angry	ipi-oya-oya	為..而生氣,生氣的原因 reason to be angry	repeated action
oyot/ macipangoyot	抽出/加入抽籤的行列 draw lot/engage in lot drawing	macipa-ngoyo-ngoyot	參加抽籤(頻繁) engage in lot drawing (regularly)	repeated action
paid	扇一扇 to fan	ipi-pai-paid	扇子,用來扇風的 fan (a tool)	repeated action
paw, apaw/mápaw	輕的/很輕 light (not heavy)	ma-pa-paw	比較輕 lighter	comparative
pia, apía	好,良,善 good	ka-api-apia-an	好地方 good places	plurality
pia, apia/ kapia, kapian	好,良,善/很好 good	ka-pi-pia-an	較好的地方 a better place	comparative
pia, apía/ makapía, kapian	好,良,善/好好地 good/do something well	maka-pi-pia	可改善的 can be improved	repeated action
posing/mikaposing	撕裂/互為表親關係 to tear/in a relationship of cousins	mika-posi-posing	都撕的亂七八糟 rip all to shreds	plurality

pseng	鍋巴,燒焦 burned rice	mala-pe-pseng	燒焦味 smells like something is burned	repeated action
ptad, aptad/mipetad	落地聲,放下/停止動作,發出落地的聲音 thunk, drop/stop, fall with a thunk	mi-peta-petad	坐在地上不斷踢腳的動作,如小孩哭鬧耍賴的情形 sit on the floor and kick constantly, throw a tantrum	repeated action
rahet/ maráhet	不好/很不好 not good	ma-rahe-rahet	較不好 worse	comparative
rahet/ karáhet, karahetan	不好/覺得很煩,不好的地方 not good/feel troubled, a bad place	ka-rahe-rahet-an	荊棘處,兇險處,平常狀況就不好 a place with thistles, a dangerous place, a not very good condition	repeated action
rahet	不好 not good	mika-rahe-rahet	弄的亂七八糟,到處都被破壞 make a mess, destroyed everywhere	distribution
rahet/ manráhet	不好/令人心煩的 not good/cause to feel troubled	man-rahe-rahet	背地裡愛說人壞話 love to talk behind one's back	repeated action
rahet	不好 not good	mapika-rahe-rehet	搞破壞 cause destruction	repeated action
rakeh	年長的 old	icia-ra-rakeh	同為老人的 as a member of the group of old people	plurality
rakeh	年長的 old	mipa-ra-rakeh	愈來愈老 getting older and older	continuous action

rakep/ macirakep	捉,抓/加入摔角的行列 catch/join in wrestling	maci-ra-rakep	跟人摔角 engage in wrestling	repeated action
raten	不允許 prohibited	mi-ra-raten	犯罪 to sin	repeated action
sakeb	趴著,腹面著地 lying face down	pi-sa-sakeb	命人趴下 lie down face down (a command)	continuous action
sakeb	趴著,腹面著地 lying face down	pi-sa-sakeb-en	使趴著 cause to lie down face down	continuous action
sakeb	趴著,腹面著地 lying face down	mi-sa-sakeb	趴著 lying face down	continuous action
saki	酒 wine	mika-saki-saki	都醉的一蹋糊塗,一個個都醉了 all get drunk, get drunk one after another	plurality, distribution
saray/ masaray	愉悅的 happy	ma-sa-sáray	都很快樂的 all very happy	plurality
sazap/ misazap	面對著/面對面 to face/face to face	mi-saza-sazap	面對面 face to face	continuous action
sazap/ mipasazap	面對著/面對面 to face/face to face	mipa-saza-sazap	面對著 to face	continuous action
sinmo/ misinmo	迎接/會合,相遇,結婚 receive/meet, get married	mi-sin-sinmo	集合,會合 meet, get together	repeated action
sinmo/ mapisinmo	迎接/使會合 receive/cause to get together	mapi-sin-sinmo	準備 prepare	repeated action
siring	說話 speak	pa-niri-siring-en	領袖,首領,領導者 leader	repeated action
snek	不好意思 shameful	macipa-se-snek	引以…為恥,使蒙羞 consider to be shameful	repeated action

soli	愛生氣的 bad-tempered	ma-soli-solí-in	很小氣的(容易情緒性的) get emotional easily	repeated action
sozi	兇貌 fierce appearance	mapaka-sozi-sozi	假裝生氣,裝兇 pretend to be fierce	repeated action
spi	破掉 broken	mika-spi-spi	到處都是破掉的情形 broken everywhere	plurality
taci	尿 urine	mi-taci-taci	到處尿,尿失禁 urinate everywhere	distribution
taci	尿 urine	mala-ta-taci	有尿騷味 smells like urine	repeated action
tagala	口張不合 with a mouth open	mi-ta-tagala	口張不合 with a mouth open	continuous action
tana	土壤 soil	mi-tana-tana	製陶 make pots	repeated action
tangay/ mitangay	眼前/兩個面對面,擺在眼前的 in front of/face each other, put in front	mi-ta-tangay	仰著 lying with face up	continuous action
tangtang/ pitangtang	搥打/命人打鐵 pound/forge	pi-ta-tangtang	工具,或命人搥打或敲擊任何東西 tool used to pound, pound on it! (a command)	repeated action
tangtang	搥打 pound	mi-ta-tangtang	打鐵 forge	repeated action
tao	人 person	icia-ta-tao	人,(同為…人的) as a member of a group of human beings	plurality
tarek	相同的 same	mapika-tare-tarek	作分類 to classify	repeated action

tava/ matava	脂肪,粗/很胖,很粗,很肥 fat/very fat	ma-ta-táva	都很胖 all very fat	plurality
tava/ matava	脂肪,粗/很胖,很粗,很肥 fat/very fat	ma-tava-tava	比較胖 fatter	comparative
tava	脂肪,粗 fat	maka-ta-tava	會讓人發胖的 cause to be fat	repeated action
teleh	聾 deaf	maka-te-teleh	致使耳聾 deafen	repeated action
teneng/ matáneng	智慧/很聰明 wisdom/very smart	ma-te-téneng	都很聰明 all very smart	plurality
teneng/ mateneng	智慧/很聰明 widsom/very smart	ma-tene-teneng	比較聰明 smarter	comparative
tog	倒著的 upside down	mipa-to-tog	倒過來,傾斜一邊 cause to be upside down	continuous action
toing	傳染 spread a disease	maka-to-toing	會傳染的 contagious	repeated action
toki	拳擊 hit with a fist	mi-toki-toki	拳打 hitting with fists	repeated action
toklay	單腳跳 hop on one foot	mapaka-tok-toklay	假裝跛子 pretend to be crippled	repeated action
toknoz/ mitoknoz	撞擊,撞到/相撞 hit, bump into/slam into each other	mi-tok-toknoz	撞成一堆 slam into each other	repeated action
vahay/ mivahay	家/居住 house/reside	mi-va-vahay	有洞的 have a cave	repeated action
vahay/ macivahay	家/與人共住,寄居 house/live with someone	maci-vaha-vahay	嫁人 get married (to a man)	repeated action
vait	較量的 measure one's power with	maci-vai-vait	到處與人較量 engage in power-measuring everywhere	distribution
valang	陽光 sunshine	mi-vala-valang	晒太陽 sun bathing	repeated action

vaod/ pamaod	綑綁/令人綑綁 bind/cause to be tied up	pa-ma-maod-an	監獄 jail	repeated action
vazay/ mivazay	工作,職業/做事,工 作 work (n., v.)	mi-vi-vazay [3]	常常工作,平日 的工作 work regularly, regular work	repeated action
vekeh	顆粒,凸起的 grain, swell	mi-ve-vekeh	腫塊,腫起來 lump, swelling	continuous action
vekeh	顆粒,凸起的 grain, swell	mika-veke-vekeh	到處都是腫塊 (顆粒) full of lumps all over	plurality
vera	刷洗 wash, scrape	mi-vera-vera	洗餐盤 wash plates	continuous action
visang	兩腳張開 with two feet spread apart	mi-vi-visang	兩腳張開 with two feet spread apart	continuous action
vongtot	餿味,臭酸 a smell of rotten food, rancid	mala-vo-vongtot	有餿味的 smells like rotten food	repeated action
vota	瞎 blind	maka-vo-vota	招致眼瞎,可讓 人眼瞎的 can cause blindness	repeated action
walam/ maciwalam	休息/與人聊天 rest/engage in chatting	maci-wa-walam	到處去聊天 engage in chatting everywhere	plurality
wari	弟,妹 younger sibling	ma-wari-warí-in	很照顧弟弟妹 妹的 caring for one's younger sibling	repeated action
yala	籃子 basket	mika-yala-yala	一籃一籃的 one basket after another	plurality
yangay/ miyangay	一樣/一樣 the same	mi-ya-yángay	都一樣 all the same	plurality

yowyaw/ miyowyaw	追逐,驅趕/遊玩 chase/play	mi-yo-yowyaw	閒逛,到處遊玩 wander around, to play everywhere	repeated action
zakat/ mazakat	殺,打死/死掉 kill/dead	ma-zaka-zakat	要死不活的樣子,多次死掉的 half-dead, to be dead many times	repeated action
zakat/ makazakat	殺,打死/能致死亡的 kill/deadly	maka-za-zakat	招致死亡的,可讓人死的東西 can cause death	repeated action
zakat	殺,打死 kill	masi-zaka-zakat	與人相殘 engage in killing	repeated action
zakat	殺,打死 kill	mika-za-zakat	都死了(一個個死了) die one after another	plurality, distribution
zakat	殺,打死 kill	mapaka-zaka-zakat	裝死 pretend to be dead	repeated action
zavoz/ mizavoz	混合/兩種混在一起 mix/mix two together	mi-zavo-zavoz	混合,混雜 mix together	repeated action
zda, azda/ kazdan	大浪/浪濤洶湧處(暫時) ocean waves/a place where waves are high	ka-ze-zda-an	浪濤洶湧處(平常,長久) a place where waves are always high	repeated action
ziak	說話聲 speech sound	ipi-zi-ziak	說話的原因 reason to speak	repeated action
zicik, zcik	破損 crack	mika-zici-zicik	到處都是龜裂的情形 become cracked everywhere	distribution
zingzing	抖一抖 shake	mi-zi-zingzing	甩一甩,抖一抖 shake one's hand or one's leg	repeated action

zipos	親戚 relatives	ma-zipo-zipós-en	與親戚關係良好的 maintain a good relationship with one's relatives	repeated action
zipos/ kapizipos	親戚/只因是親戚關係 relatives/only due to a relative relationship	ka-zipo-zipós-en	對親戚和睦 have harmony with one's relatives	repeated action
zoay/ mazóay	榮耀,很美 glory, very beautiful	ma-zoa-zóay-in	很愛現,愛美的 likes to look beautiful	repeated action
zoay	榮耀,很美 glory, very beautiful	mapaka-zoa-zóay	很愛現,愛美的 pretend to look beautiful	repeated action

[1] /l/ and /z/ are variants, i.e., magolang ~ magozang 'thin'

[2] mikikawaz varies with mikeykawaz 'a person who does planing'.

[3] The infixed reduplicant is vi- instead of va- in mi-vi-vazay 'to work regularly'.

6. Conclusion

　　This paper has presented data and analysis of Yami reduplcation based on a Morpheme Doubling Theory (MDT).　We have shown that reduplication is essentially a doubling of identical stems to express iconicity.　There are only two types of reduplication in Yami: full reduplication and partial reduplication.　In the MDT model, Ca-reduplication is classified as a subtype of partial reduplication, whereas right reduplication is a type of full reduplication.

　　We have also presented evidence to show that reduplication involving the prefix *paN-* can be analyzed either as infixation or prefixation depending on the patterns of morphophonemic alternations.　Although most reduplication occurs in word stems; there are many cases that target prefixes.

　　Finally, we have demonstrated that a stem is reduplicated to express five core functions in Yami: plurality, comparative degree, distribution, repeated actions or continuous actions.

　　For future studies, an analysis of the relationship between stress shift and reduplication will be necessary.　With the detailed data in Table 5 and other data in Rau et al. (2005), this paper has paved a way towards future investigation in that direction.

References

Adelaar, K. Alexander. 2000. Siraya reduplication. *Oceanic Linguistics* 39.1:33-52.

Blust, Robert. 2001. Three notes on early Austronesian morphology.   Paper presented at the International Symposium on Austronesian Cultures: Issues Relating to Taiwan. December 8-11, 2001. Academia Sinica.

_____. 1998. Ca- reduplication and Proto-Austronesian grammar. *Oceanic Linguistics* 37.1:29-64.

Chang, Laura M. 1998. Thao reduplication. *Oceanic Linguistics* 37.1:277-297.

Huang, Hui-chuan. 2005. On the status of onglides in Isbukun Bunun. *Concentric: Studies in Linguistics* 31.1: 1-20.

Inkelas, Sharon & Cheryl Zoll. 2005. *Reduplication: Doubling in Morphology*. Cambridge: Cambridge University Press.

Lee, Amy P. 2005. Rightward reduplication in Formosan languages revisited. Paper presented at AFLA 12, 4/30-5/2/2005, UCLA.

Li, Paul J.-K（李壬癸）. 1992. *Phonetic Symbols of the Austronesian Languages in Taiwan* 《臺灣南島語言的語音符號系統》.   Taipei: Ministry of Education.

Li, Paul J.-K. & Arline Y. L. Ho（李壬癸、何月玲）. 1989. A preliminary study of the Yami language 蘭嶼雅美語初步調查報告. In *Yami Cultural Maintenance and Development* 《雅美族及雅美文化的維護與發展》. 9-86. Ministry of Ineterior Affairs of the R.O.C.

Li, Paul Jen-kuei and Tsuchida, Shigeru. 2001. Pazih Dictionary.   *Language and Linguistics* Monograph Series Number A2. Taipei: Academia Sinica.

Rau, D. Victoria and Maa-nue Dong. 2005 (in press). Yami Texts with Reference Grammar and Vocabulary.   *Language and Linguistics*, A-10.

Rau, D. Victoria et al. (何德華、董瑪女、林孟穎、張惠環、許永昌). 2005. *Yami Multimedia Language Teaching Materials*《達悟語多媒體語言教材》. Unpublished manuscript, Providence University.

Ross, Malcolm D. 1995. Reconstructing Proto-Austronesian verbal morphology: Evidence from Taiwan. In *Austronesian Studies Relating to Taiwan*, ed. by Paul Jen-kuei Li, Cheng-hwa Tsang, Ying-kuei Huang, Dah-an Ho, and Chiu-yu Tseng. Symposium Series of the Institute of History and Philology, Academia Sinica, No. 3, 727-791. Taipei: Institute of History and Philology, Academia Sinica.

Wolff, John U. with Ma. Theresa C. Centeno and Der-Hwa V. Rau. 1991. Pilipino through Self-Instruction. Southeast Asia Program, Cornell University.

Zeitoun, Elizabeth & Chen-huei Wu. 2005. Prototypical and less prototypical patterns of reduplication in Formosan languages. Paper presented at the Taiwan Japan Joint Workshop on Austronesian Languages. 6/23-24/2005.   Taipei: National Taiwan University.