Prosodic Structure and Reduplication: Data from Some Languages of Maluku

Donald A. Burquest and Lee A. Steven
University of Texas at Arlington
Summer Institute of Linguistics

In his foundational paper (Marantz 1982), Marantz proposes an insightful framework to account for patterns of reduplication. Full reduplication, in which the entire morpheme is copied, is well known and rather easily treated; Marantz's major contribution is providing a means to account for patterns of partial reduplication through the use of a CV template, a principle of stem-copying, and the general types of association conventions familiar in autosegmental phonology (we assume knowledge of the details of his proposal in what follows). In this paper we first demonstrate that Marantz's proposal fails to account for patterns of reduplication in some languages of Maluku; we then consider the effectiveness of a more recent proposal (McCarthy and Prince 1990) to provide a more accurate account. For reasons of simplicity, we focus our discussion on the Roma language (Steven 1991); the pattern is found widely in southern Maluku, however, and we make reference to Tugun (Hinton 1991) and West Tarangan (Nivens 1992) in our discussion.

Roma is a member of the Central Malayo-Polynesian subgrouping of Austronesian (Blust 1977); it is spoken on Roma island in southern Maluku. Roma has an inventory of twelve consonants (p,t,d,k,s,h,m,n,l,r,w,y) and five vowels (i,e,a,o,u). There is, in addition, a phonetic transitional schwa which occurs in two environments: in clusters of /k/ and a following consonant within the same syllable, and in clusters of /h/ and a following consonant which is the onset of an unstressed syllable. This schwa is not included in the phonological inventory because it is shorter in duration than those vowels which occur as syllable nuclei, and it is not perceived as distinctive by Roma speakers.

There are two major syllable types in Roma. The 'simple syllable' may be characterized as (C)V(C); a nucleus is necessary, and in addition there may be an onset and/or a coda consisting of one consonant each. The 'complex syllable' may be characterized as (C)CCV(C); a nucleus and a complex onset occur, and in addition there may be an additional onset and/or coda consisting of one consonant each. It is in the onset of complex syllables, and in consonant clusters across syllable boundaries,
that the phonetic schwa occurs. While the simple syllable type has an unrestricted distribution (in word-initial position a phonetic glottal stop precedes all V and VC syllables), the complex syllable is limited to word-initial position (except that the minimal form CCV may occur medially and finally when the second C is a glide /y/ or /w/). Note the following examples (Steven 1991:55):

(1) V o.ko 'that'
    VC ak.nik.ru 'youngest'
    CV ni.na 'his'
    CVC du.dul 'horn'
    CCV lpi.a 'sago palm'
    CCVC kdir.nu 'coconut shell'
    CCCV kdye.li 'ring'
    CCCVC hnyok.ri 'blanket'

The reader is referred to Steven 1991 for full discussion, including carefull exemplification of distributional restrictions.

Stress placement in Roma is predominantly penultimate, with a secondary stress (indicated by , in the relevant examples) on the pre-antepenultimate syllable if there is one (Steven 1991:42ff):

(2) 'pi.ti 'mat'
    'wo.ha 'paddle'
    da'mu.lan 'bamboo (species)'
    er'we.run 'gall, bile'

Morphemes four syllables in length are rare in Roma, with only two known forms (both nouns) as possible candidates:

(3) ,di.l.kor'kor.ra 'frog'
    ,ko.kam'ma.u 'spider'

Morphologically complex forms are not unusual, however, and they also show secondary stress (see further examples in (5) below):

(4) .i.tam.'tur.wi.ti 'we (incl) sleep/rest'
    .a.mal'we.ra.mi 'we (excl) bathe'
    .i.tal'we.ri.ti 'we (incl) bathe'

The examples in (4) illustrate a major exception to the pattern of penultimate stress which is important, viz. that suffixes are not considered when stress placement is assigned. Note the following also (in the verbal examples below, the stem is in bold type):

(5) klo dan 'klo dan 'shin'
    klo dan+na 'klo dan.na 'his shin'
    aw+mturu+au am'tur.wa.u 'I sleep'
    na+mturu+e nam'tur.we 'he sleeps'
    ama+mturu+ami a.mam'tur.wa.mi 'we (excl) sleep'
    ita+mturu+iti i.tam'tur.wi.ti 'we (incl) sleep'
This pattern must be distinguished from that resulting from the attachment of other affixal material (referred to here as 'clitics'), which do cause the stress to shift (Steven 1991:45):

(6) lepa  'le.pap  'monkey'
    lepa+ei le'pei   'the monkey'
    lepa+ida le'pida  'a monkey'
    krahan 'kra.han  'house'
    krahan+ei kra.ha'ne.i 'the house'
    krahan+ida kra.ha'ni.da  'a house'

The reader is referred to Steven 1991 for further discussion of this distinction, which plays no role in the patterns of reduplication which form the subject of this paper.

Having sketched the basic facts of Roma phonological structure, we turn now to the topic of this paper, reduplication (except where necessary to the discussion, we omit details of syllable structure and stress placement). There are two basic patterns for partial reduplication in Roma, that using a CV prefixed template and that using a CVC prefixed template. Both templates are used to derive adjectives from nouns and verbs, and apparently the choice of which template to use for a given stem is unpredictable and must be lexically specified. Note the following examples:

(7)a. **CV template**

    'moti  'green (thing)'    mo'moti  'green'
    'pokil  'circle'        po'pokil  'round'

b. **CVC template**

    'pona  'fog, haze'    pom'pona  'gray'
    'waru  'new (thing)'  war'waru  'new'

The CVC template alone is used to derive nouns from verbs (not included here) and to inflect verbs for the durative aspect:

(8) 3sg non-durative  3sg durative

paha  'to wash'    n-paha  n-pah-paha
kamur  'to sweep'    n-kamur  n-kamur

Assuming that the appropriate template can be specified, there is no difficulty with examples such as these, and Marantz's proposal will handle the data elegantly and without complication. However, let us turn now to examine the durative forms in more detail (we return to further consideration of the nominal forms at the end of the paper).

Note that if a verb stem is vowel-initial in underlying representation (as mentioned above, a phonetic glottal stop precedes all vowel-initial forms when they end up word-initial on the surface), the final (or only) consonant of the subject prefix is incorporated into the reduplicated form (here we use the third person singular form as our example):
(9) 3sg non-durative 3sg durative
ala 'to take'  n-ala  nal-nala
ohun 'to massage' n-ohun  noh-nohun
edin 'to kill'  n-edin  ned-nedin

Such patterns can be readily accounted for if reduplication is assumed to apply following subject prefixation. Otherwise, note that if only the stem is copied over the template, as Marantz proposes, the incorrect form results:

(10) UR template-prefixation stem-copying association surface form

| a | l | a | a | l | a | a | a | a | alala
|---|---|---|---|---|---|---|---|---|---
VCV  CVC + VCV  CVC + VCV  CVC + VCV  CVC + VCV

Unless subject prefixation takes place prior to reduplication, the presence of the medial nasal in such forms cannot be accounted for.

It is not the case simply that subject prefixation must precede, however; (re)syllabification following such prefixation must also precede. Note that if the stem begins with a consonant cluster, the first consonant is always syllabified with the prefix (which contains a vowel when attached to stems beginning with a consonant cluster), and the reduplication process incorporates only the second consonant of the cluster (the final form here is a reflexive verb which requires a suffix agreeing with the subject prefix):

(11) 3sg non-durative 3sg durative
krumat 'to slice'  na-krumat  na-krumat
kdede 'to stand'  na-kdada  na-kded-dada
prita 'to inform'  na-prita  na-prit-rita
troran 'to sit'  na-troran  na-tror-roran
mturu 'to sleep'  na-mturwe  na-mtur-turwe

If Marantz's approach is to be maintained without modification, it cannot be the case that the stem itself is what is copied over the template; whether the association is left-to-right (expected in prefixes) as in (a) below, or right-to-left (the marked case for prefixes) as in (b), the incorrect form results:

(12)a. krumat  krumat  *krkrumat

\[\text{CVC} + \text{CCVCVC}\]

b. krumat  krumat  *matkrumat

\[\text{CVC} + \text{CCVCVC}\]