Reduplication, Ideophones, and Onomatopoeic Repetition in the Yanomami Languages

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Abstract. The morphological process of reduplication occurs throughout the Yanomami languages of northern Amazonia. Onomatopoeia and the repetition of morphemes of apparent ideophonic origin are also common in the four major subgroups of the Yanomami language family: Yanomami, Yanomae, Sanuma, and Yanam. Reduplication has been specifically mentioned in grammatical descriptions of Yanomami (Ramirez 1994), Sanuma (Borgman 1990) and Yanam (Gómez 1990). Documentation of the Yanomami languages is ongoing, and grammatical descriptions are incomplete. Nevertheless, data from a thematic lexicon of Yanomae (Albert and Gómez, in prep.) highlights the frequent repetition of onomatopoeic forms, especially in relation to body movements, bodily functions, and animal and plant names. Furthermore, the Yanomae data provides additional evidence for arbitrary (non-iconic) as well as iconic reduplication. This paper is an initial attempt to illustrate these phenomena with data from the four subgroups of the Yanomami linguistic family and to examine them in the context of reduplication studies.

Keywords. Reduplication, ideophones, repetition, onomatopoeia, Yanomami languages

1. Introduction

With an estimated total population of 33,000, the Yanomami people inhabit a traditional territory that extends over 192,000km² of tropical forests located to the west of the Guiana Shield along both sides of the border between Venezuela and Brazil (Albert et al., in press). They are hunter-gatherers and slash-and-burn cultivators who maintain their traditional beliefs and practices. There are four major subgroups in the Yanomami language family: Yanomami, Yanomae, Sanuma, and Yanam.¹ The languages and dialects within the Yanomami family are closely related but show varying degrees of mutual intelligibility. No definitive genetic affiliation with neighboring languages or major linguistic groups has been proven. Documentation work on these languages is ongoing, and grammatical descriptions

¹ Alternative names and spellings that appear in the literature for these languages are: Yanomami (Yanomamö), Yanomae (Yanomam, Yanomama), Sanuma (Sanïma, Sanöma, Sanema), and Yanam (Ninam).
are incomplete. The majority of Yanomami speak only their native languages. Approximately 59% of the total Yanomami population speak the Yanomami language (mainly in Venezuela), 21% speak Yanomae (almost all in Brazil), 17% speak Sanuma (mostly in Venezuela) and only 3% speak Yanam/Ninam (mainly in Brazil) (Albert et al., in press).

All the languages and dialects of the Yanomami family share some general structural characteristics. The basic word order is SOV, and there is ergative case marking on agents and instruments. The basic open word classes are nouns and verbs; stative verbs convey adjectival meanings. Additional word classes include pronouns and an extensive inventory of particles. The Yanomami languages are suffixing, and the agglutinative verbal morphology is highly complex. The canonical syllable structure is (C)V although a few consonant clusters (/pr/, /kr/, /hr/ or /fr/, /mr/) occur in Yanomami, Yanomae, and less frequently Yanam. According to Borgman (1990:223) consonant clusters are not found at all in Sanuma, except for /pl/ and /kl/ in ideophones. Primary stress is placed on the penultimate vowel of the phonological word. Defining the notion of “word” for any of the Yanomami languages is complicated. Ramirez (1994:72) suggests conflating the phonological and morphological word in his description of Yanomami. Likewise, with respect to Yanam, Migliazza (1972:162) states, “words uttered in isolation have pause boundaries and function as sentences. While nouns can occur in isolation as phonological words and pause groups, verbs cannot and have to take pronouns and suffixes.” In this paper, a word is defined as a root plus its derivational or inflectional elements.

The morphological process of reduplication occurs throughout the Yanomami languages, and reduplication has been specifically mentioned in grammatical descriptions of Yanomami (Ramirez 1994), Sanuma (Borgman 1990) and Yanam (Gómez 1990). This paper discusses only examples of full (or total) reduplication, although there is evidence of partial reduplication. Further investigation of reduplication and repetition in individual languages and dialects within the Yanomami family is needed to distinguish partial reduplication from repetition. Onomatopoeia and the repetition of morphemes of apparent ideophonic origin are also common in the Yanomami languages. Data presented in this paper from a thematic lexicon of Yanomae (Albert and Gómez, in prep.) highlight the frequent repetitive structures in onomatopoetic forms, especially related to body movements, bodily functions, and animal and plant names. Furthermore, this Yanomae data provides additional evidence for arbitrary (non-iconic) as well as iconic reduplication. Yanomami also displays both arbitrary and iconic types of reduplication; whereas, only examples of iconic reduplication were found for Sanuma and Yanam.

The data presented here are drawn from several sources. The examples in Yanam and Yanomae are taken from the author’s research on Yanam in 1985-86 in the community of Ericó (Roraima, Brazil) and on Yanomae since 1991 in the community of Watoriki (Amazonas, Brazil) and co-authored works with French anthropologist Bruce Albert. The examples in Sanuma are from Borgman (1990), and those in Yanomami are primarily from Ramirez (1994) with a few examples from Lizot (1996). No specific mention of reduplication was found in Migliazza (1972).
This article is an initial attempt to illustrate the phenomena of reduplication, repetition, onomatopoeia, and ideophones with data from the four subgroups of the Yanomami language family and to examine them in light of current studies on reduplication. In doing this, however, the author is not assuming that it is appropriate to analyze the Yanomami languages as a single linguistic system. The aim of this pan-Yanomami approach is to provide a brief typology of reduplication, onomatopoeia, repetition, and ideophones across the Yanomami language family in order to encourage further investigation into these phenomena in the individual languages and dialects. This is not intended to be a comprehensive or definitive study.

A resurgence of interest in reduplication has provided a growing body of literature and, consequently, a better understanding of the phenomenon cross-linguistically. Rubino (2005:11) defines reduplication as "[t]he systematic repetition of phonological material within a word for semantic or grammatical purposes" and full reduplication as "the repetition of an entire word, word stem (root with one or more affixes), or root." Stolz (2008:4) clarifies full (or total) reduplication as "patterns [that] require two phonologically identical and immediately adjacent strings (called original and copy) each of which represents a syntactic word equipped with identical content in the object language." The distinction between reduplication and repetition is still unclear, despite continued theoretical discussions and the recent efforts of Gil (2005) to provide diagnostic criteria. Data from Yanomami languages include many inherently repeated onomatopoeic expressions as well as ideophones that occur both in reduplicative constructions and as multiple repetitions in a text. I will suggest ways of distinguishing between reduplication and repetition in these constructions in section 4.

The examples presented in this paper show full reduplication that generally involves copying a verb root, an ideophone, or a lexical formative of apparent onomatopoeic origin. In certain cases, an immediately adjacent suffix or a supportive vowel is copied with the verb root. Complete reduplication of verb stems indicates either the arbitrary, grammatical function of de-verbalization or an iconic, semantic function that adds to the verb such meanings as iterativity, continuity, durativity, or intensity of the state, event, or action. First, I will discuss arbitrary (non-iconic) reduplication, followed by iconic reduplication and conclude with ideophones and repetitive onomatopoeic expressions.

3 In the examples from Borgman (1990), Ramirez (19994), and Lizot (1996), the transcriptions in the original sources have been retained, but the morphemic divisions and glossing have been adapted to my own analysis for the sake of coherence. Spanish, French, and Portuguese glosses have been translated into English by the author. The symbols è or ã represent IPA ə, ø represents IPA ø, and sh or x represents IPA f, according to the usage in the original source. In keeping with standard orthography for Brazilian Portuguese, the letter x is frequently used instead of IPA f in the Brazilian Yanomami languages to transcribe a voiceless alveopalatal fricative, resulting in tx for IPA tʃ to represent a voiceless alveopalatal affricate.
2. Arbitrary reduplication

Using the term “arbitrary” to describe reduplication prioritizes the grammatical function of reduplicative constructions over semantic purposes. The two types of reduplication, arbitrary and iconic, may not be as mutually exclusive as they may seem at first. Having a grammatical function does not necessarily preclude the reduplication process from adding semantic content as well. After all, the doubling of identical forms is inherently iconic, as Moravcsik (1978:316) points out, “First, the relation between the meaning of a reduplicative construction and its unreduplicated counterpart is almost always that of proper inclusion, with the former properly including the latter. In other words, reduplicative constructions almost always entail everything that their unreduplicated counterparts do and, in addition, also something(s) that their unreduplicated counterparts do not.” In Yanomae and Yanomami reduplication can have a word class changing function. In this case, certain types of verb stems (primarily intransitive, position, and stative verbs and occasionally transitive verbs) are transformed into nominal constructions. In Yanomami the stative verb root wake- ‘red’ (1) becomes a noun ‘the color red’ (2) when reduplicated: 4

(1) a wake-i Yanomami (Lizot, 1996:228)
CL.SG red-DYN
'It’s becoming red (it’s ripening).'

(2) wake=wake Yanomami (Lizot, 1996:228)
red=red
'the color red'

Many of these nominal constructions appear to express an increased quantity of the semantic content of the quality expressed by the unreduplicated verb roots. There is apparently a significant overlap of semantic and grammatical functions involved in Yanomami reduplication. The ‘humidity’ of herehere pe (4) could be interpreted as a ‘generalized or widespread’ quantity of the ‘wet’ state expressed by the simplex verbal form here. In such cases, the reduplicative construction that results from a grammatically-motivated, category-changing process may also serve a semantic purpose.

Full arbitrary reduplication in Yanomae and Yanomami alters the word class of intransitive, position, and stative (or semantically adjectival) verb roots, transforming them into nominal constructions, as the following examples show:

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4 An equals sign (=) indicates a boundary between productively reduplicated elements and between words in compound, a hyphen (-) marks a productive morpheme boundary, and word boundaries are indicated by blank spaces. In the language data line, a dot (.) indicates a phonetic or etymological boundary but not a morpheme boundary. In the glossing line, the dot (.) separates the semantic components of the total gloss, but it does not correspond to the dot on the data line.
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(3) noma=noma a
   die=die    CL.SG
   'death'

(4) here=here pè
   wet=wet    CL.PL
   'humidity'

(5) āhi=āhi pè
   muddy=muddy CL.PL
   'mud'

(6) naxi=naxi kiki
    sour=sour CL.aggregate
    'honeycomb (of) sour (tasting honey)'

Like most nouns in Yanomae, each derived reduplicative nominal is associated with an appropriate classifier: a 'SG/unitary' in (3), pè 'PL' in (4) and (5), and kiki 'aggregate' in (6). In Yanomae example (3) where the intransitive verb root noma- is reduplicated, it becomes the noun noma=noma a 'death,' a single entity as indicated by the associated classifier a. While the reduplicative constructions in (4) and (5) are assigned the general plural pè, the presence in example (6) of the aggregate classifier kiki seems semantically more appropriate for a honeycomb, which does, in fact, represent an aggregate of small quantities of honey. Ramirez (1994:365) identifies the deverbalizing function of reduplication in Yanomami (7) whereby the stative verb xami 'dirty' becomes the nominal xami=xami 'a dirty one' and the subject of the intransitive verb rukē- 'enter'.

(7) xami=xami a rukē-rayo-ma
    dirty=dirty CL.SG enter-TEL-PAST
    'A dirty one entered.'

Examples (2) through (7) fulfill Rubino’s (2005) and Stolz’s (2008) requirements for full reduplication; in each example the doubling of adjacent identical words serves a grammatical purpose. The reduplicative constructions in this set of examples “serve to differentiate members of one grammatical category from another” (Moravcsik 1978:324). The verb roots, whether intransitive (3) or stative (2), (4) through (7), are nominalized through the process of reduplication. The resulting nominal phrases in (2), (4), (5), and (6) bring to mind a type of construction that Moravcsik (324) singles out as showing that “the difference in meaning between the reduplicated construction and its unreduplicated counterpart is both a difference in basic grammatical category and also a difference of [meaning of] one of the above types [increased quantity, intensity, diminution and attenuation].” The relevant set of examples that Moravcsik

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5 Ramirez (1994:87) catagorizes particles, pronouns, body parts, and classifiers as bound morphemes that are obligatorily incorporated to a noun or verb. Accordingly, his original transcriptions, e.g. (7) xami=xami a-rukē-rayo-ma, (8) natenate ya+ wa-i and (9) kakara+nate, differ slightly from the versions presented in this paper.
(324) highlights involves "[r]eduplication correlated with denominal adjectivalization and connotation of fullness of something." On closer inspection, the reduplicative constructions in examples (2), (4), (5), and (6) do seem to carry the 'connotation of fullness of something,' and the associated plural (4-5) and aggregate (6) classifiers clearly support this idea. The additional meaning is correlated with a deverbalization of adjectivals rather than the denominal adjectivalization of Moravcsik's Mokilese and Twi examples. Nevertheless, it is difficult to ignore the overlap of iconicity in what initially appear to be examples of arbitrary (non-iconic) reduplication in light of the broad semantic concept of increased quantity that Moravcsik posits for the recurrence of reduplicated forms cross-linguistically.

In both Yanomae and Yanomami the cognates for the (inalienably-possessed) body part terms *nate* 'egg,' *iyē* 'blood,' and *kōi* 'body hair' present a special case whereby these nouns may also be interpreted as semantically adjectival stative verbs, i.e. 'eggy,' 'bloody,' and 'hairy,' respectively. As such, they may undergo the same reduplicative process as the stative verbs in examples (2) and (4) through (7). The reduplicative construction *natenate* 'spawn' (object of the transitive verb *wa-* 'eat') in example (8) has a structure similar to the noun compound *kakaranate* (9), in which *nate* 'egg/eggy' is one component.

(8) nate=nate\negg/eggy=egg/eggy\n\n'eat spawn.'

(9) kakara=nate\nchicken=egg/eggy \n'(It's a) chicken egg'

Yanomae reduplicative constructions (10) and (11) derive nominals from stative verbs *iyē* 'blood/bloody,' and *kōi* 'body hair/hairy.' Once again, the noun compound in (12) suggests a similar compounding process for the reduplicative constructions in (11).

(10) *iyē=iyē\npē\nblood/bloody=blood/bloody CL.PL\n'(a quantity of / spilled) blood'

(11) *kōi=kōi\npēka\nbody.hair/hairy=body.hair/ CL.orifice hairy \n'hair follicle'

(12) kasi-ki=kōi\n*lip-PL=body.hair/hairy\n'moustache'

The nominal nature of reduplicative constructions in Yanomae is reinforced by the occurrence of the nominal suffixes -*ha* 'location' and -*hami* 'direction' with the reduplicated form of the stative (adjectival) verb *wehe-* 'dry' in (13) and (14). These suffixes normally attach to simple, common nouns to form nominal phrases, such as
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yano-ha 'in the house' and urihi-ham 'towards the forest.' In its simplex form wehe- 'dry' cannot occur with nominal suffixes. The same is true for the simplex xami 'dirty,' which when reduplicated is interpreted semantically as a place (15) or an animate being (7), depending upon the context and the suffix. In (16) the stative verb, oxe- 'young, immature,' which commonly refers to humans or animals, is reinterpreted as a place after the locative suffix -ha is attached to its reduplicated form.

(13) wehe=wehe-ha Yanomae (AGG in prep.)
dry=dry-LOC
'on dry land'

(14) wehe=wehe-hami Yanomae (AGG in prep.)
dry=dry-DIR
'in the direction towards dry land'

(15) xami=xami-ha Yanomae (AGG in prep.)
dirty=dirty-LOC
'in a dirty place'

(16) oxe=oxe-ha Yanomae (AGG in prep.)
young=young-LOC
'in a low growth (lit. 'young, immature') forest'

Indirect evidence for the nominal nature of reduplicated expressions is their occurrence with the verbalizing (VBLZR) suffixes -mV (-mu/-mo/-ma), which are productive across the Yanomami language family to form verbs from nouns. In Yanomae the verb xapirimu 'perform shamanism' (lit. 'act as / while being a shamanic spirit') is derived from the noun xapiri a 'shamanic spirit' by the addition of the verbalizing suffix -mu. The verbalizing suffixes have a similar de-nominalizing effect on reduplicative constructions. The application of the -mV suffixes is productive in deriving verbs from the reduplication of ideophones, and this will be discussed in Section 4.

The stative verb root, oxe- 'young, immature,' that was reduplicated in (16) appears in (17) as the same nominal construction in a new context. In this instance, the verbalizing suffix -mu changes the word class of the reduplicative construction back to a verb, and its meaning is quite different although the core semantic concept 'young, immature, weak' is still evident.

(17) ya oxe=oxe-mu xoa Yanomae (AGG in prep.)
1SG young=young-VBLZR still
'I still walk with a limp.' (lit. I am still [as if] young/[having]weak [legs])

Another reduplicative construction in Yanomae (18) that expresses a different type of 'walk with a limp' is derived from the intransitive verb hiyëti- 'stay or stand on one's tip-toes' with the addition of the verbalizer -mu.
3. Iconic reduplication

Iconic reduplication is the most common and productive type of reduplication that occurs throughout the Yanomami languages. Full reduplication of verb roots contributes semantic meaning to utterances in a number of ways. Moravcsík’s (1978:317) “concept of increased quantity” as one of the most frequent and fundamental types of meaning associated with reduplication cross-linguistically. Consistent with Moravcsík’s (1978:319) observation that this process may be used to “express repeated or continued occurrence of an event with the same participant(s) performing in it at different times or places,” reduplication in the Yanomami languages can add meanings of iterativity, frequency, continuity, and durativity to transitive, intransitive, position, and stative verbs.

In Yanam (19) the reduplication of the intransitive verb stem waro- ‘arrive’ indicates the recurrence of the same action by various groups of participants.

(19) pik txarami waro=waro-ra-re-m Yanam (GG 1990:140)
      PL many arrive=arrive-RES-INGR-PERF
      ‘Many people kept on arriving.’

Ramírez (1994) discusses a similar type of reduplication of verb stems that “expresses the repetition of a situation in rapid and periodic succession without interruption between each of the phases” (366), providing examples with transitive (20), intransitive (21), position (22), and stative (23) verbs.

(20) xëyë=xëyë Yanomami (R 1994:366)
      throw=throw
      ‘throw repeatedly, without stopping’

(21) ia=ia Yanomami (R 1994:366)
      eat=eat
      ‘eat without stopping’

(22) përi=përi-
      stretch.out=stretch.out
      ‘stretch out (one’s body) repeatedly, continuously

(23) ohi=ohi
      hungry=hungry
      ‘continuously hungry’

The reduplication of some verb roots in Yanomami requires the addition of a supportive (thematic) vowel (V), and this process is phonologically conditioned. When the verb root consists of a single syllable or ends in a consonant, a supportive vowel is obligatory and copied in the reduplicative construction. The monosyllabic
transitive verb root *wa- 'eat (something)' requires that a supportive vowel -a be attached and reduplicated with it.

(24) wa-a=wa-a  
    eat-V=eat-V  
    'eat (something) continuously'

Likewise, verb roots ending in a consonant, such as *ahet- 'approach'(25 ) and *uxuh- 'blue' (26) , require the addition of a supportive vowel, whether the purpose of the reduplication is semantic (25) or grammatical (26).

(25) ahet-e=ahet-e  
    approach-V=approach-V  
    'approach without stopping'

(26) uxuh-u=uxuh-u  
    blue-V=blue-V  
    'something that is blue, the color blue'

In (27), (28), and (29), each Yanomami verb root is copied with an immediately adjacent suffix, but the motivation for this process is different from the three previous examples. The inclusion of an adjacent suffix with verb roots *ro- (27) and *mi- (28) is expected because both roots are monosyllabic. The verb root *ia- (29), however, is bisyllabic, so syllable structure may not be a determining factor in any of these cases. The reduplication process involves the entire verb stem in each case.

(27) ro-o=ro-o  
    sit-MID=sit-MID  
    kë ya  
    EMPH 1SG  
    'I like sitting down.'

(28) mi-a=mi-a  
    sleep-PERF=sleep-PERF  
    kë ya  
    EMPH 1SG  
    'I am a big sleeper.'

(29) ia-i=ia-i  
    eat-DYN=eat-DYN  
    kë ya  
    EMPH 1SG  
    'I am a big eater.'

In addition, all three reduplicative constructions (27), (28), and (29) co-occur with the emphatic marker kë. This morpheme appears to be limited to dialects of Yanomami (Ramirez, 1994:94). The semantic contribution of kë is not obvious from the glosses Ramirez provides. In reference to a different set of utterances including kë, not involving reduplication, he states that the emphatic could be omitted without significantly changing the meaning, and he admits that it is difficult to know precisely what the morpheme kë expresses or to define it structurally (390). Since the emphatic marker follows both nouns and verbs, it is not an indicator of the grammatical category of the reduplicative structures.
The verbalizing suffix \(-mV\), which de-nominalized the reduplicative constructions (17) and (18) in Yanomae, appears in Sanuma as the performative \(-mo\), and the accompanying reduplication has a clearly iconic function. Example (30) suggests a situation similar to the Yanomami reduplicative constructions in (27) and (28) in which an immediately adjacent suffix \(-ta\) 'EXT' is copied with a monosyllabic verb root \(na\)- 'wake up.' Borgman's (1990:183) clarification that "possible meanings for \(-ta\) are 'rapid, a mental act, ingressive, sudden, with temporary result'" reinforces a semantic, not phonotactic, explanation for the copying of the entire verb stem.

\[(30)\] na-ta=na-ta-mo Sanuma (B 1990:198)  
\[\text{wake.up-EXT =wake.up-EXT-VBLZR} \]
\[\text{keep (constantly) waking up}\]

\[(31)\] òpa-òpa-mo Sanuma (B 1990:198)  
\[\text{stand=stand-VBLZR} \]
\[\text{‘stand around’}\]

\[(32)\] ua.ua-mo Sanuma (B 1990:198)  
\[\text{cry.IDEO-VBLZR} \]
\[\text{‘keep crying’}\]

Borgman's (1990) translations of examples (30), (31) and (32) suggest that reduplication adds a sense of iterativity, distributivity, and durativity, respectively, of the actions expressed by the intransitive verbs.

4. Ideophones and onomatopoeic repetition

The use of sound symbolic repetition is abundant in names for Amazonian fauna, especially birds, and flora as well as objects, natural events, and bodily movements and functions that have inherent audible aspects. Expressions of onomatopoeic, or imitative, origin are common in Yanomami languages, and this section will examine some samples of this phenomenon that are relevant to the discussion of reduplication and compare them with simple repetition in a text, which has been defined as "recurrence that serves to put the focus on the speaker’s viewpoint" (Hurch, et al. 2008:3). Ideophones, first studied in African languages, frequently occur in Yanomami languages, especially in oral narratives. The term 'ideophone' was apparently coined by Doke (1935, cited in Kilian-Hatz 2006) and his definition as a "vivid representation of an idea in sound. A word, often onomatopoeic, which describes a predicate, qualitative or adverb in respect to manner, colour, sound, smell, action, state or intensity" (Kilian-Hatz 2006:509) aptly describes the forms in Sanuma (32) and (33) and in Yanomami (34).

\[(33)\] klau.klau-mo Sanuma (B 1990:228-229)  
\[\text{thunder.IDEO-VBLZR} \]
\[\text{‘thunder’}\]

\(^6\) Berlin (1992) devotes an entire chapter (Chapter 6) to the nonarbitrariness of ethnobiological nomenclature.
(34) sakai=sakai-mo Yanomami (R 1994:361)
    chew.IDEO=chew.IDEO-VBLZR
    ‘chew without stopping’

According to Ramirez (1994:361), a simplex ideophone sakai ‘chew’ in (34) is copied (only once) to form a reduplicative construction to which the verbalizing suffix -mo is attached, creating an intransitive verb with added durativity of the action, sakaisakaimo ‘chew without stopping.’ This is consistent with and comparable to non-ideophonic reduplication in Yanomae (17) and (18) and in Sanuma (31). Similarly, Borgman (1990:228) describes the Sanuma constructions (32) and (33) as the result of reduplication, and he identifies ua ua ‘cry’ and klau klau ‘thunder’ as the base forms. It could be argued that examples (32) and (33) are inherently reduplicated constructions that, if one can extrapolate semantic content from the glossing, have added semantic value - increased intensity (durativity and/or iterativity of the state or action) - of the ‘crying’ and ‘thundering.’ Nevertheless, these apparent reduplicative constructions (32-34) are strikingly similar to others with ideophonic doublets in Yanomami (35-36) and in Yanomae (37) that reflect inherently repetitive onomatopoeia but are not identified as instances of reduplication.

(35) kraxi.kraxi-mo Yanomami (R 1994:59)
    cut.IDEO-VBLZR
    ‘cut with a hatchet’

(36) mio.mio-mo Yanomami (R 1999:54)
    scream.IDEO-VBLZR
    ‘scream from pain’

(37) a yati.yati-mu Yanomae (AGG 1997:129)
    3 SG trembling.IDEO-VBLZR
    ‘He is trembling/shaking (from fever or weakness).’

The salient issue in this discussion of ideophones is the difficulty of distinguishing between reduplication and repetition. A potential solution to this problem requires adherence to a restricted definition of full reduplication, such as Stolz (2008:4) offers, whereby each of two “phonologically identical and immediately adjacent strings... represents a syntactic word equipped with identical content in the object language.” Because a separate ideophonic word, sakai ‘chew,’ can be identified in Yanomami, the construction in (34) fulfills Stolz’s (2008) definition and qualifies as full reduplication. In contrast, Sanuma (Borgman 1990) does not appear to have individual original forms that correspond to the ideophones in (32) and (33). Consequently, each of those constructions would be considered a word that contains an “inherently repeated” string, not involving the morphological process of reduplication. Such inherent repetition is characteristic of ideophones and other words of onomatopoeic origin, a process which is productive and widespread throughout the Yanomami language family.

Ideophones are different from other words “because they may be phonologically aberrant and are mostly morphologically invariable simplicia” (Kilian-Hatz 2006:509).
The canonical syllable is (C)V throughout the Yanomami languages, however, consonant clusters, specifically /pr/ and /kr/, occur with some frequency in Yanomami, Yanome and Yanam, and /mr/, /hr/, and /fr/ occur rarely or are found only in certain dialects in Yanomami and Yanomae. No consonant clusters are found in Sanuma, except in ideophones, and Borgman (1990:229) notes, "...deviating from the normal phonology are ideophones with aspirated p and consonant clusters pl or kl." These phonologically aberrant consonant clusters in ideophones in Sanuma is illustrated in (33) and in excerpts from oral narratives (38) and (39).

Iconic repetition is a frequent stylistic element in narratives, and the Sanuma narratives help clarify the distinction between iconic repetition and reduplication. The use of ideophones is a common characteristic of narratives, and Borgman (1990:228) identifies as ideophones the forms: kleno 'untie hammocks' and tolo 'put inside' in (38) and klan 'chew, eat,' kletiti 'tear apart' in (39). Citing these texts, Borgman (1990:38) notes, "Often in narrative, the speaker describes an event by using an ideophone in place of a regular verb, or he may use a form of the verb in which all or most of the normal affixes are dropped. This verb may be repeated to give the idea of repeated or continuous action, or, if ideophones are used, there may be not only repetition of the same ideophone, but the inclusion of another one indicating a different action."

(38) Sanuma (B 1990:38)

<table>
<thead>
<tr>
<th>mumi</th>
<th>soa-ó</th>
<th>ha</th>
<th>sii</th>
<th>tho-kö</th>
<th>kleno</th>
</tr>
</thead>
<tbody>
<tr>
<td>dark</td>
<td>still-NONASP</td>
<td>while cotton</td>
<td>CL-DL</td>
<td>untie.IDEO</td>
<td></td>
</tr>
<tr>
<td>kleno</td>
<td>kleno</td>
<td>tolo</td>
<td>tolo</td>
<td>untie.IDEO</td>
<td>untie.IDEO</td>
</tr>
</tbody>
</table>
| 'While it is still dark, they take down their hammocks and put them into (their packs).'

(39) Sanuma (B 1990:38)

| ...Í naha hiwá | pó | pata | kaka=kaka-ma |
| REL | like | bat | 3PL | AUG | tear=tear-VRBLR |
| ku-a | nö-ka | klan | klan | kletiti | klan |
| be-DUR | SEQ-THEME | eat.IDEO | eat.IDEO | tear.apart.IDEO | eat.IDEO |
| '...having torn apart the bats like that, they eat and eat them and tear them apart and eat them.'

In (38) and (39) the ideophonic verbs kleno 'untie' and klan 'eat' are each repeated three times and tolo 'put into' occurs twice. The verb root kaka- 'to tear' (39) has only one contiguous copy and a verbalizing suffix -ma is added to the resulting nominal stem to produce an iconic reduplicative construction. Repetition of the forms kleno, klan, and tolo, on the other hand, is best categorized as recurrence, not reduplication, of individual words in this context. For the narrator, the recurrence of these

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7 The syllable structures of individual Yanomami languages are described in Borgman (1990:222), Gómez (1990:34-35), Migliazza (1972:153-154, 186, 201, 205), and Ramirez (1994:57).
ideophones imitates the ongoing, repeated movements and the sounds of the actions as they take place, recreating for the listener the immediacy of the event.

A common strategy for adding new vocabulary in the Yanomami languages, especially words for newly-acquired concepts and manufactured objects, involves ideophones. This process is consistent with the sound symbolic repetition that is the basis for a substantial number of animal and plant names. The sounds of helicopter blades (40), filing or sawing with a metal tool (41) and (42), and digging soil with a hoe (43) are clearly conveyed by neologisms in Yanam and Yanomae.

(40)  
\[ t^{h}o.ko,t^{h}oko \]  
Yanam (GG 1990:36-37)  
'helicopter'

(41)  
\[ kiri.kiri \]  
Yanam (GG 1990:36)  
'file for sharpening knives'

(42)  
\[ kiri.kiri \quad a \]  
Yanomae (AGG in prep.)  
'handsaw'

(43)  
\[ pore.pore \quad a \]  
Yanomae (AGG in prep.)  
'hoe'

(44)  
\[ tire.tire \quad moku \]  
Yanomae (AGG in prep.)  
'jingling seeds' [small seeds attached to a woman's loincloth]

In the same manner, the jingle of the seeds on a woman’s traditional woven covering / loincloth as she walks provides the name of the ornamental seeds (44). In Yanomae, nominal classifiers like moku 'seeds' accompany words based on inherently repetitive, onomatopoeic formatives in the same way as the classifiers (i.e. a 'SG/unitary,' pë 'PL' and kiki 'aggregate') accompany reduplicative constructions in (3) through (6). A substantial number of animal and plant names are formed in the same manner from lexical formatives of apparent sound symbolic origin, and each has one or more classifiers associated with it. A few examples (45-54) from the Yanomae thematic lexicon (Albert and Gómez, in prep.) are listed below to illustrate the general structure of these inherently repetitive, lexical formatives and the diversity of associated classifiers. A future publication will explore the nature and structure of Yanomae ethnobiological terminology in detail.

(45)  
\[ hâo.hâo-ma \quad a \]  
'hawk' Accipter sp.

(46)  
\[ ohaha.ohaha-ma \quad si \]  
'cotinga bird' Xipolena punicea

(47)  
\[ t^{h}oo.t^{h}oo-ma \quad a \]  
'giant spiny tree rat' Echymis grandis

(48)  
\[ kuu.kuu \quad moxi \]  
'night monkey' Aotus sp.

In describing human organs, movements involving body parts, and bodily functions, verbs formed with inherently repetitive ideophones are especially prominent. It is not difficult, even cross-culturally, to understand that the intended meanings of the synonymous onomatopoeic verbs in (55) and (56) are the sounds of a beating heart.

(55) tuku.tuku-mu Yanomae (AGG in prep.)
beat.IDEO-VBLZR
‘to beat (as a heart)’

(56) yutu.yutu-mu Yanomae (AGG in prep.)
beat.IDEO-VBLZR
‘to beat (as a heart)’

A series of derived intransitive verbs of onomatopoeic origin effectively convey the contrast between normal (hêreku ‘breathe normally’) and abnormal breathing in (57) through (60). Because the root of the intransitive verb hêre-ku can be identified as the original simplex of hêre˘hêre˘mu, the construction (57) is considered to be an example of full reduplication. The other three (58-60), however, do not have identical unrepeated simplex forms so they do not qualify for status as full reduplicative constructions, following Stolz’s (2008) restricted definition.

(57) hêre=hêre-mu Yanomae (AGG in prep.)
breathe=breathe-VBLZR
‘breathe with rapid rhythm, panting/gasping’

(58) kêere.kêere-mu Yanomae (AGG in prep.)
breathe, irregularly-vblzr
‘breathe irregularly’

(59) pariki xêere.xêere-mu Yanomae (AGG in prep.)
chest hissing-VBLZR
‘breathe with a hissing, creaking (sound in the) chest’

(60) ûreme hro.hro-mu Yanomae (AGG in prep.)
throat pulsing-VBLZR
‘breathe rapidly with a pulse beating (at the base of the) throat’

Clearly, there is a close connection between the reduplicative simplex root hêre- and the individual forms kêere ‘breathe irregularly’ (58) and xêere ‘hissing’ (59), which appear to be derived from hêre- by lengthening the first vowel and changing the
initial consonant. These forms may reflect some type of partial reduplicative process, which requires further investigation into this phenomenon within a broader study of both partial and full reduplication in Yanomae. One last observation concerns the phonotactics of example (60). While not strictly prohibited in Yanomae (although phonologically aberrant in Sanuma), the initial consonant cluster hr- is rare and occurs in only a few words. This illustrates a cross-cultural property of ideophonic words to behave differently from normal words (Kilian-Hatz 2006:509).

5. Conclusion

This brief study of reduplication, ideophones, and onomatopoeic repetition in the Yanomami languages of Amazonia is not intended to be comprehensive or exhaustive. It is an initial attempt to bring together and evaluate a range of examples from disparate sources on four languages of the Yanomami family. The examples cited in this paper are expressly limited to full rather than partial reduplication. Nevertheless, it is possible to make several generalizations based on the data presented here. There is strong evidence of both arbitrary and iconic reduplication in the Yanomami family of languages. Only one type of arbitrary reduplication was found, and its function is de-verbalization. It results in the derivation of nouns by the contiguous copying of (uninflected and occasionally inflected) verb stems. The nominal nature of such reduplicative expressions is confirmed by their co-occurrence with nominal classifiers and noun suffixes (especially the verbalizer mV-) and by the fact that they appear to the left of a predicate, the position normally assigned to nouns.

A substantial number of the examples presented in this paper involve ideophones and onomatopoeic expressions, which are frequently ignored or given minor consideration in linguistic descriptions. Further study of these phenomena, particularly in lesser known languages, may contribute significantly to a better understanding of iconic reduplication and repetition and how to distinguish between them. A sampling of the data on plant and animal names in Yanomae suggests that onomatopoeia plays an important role in the lexicon and in building new vocabulary. The meanings expressed in the Yanomami languages by iconic reduplication at the morphological level and by recurrence at the syntactic level fall clearly within Stolz’s (2007) broad cross-cultural categories of plurality, duration, and intensity. The evidence examined here confirms that reduplication is a productive, morphological process that should be included in any complete grammatical description of a language within the Yanomami family.

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8. Abbreviations

AGG in prep. Albert & Gómez (in prep.)
AUG augmentative
B 1990 Borgman (1990)
CL classifier
DIR directional
DL dual
DUR durative
DYN dynamic
EMPH emphatic
EXT extent of action
GG 1990 Gómez (1990)
IDEO ideophone
LOC locative
MID middle voice
NONASP nonaspectual
PAST past
PERF perfective
PL plural
R 1994 Ramirez (1994)
R 1999 Ramirez (1999)
REL relativizer
SEQ sequential
SG singular
TEL telic
THEME theme, thematic
<table>
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<tr>
<th>Code</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>V</td>
<td>supportive / thematic vowel</td>
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<tr>
<td>VBLZR</td>
<td>verbalizer</td>
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