Reduplication in Paraguayan Guaraní

A descriptive account

by

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Abstract

This thesis presents a primarily descriptive account of the structural and meaning properties of

verb and numeral reduplication in Paraguayan Guaraní, a Tupí-Guaraní language spoken by

about four million people mainly in Paraguay. Based on data collected through elicitation

sessions with three consultants, I demonstrate that Guaraní exhibits both patterns of total (root)

and partial (disyllabic) reduplication. I will also show that this disyllabic pattern of copying is in

fact due to the presence of a prosodic constraint of disyllabicity which applies to the entire

reduplication system of Guaraní. In terms of their meaning properties, Guaraní reduplicative

forms are mostly associated with such iconic notions as iterativity, continuity, multiplicity and

distributivity. Despite the semantic regularity of Guaraní reduplicated structures from a cross-

linguistic perspective, there are aspects of their form which pose challenges to templatic accounts

of reduplication. A brief discussion of some of these issues concludes this work.

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Table of Abbreviations

1	first person
2	second person
3	third person
ABS	absolutive
CAUS	causative
COND	conditional
DES	desiderative
DET	determiner
DIM	diminutive
ERG	ergative
EXCL	exclusive
FAM	familiar
FUT	future
INCL	inclusive
MIT	mitigative
NEG	negative
NMLZ	nominalizer
PASS	passive
PFV	perfective
PL	plural
PL.E	plural exclusive
PL.I	plural inclusive
PROG	progressive
RECP	reciprocal
REFL	reflexive
REL	relative
SG	singular
SUBORD	subordinator
TOT	totalitive

Introduction

The aim of the present work is to investigate the form and meaning properties of verbal and numeral reduplication in Paraguayan Guaraní, a Tupí-Guaraní language spoken by about four million people in Paraguay and some of the neighboring areas in Brazil and Argentina.[1] Although reduplication in a number of Tupí-Guaraní languages has received some attention in the literature (see Rose (2005) and references therein), I am not aware of any descriptive account of this linguistic phenomenon in Paraguayan Guaraní at the time of writing this thesis.

My work on Paraguayan Guaraní (henceforth Guaraní) started as part of a field methods course I took as a graduate student at the University of Manitoba in 2011-2012, and continued well beyond the end of the course. The course started with one consultant (Vicente Cardoso), but two more speakers (Luz Ojeda and David Barrios) joined the project later on in the year. Of the three consultants, Vicente (from Yaguarón) and David (from Caaguazú) were native speakers of Guaraní and Luz (from Asunción) was an early Guaraní-Spanish bilingual. Most of the data presented in this thesis is from my sessions with Vicente, who worked with me as my main consultant. Almost all of my elicitation sessions were run and recorded in the Experimental Linguistics Laboratory at the University of Manitoba. I elicited my data on reduplication by asking my consultants to produce the Guaraní equivalents of English sentences containing verbs from different semantic classes (Levin, 1993) or different numerals and asking them if repeating either the entire verb/numeral or part of it in the suggested Guaraní sentence would yield a well-formed and felicitous construction. In my sessions on reduplicative numerals, I also heavily

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[1] Located in central South America, the Republic of Paraguay is a landlocked country which shares borders with Bolivia to the north, Brazil to the east, and Argentina to the south and west. It has an area of 406,752 square kilometers, with a population of over 6.6 million. Paraguay has a subtropical climate with temperatures ranging from an average minimum of 14°C in June to an average maximum of 34°C in January. It is divided into 17 administrative units, known as departments, plus the capital city, Asunción. Spanish and Guaraní are the official languages of the country. About 92% of the population are Roman Catholic (Love, 2012).

relied on using visual material. The consultant was presented with a number of pictures that were produced based on different logically possible interpretations of a Guaraní sentence containing a reduplicative numeral elicited in a previous session. He/she was then asked if any of the pictures matched the situation(s) described by the sentence. In addition to the elicitation strategies described above, I also prepared a short list of Guaraní verbs with various prosodic shapes and asked one of my consultants to use each of them in a Guaraní sentence. Then I checked if the verb could be reduplicated, either in the same sentence or in a different one. Several verb affixes, both stressable and non-stressable, were also tested for their reduplicability.

The field notes from most of my sessions have been posted on the Guaraní Documentation Project (GDP) database developed by Russell (2011) for internal use by the students participating in the course. In addition to field notes from elicitation sessions conducted by students, the database contains a corpus of about 15,000 words made up of texts of various genres including personal narratives, folk tales, plays, etc., as well as a working draft of a grammar of Guaraní. All the Guaraní examples in this thesis that have been taken from the GDP database are accompanied by an alphanumeric code in parentheses following their English translation (e.g., (26ekh004)). Examples that are part of the corpus texts on the database have the letter "T" as the first character of their code (e.g., (T01.001)). Those examples that come from my elicitation sessions whose field notes have not been posted on the database are accompanied by the date of the session (e.g., (Mar. 11, 2013)). All of the examples which have been taken from other sources are cited. Transcriptions of the Guaraní examples that come from my own elicitation sessions as well as the ones from the GDP follow the orthographic conventions of Guaraní (described in Chapter 2). However, there are some examples in Chapter 3 that are transcribed according to the IPA conventions in order to preserve as much phonetic detail as

possible (at least as far as broad transcription is concerned). All of the other examples are presented as they were given in the cited sources.

This thesis is organized as follows. In Chapter 1, I present a working definition of reduplication and distinguish between reduplicative structures and other types of iterative forms, such as repetition and phonological duplication. Other topics discussed in this chapter concern the structural and meaning properties of reduplication from a cross-linguistic perspective. Chapter 2 starts with a note on the genetic affiliation of Guaraní and the sociolinguistic situation inside Paraguay. Subsequent sections of the chapter provide a brief overview of the relevant aspects of Guaraní phonology, morphology and syntax. In Chapter 3, I will present and discuss the patterns of total and partial reduplication in Guaraní, with the aim of identifying some of the phonological and morphological determinants of the structure of reduplicative forms in the language. In Chapter 4, I will attempt to provide a primarily descriptive account of the semantic functions of reduplication in Guaraní and situate these meaning properties within the set of semantic categories typically expressed by reduplication cross-linguistically. The final chapter of the thesis is a short note pointing out some of the challenges that Guaraní reduplicative patterns pose for templatic accounts of reduplication.

1 Reduplication: A Cross-Linguistic Overview of Form and Function

The aim of this chapter is: (i) set the boundaries of our territory of investigation by presenting a working definition of reduplication along with a set of criteria to help us sift reduplicative phenomena from other construction types involving iteration, and (ii) provide a cross-linguistic depiction of reduplication in terms of both its formal and functional properties.

1.1 Setting the boundaries: the domain of reduplication

As a first and crucial step in the course of our investigation, it is imperative that we define the phenomenon which would constitute our focus of attention, namely reduplication, as clearly as possible, leaving aside other types of iterative forms to be dealt with elsewhere. For the purposes of this thesis, we define reduplication as a morphological process characterized by double (or multiple) realization of a word or part of a word used for inflectional or derivational purposes. In order to distinguish between reduplication and repetition, we will use the following diagnostic criteria proposed by Gil (2005, p. 33).

Criteria for Distinguishing Repetition and Reduplication

- The *unit of output* in repetition is greater than word, in reduplication equal to or smaller than word.

- While repetition may occur due to *communicative reinforcement*, the function of reduplication is never reinforcing communication. [2]

- Repetitive forms may have either an iconic *interpretation* or no interpretation at all; the interpretation of reduplicative forms, however, is either iconic or arbitrary.

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[2] Gil's communicative reinforcement criterion states that repetition is often (though not always) motivated by speakers' need to ensure successful transmission of their message in situations where factors such as excessive background noise or a lapse of attention on the part of the hearer could impede effective communication of the message.

- Repetitive forms fall within one or more intonation groups; on the other hand, the *intonational domain* of reduplicative forms does not exceed a single intonation phrase.

- In repetition, the copies are either *contiguous* or disjoint, in reduplication they are contiguous.

- The *number of copies* in repetition is two or more, in reduplication usually two.

As we shall see throughout the rest of this section, these criteria provide an objective and robust measure for differentiating between reduplication and repetition. Following Inkelas and Zoll (2005), we will also exclude any iteration of segments motivated by purely phonological requirements from the domain of reduplication.

Now that we have a set of defining properties to help us identify reduplicated forms, let us look at a few examples of reduplication which clearly manifest these characteristics.

(1) Samoan (Malayo-Polynesian, Samoa)

mamate 'They die.'
mate   'He dies.' (Moravcsik, 1978, p. 301)

In the above example from Samoan, reduplication is used inflectionally to mark number (plurality) agreement on verbs, thus a morphological process. It passes one of Gil's most reliable tests for reduplication, namely the output size test, as the unit of output [ma-ma] is smaller than a word. In addition, communication reinforcement is absent, the copies are contiguous, and the number of copies is two. Note that in the case of this example the interpretation test cannot point us to a specific direction, whether reduplication or repetition, since the meaning (plurality) is iconic and iconic meanings are associated with both reduplication and repetition.[3,4] In the

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[3] In Haiman's (1980) terms, reduplication as a grammatical operation represents a case of the "iconicity of motivation" where a grammatical structure mirrors the property or phenomenon it signifies. Some of the iconically motivated categories commonly expressed by reduplication include repetition, plurality, intensivity, distributivity,

following example from Riau Indonesian, however, we have an instance of reduplication with an

arbitrary meaning.

(2) Riau Indonesian (Malayo-Polynesian, Indonesia)

    Main mony-monyet   Vid

    play   RED~monkey   FAM|David

    [Asking to play a game on my laptop computer which involves a monkey]

    'I want to play the monkey game, David.' (Gil, 2005, p. 38)

The example above from Riau Indonesian is another unequivocal instance of reduplication. This

is due to the fact that the iteration of the string [mony] in this utterance bears a non-iconic

meaning (the concept of play) which, according to the interpretation diagnostic, is a property of

reduplicative, but not repetitive, forms. Note that in this example too communicative

reinforcement is absent, the copies are contiguous, and the number of copies is two. In addition,

the unit of output [mony-mony] is a string smaller than a word.[5] Finally, consider the following

example from Paraguayan Guaraní.

(3) Paraguayan Guaraní (Tupí-Guaraní, Paraguay)
    haʔe   o-puɾahèi~ɾahéi.
    3SG   A3-sing~REDUP
    'He kept singing.' (24ckh004)

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reciprocity, continuity, etc. Related to Haiman's iconicity of motivation is the notion of the "conduit metaphor" as described by Lakoff and Johnson (2003). The conduit metaphor conceptualizes linguistic forms as containers whose content is the meaning of those words. Given this notion, we can intuitively extend the natural real-world assumption "the larger a container, the more its content" to linguistic expressions and their meanings. Using this framework, Lakoff and Johnson (2003) view iterative linguistic phenomena (including reduplication) as an example of the general iconic principle of "more-of-form-is-more-of-content". Thus, a sentence like "He is very very very tall" expresses a greater degree of tallness than "He is very tall" does (Lakoff & Johnson, 2003, p. 127). For an account of the constraints on iconicity in language, see Dressler (1995).

[4] In cases where no information is provided on the intonational structure of the examples in my sources, as is the case in this example from Samoan, I will avoid making reference to the output intonational domain test.

[5] Gil's (2005) analysis.

Even though example (3) above is associated with an iconic meaning (continuity), it still represents a clear case of reduplication as the unit of output [ɾahèi-ɾahéi] is smaller than a word. Note also that communicative reinforcement cannot be identified as a motivation for the occurrence of the Guaraní iterative form in this example. Furthermore, the number of copies is two, the copies are contiguous and they fall within the same intonational phrase. All in all, these characteristics provide strong evidence in support of the reduplicative status of [o-puɾahèi-ɾahéi].

A special kind of iteration which, according to Gil's criteria, fits the characterization of reduplication is known as echo reduplication (ER), a common pan-Asian iterative pattern found in such languages as Armenian, Turkish, Kolami, Tamil, Telugu, Hindi, Persian, etc. (see Ghaniabadi, Ghomeshi, & Sadat-Tehrani, 2006; Kirchner, 2010; and references therein). A pattern of ER is normally characterized by two copies with the second copy (the reduplicant) having its onset overwritten (or replaced) by a segment specific to that reduplication pattern (Inkelas & Zoll, 2005). Semantically, echo-reduplicated patterns contribute the meaning "and similar/related things" or, as Inkelas and Zoll (2005, p. 42) put it, "X and the like", hence, extending the denotation of the base form. Below come some examples of ER from Hindi and Persian.

(4) Hindi (Indo-Aryan, India)
    a.   aam 'mango', aam vaam 'mangoes and the like'
    b.   tras 'grief', tras vras 'grief and the like'
    c.   roti 'bread', roti voti 'bread and the like'
    d.   vakiil 'lawyer', vakiil šakiil 'lawyers and such' (Kirchner, 2010, p. 88)

(5) Persian (Iranian, Iran)
    a.   pir 'old', pir-**m**ir 'old and stuff'
    b.   bâlâ 'above', bâlâ-**m**âlâ 'somewhere above'
    c.   mive 'fruit', mive-**p**ive 'fruit and so forth'
    d.   tarâzu 'scale', tarâzu-**m**arâzu 'scale and so on' (Ghaniabadi et al., 2006, p. 3)

As demonstrated by the above examples, [v] is the default segment in Hindi ER forms and [m] in the ones from Persian. However, ER forms in both of these languages exhibit a characteristic referred to by Kirchner (2010) as "active identity avoidance" where full identity between the two copies is blocked via the substitution of a secondary (or non-default) segment for the default ER segment in cases where the segment to be overwritten is identical (or similar) to the default overwriting one (e.g., substitution of [p] for [m] in Persian ER forms whose bases already begin with [m]).[6]

Based on the characterization of reduplicative forms provided above, a variety of iterative phenomena such as syntactic reduplication, phonological reduplication and baby-talk reduplication fall outside the purview of reduplication proper, and hence, do not constitute the subject matter of this thesis. However, it is worth noting here that not all authors define reduplication in the narrow sense presented above. For instance, in her paper Moravcsik (1978) defines reduplication as the inclusion of a formal (i.e., phonological or syntactic) element X in one utterance signaling a semantic representation A and a full or partial repetition(s) of X in a formal element Y in another utterance. The construction Y is a reduplication of X if (a) Y signals a semantic representation B which shares some elements of meaning with A, (b) B does not stand in a matching reduplicative relation to A, and (c) such a quantitative form-meaning distinction in an utterance pair occurs systematically in other utterance pairs within the language. This broad approach to the study of reduplicative phenomena is also adopted by Maas (2005) who defines reduplication as the analytic (or partial) iteration of grammatical constituents with a non-stylistic function at the syntactic and morphological levels. For a purely syntactic analysis of

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[6] Kirchner (2010) uses active identity avoidance as a diagnostic for syntactic reduplication. However, since ER forms, at least the ones in Persian, behave like compounds (see Ghaniabadi et al., 2006), I will consider them as single words which, based on Gil's output size criterion, qualify as instances of morphological reduplication.

reduplication, see Travis (2003). Whether there is an explanatory advantage(s) in considering reduplication as a strictly morphological operation (the assumption made in this thesis) or one that is present at other levels of linguistic analysis as well is an open question which falls beyond the scope of the present study.

1.2 Other iterative phenomena

1.2.1 Phonological duplication

A type of phenomenon which involves iteration of linguistic material but does not fit the characterization of reduplication as presented in Section 1.1 is known as phonological duplication (Inkelas, 2005) or Compensatory Reduplication (CR) (Yu, 2005). CR is characterized by the repetition of a segment(s) due to purely phonological demands. It is precisely this lack of association between the iteration of phonological material and a corresponding semantic value which keeps phonologically duplicated forms outside the domain of reduplication.

Yu (2005) identifies two types of CR: syllable-well-formedness-driven CR and template-driven CR. In syllable-well-formedness-driven CR phonological material is copied to meet such phonotactic requirements as the need for an onset, avoidance of word-internal clusters, etc. Inkelas (2005) and Yu (2005) cite Hausa (Chadic, Nigeria) as a language in which this kind of phonological duplication occurs. One of the noun pluralisation strategies in Hausa involves the suffixation of a plural morpheme which bears as its medial consonant a copy of the final consonant of the stem (Inkelas, 2005). Some examples are given in Table 1.1 below.

Table 1.1 Hausa Plural Nouns

SINGULAR	PLURAL	GLOSS
Takarda	takardodi	paper
Kofa	kofofi	door
Yasa	yasosi	finger

Migeod (1914, p. 21)

Template-driven CR differs from syllable-well-formedness-driven CR in that in the former type the copying of phonological material occurs in order to satisfy output template constraints. For instance, Tigrinya (Semitic, Ethiopia) forms perfective stems by mapping biliteral and triliteral consonantal roots onto CVCVC and CVCCVC templates, respectively. In such contexts, the final consonant is copied to fill the final C position of the template (Rose, 1997). The following examples are illustrative.

Table 1.2 Tigrinya Perfective Stems

	ROOT	PERFECTIVE	GLOSS
BILITERAL	Zl	zäläl	jump
BILITERAL	Nd	nädäd	burn
TRILITERAL	Brg	bärgäg	bolt (in fright)
TRILITERAL	Dnz	dänzäz	'be numb'

Rose (1997, p. 127)

Note that both types of phonological duplication mentioned above can target more than a single segment (see Yu, 2005). It is also worth noting here that phonological duplication does not occur in Guaraní.

Although the above characterization of phonological duplication seems sufficiently clear, it would still be helpful, just as we saw with repetition, to have a set of diagnostics in order to distinguish morphological reduplication from its phonological counterpart. In fact, such diagnostic criteria have already been proposed by Inkelas (2005). These are presented below.

Diagnostic Criteria: Phonological vs. Morphological Duplication

- Phonological duplication serves a phonological purpose.

- Phonological duplication involves a single phonological segment.

- Phonological duplication involves, by definition, phonological identity.

- Phonological duplication is local.

- Morphological reduplication serves a morphological purpose (either by being a word-formation process itself or by enabling another word-formation process to take place).

- Morphological reduplication involves an entire morphological constituent (affix, root, stem, word), potentially truncated to a prosodic constituent (mora, syllable, foot).

- Morphological reduplication involves semantic, not necessarily phonological, identity.

- Morphological reduplication is not necessarily local.

(Inkelas, 2005, pp. 80-81)

In the next section, we will look at another type of iteration which involves repetition of syntactic constituents.

1.2.2 Repetition

Iteration of linguistic material can also involve more than a single word, rendering it a syntactic phenomenon. This iteration of syntactic constituents is referred to as syntactic reduplication (e.g., Inkelas, 2005; Karlsson, 2010; Maas, 2005). However, in order to avoid confusion with reduplication proper (which belongs to morphology) Gil (2005) suggests the term "repetition" be used for this type of word-external iterative process. As indicated in Section1.1, if any meaning is associated with repetition it would be typically iconic (Gil, 2005, Karlsson, 2010).[7] Some examples of repetition are provided below.

(6) Riau Indonesian

  Tiap   malam gin-dio gitu   *terus   'kan, ha,*
  every night   3 night-DEM-DEM:DIST continue Q   DEIC
  tiap malam, tiap malam, tiap malam, tiap malam ha
  every night every night every night   every night DEIC
  [From a tale about a pilgrim and a young innocent girl; the pilgrim seduces the girl]
  'Every night they did it, every night, every night, every night, every night.'
                                                                      (Gil, 2005, p. 44)

(7) Fongbe (Niger-Congo, Benin)
  Wá   Kɔ̀kú wá   útú   Bàyí yì.
  arrive Koku arrive cause Bayi leave
  'Because Koku arrived, Bayi left.' (Lefebvre & Brousseau, 2002, p. 503)

Going back to Gil's diagnostic criteria (listed in Section 1.1), example (6) exhibits most of the characteristics of repetition and none of the conclusive properties of reduplication. Firstly, the unit of output incorporates more than a single word. Next, there is more than one intonation

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[7] Travis (1999) argues against the association of reduplication, whether syntactic or non-syntactic, with iconicity. A similar view is held by Kimper (2008).

group carrying the copies. Thirdly, the contiguity of the copies is disrupted by a sequence of

extra material appearing between the first occurrence of [tiap malam] and the rest of the copies.

Finally, the number of copies clearly exceeds two.[8] All of these characteristics, together with the

iconic concept of iterativity evoked by the iterated forms, point unambiguously to repetition

rather than reduplication. Repetition is also evident in Example (7) from Fongbe. In this

example, an extra copy of the form [wá] 'arrive' occurs sentence initially to satisfy a purely

syntactic demand motivated by the causative construction.[9] As opposed to the previous example

from Riau Indonesian, repetition in this case is not directly associated with any meaning category

and, as mentioned above, is purely syntactically driven. In fact, this kind of repetition is also

present in some other construction types within the language including factives, temporal

adverbials and predicate clefts (Lefebvre & Brousseau, 2002).[10] Two other characteristics of

repetition which can be observed in this example are an iterative output ([wá … wá] 'arrive …

arrive') incorporating more than a single word and the discontiguity of the two copies. Now

consider the following example from English.

(8) English (Germanic)
    He is very very bright. (Moravcsik, 1978, p. 301)

        Although Moravcsik (1978) cites the above example as an instance of reduplication, it

would be more viably analyzed, as pointed out by Gil (2005), as a case of repetition. This is

supported by the fact that the unit of output "very very" is larger than a single word, denoting the

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[8] Gil's (2005) analysis.
[9] According to Collins (1994, as cited in Lefebvre & Brousseau, 2002, p. 504), some speakers find truncation of the initial copy to its first syllable a grammatical alternative. This is exemplified below.
Sísɔ́/sí/*sɔ́ Kɔ̀kú sísɔ́   útú   xὲsí ɖì Bàyí.
tremble   Koku tremble cause fear get Bayi
'Because Koku trembled, Bayi got frightened.'
[10] Lefebvre and Brousseau (2002) refer to such iterative constructions in Fongbe as verb doubling.

iconic notion of intensivity. Other examples of this kind include phrases like "much much better", "a long long way" and "small small creatures" (Karlsson, 2010, p. 48).

Repetition can also be syndetic, i.e., with a conjunctive element appearing between the copies.

(9) English
   a. played better and better
   b. came closer and closer (Karlsson, 2010, p. 48)

Ghomeshi, Jackendoff, Rosen, and Russell (2004) discuss a particular kind of repetitive construction in colloquial English which they refer to as "Contrastive Focus Reduplication" (CR).[11] This construction, which has been analyzed as iteration involving syntactic operations, is associated with a "real" or "prototypical" meaning (see Ghomeshi et al., 2004; Kirchner, 2010). The following examples are cited in Ghomeshi et al. (2004, pp. 307, 314, 322).

(10) a. It's tuna salad, not SALAD–salad.

   b. Do you LIKE-HIM–like him?

   c. There's a guy who collects fans, these are not sports fans but FANS–fans.

   d. It might have been me, but it wasn't ME–me.

CR constructions of the type exemplified above are characterized by an output greater than a single word and therefore would be subsumed, in Gil's terms, under repetition rather than reduplication.

To recapitulate, the types of repetition demonstrated in this section are phenomena that occur in the syntactic component of the grammar. Unlike morphological reduplication which is

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[11] According to Ghomeshi et al. (2004), CR is not exclusive to English. They cite examples similar to English CR from a number of languages including Italian, Spanish, Russian, etc.

word-internal, repetition targets and creates syntactic constituents of varying sizes that may or may not be directly associated with a semantic representation. In cases where repetition is associated with a meaning, this meaning is normally iconic.

1.2.3 Reduplication in child language

The last type of iteration we will briefly discuss here is child-language reduplication, i.e., production of multisyllabic forms with fully or partially identical syllables occurring as a general pattern at the early stages of young children's phonological acquisition (e.g., [wɔwɔ] 'water' or [kɛkɛ] 'take' (Schwartz et al., 1980, p. 79)). Iterative operations of this kind have often been taken to serve as a strategy employed by young children to help them develop the ability to produce complex polysyllabic words (see Fee & Ingram, 1982; Ferguson, 1983; Schwartz et al., 1980).

Ferguson (1983, p. 241) mentions four functions for reduplication in child language: "play/practice, segmentation, polysyllabicity and syllable-final consonant production". The first function refers to the pleasurable nature of using reduplicated forms in both the babbling and more advanced phases of phonological development where children make use of reduplication as a means of language play which in turn aids them in mastering the production of complex phonological structures. Through its segmentation function, reduplication helps children develop the ability to identify and produce distinctive phonological units (i.e., different segments and syllabic structures). The ability to remember and articulate polysyllabic words arises (partly) from polysyllabicity, and the use of coda consonants is facilitated by the last function of reduplication mentioned above (i.e., syllable-final consonant production). It should be obvious at this point that repetitive forms of this sort, despite bearing the label reduplication, are by no

means subsumable under the category of reduplication proper as their use is not motivated by inflectional or derivational requirements of the grammar.

Even though the types of iteration outlined in Sections 1.1 and 1.2 do not constitute the entire range of iterative phenomena found in human language, it is hoped that they help the reader appreciate where the theoretical approach adopted in this study draws the line between reduplication as a morphological process and other forms of iteration which fall beyond our definitional boundaries of reduplication.

1.3 The geometry of reduplicative forms: total vs. partial reduplication

A formal distinction is often made in the literature between two types of reduplication: full/total vs. partial. The basis for such a distinction lies in whether it is the entire word/stem/root which is iterated or only part of it. Some examples of each of these two types of reduplication are given below.

(11) Full word reduplication:
    Chukchi (Chukotko-Kamchatkan, Russian Federation)
    wət 'leaf', wətwət 'leaf (ABS SG)' (Hurch, 2005 ff.)

(12) Full word reduplication:
    Tausug (Austronesian, Philippines)
    mag-bichara 'speak', mag-bichara-bichara 'spread rumors, gossip'
                                                                            (Rubino, 2005, p.11)

(13) Partial (CV) reduplication:
    Fijian (Malayo-Polynesian, Fiji)
    Balavu ' long' vs. babalavu 'long (pl)' (Hurch, 2005 ff.)

Even though reduplication generally involves two copies of the base, it is possible to find cases in which the number of copies exceeds two. Reduplicative forms of this kind are

sometimes referred to as "multiple reduplication" (Gil, 2005, Moravcsik, 1978). Two examples

of multiple reduplication are provided below.[12]

(14) Tigré Multiple Reduplication (Semitic, Eritrea)
    dəgm-a: 'tell, relate',
    dəga:gəm-a: 'tell stories occasionally',
    dəga:ga:gəm-a: 'tell stories very occasionally',
    dəga:ga:ga:gəm-a: 'tell stories infrequently'
                                         (Rose, 2003, as cited in Rubino, 2005, p. 15)

(15) Riau Indonesian Multiple Reduplication
    Udah si-si-siap?
    PFCT   RED~ready
    [Getting ready to go out, speaker hurries friend]
    'Is everything ready?'
                                           (Gil, 2005, p. 58)

Note that in both of the above examples the unit of output is smaller than a word and this

licenses their analysis as reduplication albeit they have iconic interpretations (attenuation and

universal quantification respectively).

     As Rubino (2005) points out, reduplicated forms may also be characterized as simple,

complex or automatic. The distinction between simple and complex reduplication is a

phonological one. In simple reduplication, the reduplicant is an identical copy of the base,

whereas complex reduplication involves some degree of phonological mismatch between the two

copies (e.g., substitution or addition of segments or reversal of their order). For instance,

Mangarayi (Australian) employs a pluralizing reduplication operation in which the reduplicant is

made up of the onset of the second syllable of the base plus the rime of its first syllable.

Reduplicated forms thus created are sometimes followed by the affix *-ji* or *-ji*. This is

exemplified by the forms in Table 1.3 below.

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[12] The example from Tigré represents a case of internal reduplication in which the reduplicant is a copy of an internal syllable of the word being partially reduplicated.

Table 1.3 Complex reduplication in Mangarayi

SIMPLE FORM	REDUP. FORM	SIMPLE TRANS.	REDUP. TRANS.
Gurjag	gurjurjagji	lily	having lots of lilies
ganji	ganjanjiji	child of maternal grandmother's brother	children of maternal grandmother's brother
jimgan	jimgimgan	knowledgeable person	knowledgeable people
bangal	bangangalji	egg	having lots of eggs

[Merlan 1982, as cited in Rubino, 2005, pp. 15-16]

Echo constructions represent another case of complex reduplication. Some examples

from Tamil (Dravidian, India) are given in Table 1.4 below.

Table 1.4 Tamil Echo constructions

SIMPLE FORM	REDUP. FORM	SIMPLE TRANS.	REDUP. TRANS.
puli	puli kili	tiger	tigers and other beasts
maram	maram kiram	tree	trees and other growing things
kaappi	kaappi kiippi	coffee	coffee and other beverages

[Schiffman 1999, as cited in Rubino, 2005, pp. 16-17]

Automatic reduplication refers to a reduplicative operation whose occurrence is necessary

in order for another morphological process (e.g., affixation) to take place. As Rubino (2005)

notes, automatic reduplication and the other morphological operation which triggers its

occurrence are considered to constitute a single morpheme. Rubino (2005, p. 18) cites the

Ilocano *aginCV-* prefixation used to express pretense as an example of automatic reduplication

(e.g., *singpet* 'behave' vs. *aginsi-singpet* 'to pretend to behave').

Reduplicative forms with discontiguous copies also occur (although, as Gil (2005) points

out, such cases are relatively rare). For example, Mitigative reduplicated forms in Dholuo (Nilo-

Saharan, Kenya) are characterized by two non-adjacent copies separated by the prefix *a-* attached to the base as shown below.

Table 1.5 Mitigative reduplication in Dholuo

SIMPLE FORM	REDUP. FORM	SIMPLE TRANS.	REDUP. TRANS.
tedo	tedo atédâ	cook	just cooking
nyóro	nyóro anyórâ	yesterday	only yesterday
kúóyô	kúóyô akúóyâ	sand	mere sand

(Omondi, 1982, as cited in Rubino, 2005, p. 17)

1.4 A brief survey of the semantic functions of reduplication

In this section, we will briefly look at some of the cross-linguistically recurring semantic categories expressed by reduplication: augmentation (increased size/quantity), intensity (increase in degree), diminution (decrease in size/quantity) and attenuation (decrease of degree) (Kajitani, 2005; Moravcsik, 1978).

A distinction can be made between two types of augmentation: participant augmentation and event augmentation (see Moravcsik, 1978, p. 317). Participant augmentation, when expressed by reduplicative forms, is generally realized as nominal or verbal reduplication while event augmentation is indicated by reduplicative verbs. As pointed out by Moravcsik (1978), Augmentative reduplication denotes plurality of participants or events which may or may not be understood as being spatially or temporally distributed. Reduplicative nouns associated with participant augmentation can have a range of interpretations including simple plurality 'Xs', collectivity 'all X' and distributivity 'each X'. This is illustrated by the following examples.

Table 1.6 Participant augmentative reduplication

LANGUAGE	FUNCTION	SIMPLE FORM	REDUP FORM	SIMPLE TRANS.	REDUP. TRANS.
Samoan	simple plurality	tuafafine	tuafāfine	brother's sister	brother's sisters
Papago	simple plurality	bana	baabana	coyote	coyotes
Yoruba	distributivity	òsè	òsòòsè	week	every week
Pacoh	collectivity	bar	babar	two	all two

[Note. All examples in the above table are taken from Moravcsik, 1978.]

On the other hand, event augmentation expressed by verb reduplication is commonly associated with such meanings as repetition, continuity and habituality. It is worth noting here that repeated events can be understood as being performed by either the same or different participant(s) and the events themselves may or may not occur within the same spatial or temporal boundaries. Some examples are given below.

Table 1.7 Event augmentative reduplication

LANGUAGE	FUNCTION	SIMPLE FORM	REDUP FORM	SIMPLE TRANS.	REDUP. TRANS.
Sundanese	repetition (event involving same participant)	guyon	guguyon	to jest	to jest repeatedly
Twi	repetition (event involving same participant)	tẽem	tẽetẽem	to cry out (once)	to cry out (repeatedly)
Samoan	repetition (event involving different participants)	mate	mamate	he dies	they die
Tzeltal	continuity	-suh	-suhsuh	urge it done	continue to urge that it be done
Aztec	habituality	zanilia	zazazanilia	to narrate	to have the habit of narrating

[Note. All examples in the above table are taken from Moravcsik, 1978.]

Another cross-linguistically recurrent function of reduplication is intensification which is normally expressed by reduplicative verbs and adjectives. With verbs, intensive reduplication denotes an increased amount of energy exerted in performing an action or a greater than normal size of effect caused by an action or event. Reduplicative adjectives, however, generally express 'more of' a property (Lakoff & Johnson, 2003; Moravcsik, 1978). The following examples are illustrative.

Table 1.8 Intensive reduplication

LANGUAGE	SIMPLE FORM	REDUP FORM	SIMPLE TRANS.	REDUP. TRANS.
Agta	dána	dádána	old	very old
Agta	magbílag	magbíbilag	run	run hard and far
Tagalog	mabasag	magkabasagbasag	get broken	get thoroughly broken
Ewe	gblé̃	gégblé̃	be spoiled	be very much spoiled
Dyirbal	balgan	balgabalgan	hit	hit too much

[Note. All examples in the above table are taken from Moravcsik (1978).]

Intriguingly, reduplication is also used to express the meaning categories of diminution and attenuation. Diminution is often expressed by nominal reduplication and attenuation by reduplicated verbs and adjectives as exemplified below.

Table 1.9 Diminutive and attenuative reduplication

LANGUAGE	FUNCTION	SIMPLE FORM	REDUP FORM	SIMPLE TRANS.	REDUP. TRANS.
Agta	diminution	wer	walawer	creek	small creek
Thompson	diminution	sqaˈxaʼ	sqaˈqxaʼ	dog/horse	little dog/horse
Quileute	attenuation	kwáti	kwayaˈ.ti	he tried	he tried a little
Tagalog	attenuation	mahiya	mahiyahiya	ashamed	be a little ashamed

[Note. All examples in the above table are taken from Moravcsik (1978).]

Based on a cross-linguistic comparison of the frequency of semantic categories expressed by reduplication, Kajitani (2005) provides a ranking of the four semantic functions of reduplicative forms presented in this section.[13,14] According to Kajitani's hierarchy, reduplication is used more commonly across languages to express augmentation and intensity than it is used to signal diminution and attenuation. This hierarchy further suggests that while there is a preference for augmentation over intensity, attenuation is preferred over diminution (see Kajitani, 2005, p. 102 for a schematic representation of the hierarchy). For further detail on the semantics of reduplication, see Kouwenberg and LaCharité (2001, 2005), Naylor (1986) and Regier (1994).

1.5 Summary

In this chapter, I provided an overview of the phenomenon of reduplication and its formal and functional characteristics from a cross-linguistic perspective. The first part of the chapter was concerned with presenting a working definition of reduplication as a morphological operation as well as a set of diagnostic criteria for distinguishing reduplication proper from other iterative linguistic phenomena such as compensatory reduplication, syntactic reduplication and baby-talk reduplication. In the second part of the chapter, I briefly discussed some of the formal and functional characteristics of reduplicative forms. With respect to form, two types of reduplication (i.e., full vs. partial) were distinguished on the basis of the size of the reduplicant. It was also shown that reduplicative forms may involve more than two copies and that the copies of a reduplicated form can be non-adjacent. Finally, some of the cross-linguistically recurring meanings expressed by reduplication were presented. Based on a hierarchy of the semantic

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[13] Kajitani's sample included 16 genetically and geographically unrelated languages.
[14] The definition of reduplication on which Kajitani (2005) based her study was the one given by Moravcsik (1992) (reiterated in Moravcsik, 2003, p. 453): a pattern where "the double or multiple occurrence of a sound string, syllable, morpheme, or word within a larger syntagmatic unit is in systematic contrast with its single occurrence, with the iterated elements filling functionally non-distinct positions".

properties of reduplication proposed by Kajitani (2005), It was specifically suggested that of the

meanings discussed augmentation is the most and diminution the least commonly occurring.

2 An Overview of the Grammar of Paraguayan Guaraní

In the present chapter, we will briefly look at some of the aspects of the grammar of Paraguayan Guaraní which are more or less relevant to our discussion of reduplication in the subsequent chapters. In Section 2.1 below, I will present a few points about the genetic affiliation of Guaraní and the sociolinguistic situation of Paraguay. Sections 2.2-2.4 outline some of the phonological, morphological and syntactic characteristics of the language. Section 2.5 summarizes and concludes the chapter.

2.1 Some genealogical and sociolinguistic remarks

2.1.1 Genetic affiliation

Paraguayan Guaraní, also known as Avañe'ẽ, belongs to the Guaraní macrolanguage, one of the numerous languages of the Tupí-Guaraní linguistic family. The Tupí-Guaraní language family is classified into eight subgroups and is itself one of the seven language families subsumed under the Tupí stock, a major language group in South America. [15]Tupian languages cover large parts of Brazil, extending from the northern region of the country to its southern states, as well as some of the countries on the northern and western Brazilian borders, including French Guiana, Peru, Bolivia, Paraguay and Argentina (Gregores & Suarez, 1967; Jensen, 1998; Lewis, 2009; Rodrigues, 1999).

The Tupí-Guaraní language group has received a relatively high degree of attention from linguists and is referred to by Jensen (1999, p. 125) as "perhaps the best-known genetic grouping in Amazonia." According to Rodrigues (1986), the name Tupí-Guaraní has derived from

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[15] See Table 5.1 in Jensen (1999, pp. 130-132) for a survey of the different subgroups within the Tupí-Guaraní language family.

Tupinambá,[16] or Old Tupí, and Guaraní[17], two dominant language groups in colonial South

America. In fact, Tupinambá and Guaraní have been classified as two varieties, or dialects, of a

Tupí-Guaraní proto-language as there exist considerable systematic phonological, lexical and

grammatical correspondences between the two (Gregores & Suarez, 1967; Rodrigues, 1986).

Rodrigues (p.c.) suggests that the Tupí-Guaraní branch of the Tupian stock might have appeared

first in the state of Rondônia (northwestern Brazil) and then spread out to other areas through

four major migration waves:

> a wave of migration to the south where the Guaranian languages developed, a wave to the
>
> east into Bolivia where Sirionó and Gurayu developed, a wave east to the Atlantic Coast
>
> where Tupínambá developed, and a wave (or several waves) to the north and east into the
>
> greater Amazon region. (as cited in Jensen, 1999, p. 129)

Attempts at documenting Old Guaraní and Tupinambá, referred to by Rodrigues (1986, p.

34) as the "classical languages of South America", first began in the 16th and 17th centuries

during the colonization of the continent by the Europeans. The first written words of Tupinambá

can be traced back to early 16th century; however, it was several decades before the first texts in

this language were eventually published in 1575. These were translations of some Christian

prayers rendered into Tupinambá from Portuguese by the first Jesuit missionaries in colonial

Brazil. The first grammar of Tupinambá was published in 1595 through the efforts of Padre José

de Anchieta, who was also responsible for the creation of a plethora of literary works in this

language (Rodrigues, 1986). According to Anchieta (1595, as cited in Jensen, 1999, p. 125)

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[16] The Tupinambá tribes inhabited an area that stretched from present-day Rio de Janeiro up to the north and were the main indigenous group to encounter the Portuguese colonists (Jensen, 1999).

[17] The Guaraní people lived to the south of the area which is now known as São Paulo and were the primary group to establish contact with the colonizing Spaniards. The language spoken by this group in that period is now referred to as Old Guaraní (Jensen, 1999).

Tupinambá was the most widely spoken language on the coast of Brazil and, as suggested by

Jensen (1999), has influenced Brazilian Portuguese to a great extent. As opposed to Old Tupí,

which was mainly spoken within the territories controlled by the Portuguese, Old Guaraní was

used in the regions dominated by Spanish colonists. The first grammars of Old Guaraní were

published between 1625 and 1640 by two missionaries: Alonso de Aragona and Antonio Ruiz de

Montoya. Besides his grammar, published between 1639 and 1640, Montoya also produced two

dictionaries, one Spanish-Guaraní and the other Guaraní-Spanish entitled *Tesoro de la Lengua*

Guaraní (Treasure of the Guaraní Language). This latter dictionary is especially noteworthy as a

rich and valuable work in the area of language documentation in South America (Rodrigues,

1986).

2.1.2 The sociolinguistic situation of Paraguay

The majority of speakers of Paraguayan Guaraní live in Paraguay,[18] where it has been an

official language since 1992 alongside Spanish, but it is also spoken in the bordering Brazilian

states of Mato Grosso and Paraná as well as in northeastern Argentina (Gregores & Suarez,

1967; Lewis, 2009). There are approximately four million speakers of Guaraní in Paraguay, who

are mostly mestizos (Jensen, 1999).[19]

The sociolinguistic landscape of Paraguay has generally been depicted as a stable

bilingual society where the majority of people can speak both Spanish and Guaraní

(e.g., Patrinos, Velez, & Psacharopoulos, 1994; Roett & Sacks, 1991; Romaine, 1995; Rubin,

1968; Trudgill, 1983; Wardhaugh, 1992). In this regard, Paraguay is often considered a unique

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[18] Paraguay is a landlocked country in central South America with a population of over 6.6 million.
[19] The term mestizo is used in Latin America to refer to a person of mixed European (especially Spaniard) and native American ancestry.

case among South American countries, which show a general trend of transitioning from

bilingualism towards Spanish monolingualism. What makes Paraguay an even more intriguing

case is the fact that it represents a country with a non-indigenous population[20] that has adopted

an indigenous language, raising it to a symbol of national identity. This image of Paraguay as an

exemplary case of a bilingual society, however, is not quite uncontroversial. For example,

Fasoli-Wormann (2002) maintains that Paraguay as a bilingual society is simply a "myth",

suggesting that the majority of Paraguayans are monolingual in either Guaraní or Spanish,

perhaps with limited knowledge of the other language (as cited in Tonhauser, 2006, p. 122).

Likewise, Gomez Rendón (2008, p. 208) describes the bilingualism in Paraguay as "neither

stable nor societal, but changing and diglossic".[21] Thus, according to this latter view, one could

consider Paraguay a bilingual country, but not a country with a bilingual population.[22]

Despite this controversy over the nature of bilingualism in Paraguay, there seems to be

one issue over which scholars' views converge, namely, the socio-economic disparity between

Spanish-speakers and speakers of Guaraní, ensuing, at least partly, from Paraguayans'

differential attitude towards these two languages. Noting this difference in attitude towards

Spanish and Guaraní in Paraguay, Gregores and Suarez (1967) and Rubin (1968), for instance,

suggest that in the eyes of Paraguayans, Guaraní is in a way inferior to Spanish in the sense that

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[20] According to Patrinos, Velez and Psacharopoulos (1994), the number of indigenous people in Paraguay accounts for only 2.5% of the country's entire population.

[21] Here, the term diglossia is to be understood in terms of Fishman's extension. In Fishman's terms, diglossia refers to a situation where two different languages co-exist in a society, with either language serving a distinct function(s). In this complementary relationship, one language, referred to as the H(igh) language, is associated with formal contexts (e.g., literature, education, religion, the media, etc.), whereas the other, the L(ow) language, serves a colloquial function, used in contexts such as casual conversations, folk tales, shopping, etc. In fact, Fishman uses this sense of the term diglossia to describe the linguistic situation in Paraguay, with Spanish serving as the H and Guaraní the L language (see Fishman, 1971, pp. 73-90). See also Spolsky (1998) on the role of "domains" in a bilingual's choice of language.

[22] As Tonhauser (2006) puts it, it would then be more accurate to describe Paraguay as a multilingual country for, besides Paraguayan Guaraní, there are approximately 17 other indigenous languages in this country spoken by about 50,000 people.

it has less "prestige" associated with it than Spanish does.[23] Trudgill (1983) states that the choice

between Spanish and Guaraní depends on such factors as geographical location (Spanish is used

in the city, Guaraní in the countryside), type of context (formal contexts trigger the use of

Spanish), and the topic of conversation (Guaraní is used to talk about trivial matters, while

serious affairs are discussed in the language that both the speaker and hearer feel most

comfortable with) (see also Rubin, 1968; Wardaugh, 1992). Tonhauser (2006) also identifies a

similar situation. She writes:

> Roughly speaking, the larger a city is and the closer it is to Asunción, the more Spanish
>
> dominates. This results in an association of Guaraní speakers with "uneducated farmers"
>
> and Spanish speakers with "educated employees". Many parents in urban areas choose
>
> not to speak Guaraní to their children, hoping thereby to give them an advantage in
>
> Spanish. (p. 124)

Similarly, Gynan (2005) suggests that, based on the analysis of census data collected in recent

years, while there is a high rate of Guaraní-Spanish bilingualism in urban and border areas,

monolingualism in Guaraní is a characteristic of rural regions. It should also be noted that in

Paraguay men tend to use Guaraní more often than women do, especially when both participants

in a given conversation are male (Gynan, 2005; Trudgill, 1983; Wardhaugh, 1992).

Even though Guaraní has been a required subject in Paraguayan schools since the mid

1990s, it is still overshadowed by Spanish in the country's educational system, as well as in

business, politics and the media (Patrinos et al., 1994; Tonhauser, 2006). According to Patrinos

et al. (1994) although Spanish-speakers make up only 36% of the total population of Paraguay,

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[23] Rubin (1968, p. 62) defines prestige as "the measure of the value of a language in social advance."

they represent 60% of those with higher education. On the other hand, Guaraní monolinguals, who constitute 8% of the population, are not represented at all among those with higher education, but they make up 23% of the individuals who have no primary schooling. Patrinos et al. (1994) also report a substantial disadvantage experienced by Guaraní monolinguals with respect to earnings, a phenomenon which can partly be attributed to the inequality between this language group and the Spanish-speaking population in terms of access to academic opportunities.

However, in recent years, following the implementation of a new language policy which aims at promoting bilingual education in Paraguayan schools, a rather dramatic shift in people's attitude towards a more positive view of Guaraní has begun. For example, a comparison of the results of two surveys conducted by Gynan in 1995 and 2001 shows that while in 1995 the vast majority of Spanish-speaking couples raised their children exclusively in Spanish, the situation was quite different in 2001, with 80% of Spanish-speaking households fostering a bilingual environment at home (see Gynan, 2005).

2.1.3 Pure vs. mixed Guaraní

A distinction has been made in the literature between two varieties of Paraguayan Guaraní: Guaraniete (pure Guaraní) and Jopará (mixed Guaraní).

Guaraniete, or standard academic Guaraní,[24] is characterized by the systematic eradication of hispanicisms from Guaraní, thereby purging it of any visible traces of Spanish. This variety of Guaraní features a great number of neologisms and is taught and promoted in Paraguayan schools. Apart from a small élite, standard Guaraní has not been able to establish

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[24] Krivoshein de Canese and Corvalan (1992) refer to this variety of Guaraní as Guaraní Paraguayo Estandar (as cited in Tonhauser, 2006, p. 124)

itself among Paraguayans as the colloquial variety of speech and has often been described as a

failed attempt to counter the influence of Spanish (Gomez Rendón, 2008; Tonhauser, 2006).

However, the term Guaraniete is also sometimes used to refer to the variety of Guaraní spoken in

rural areas.[25] Although it is not as "pure" as standard Guaraní, this variety still uses a

considerably smaller number of Hispanicisms than Jopará. Jopará, on the other hand, is the

variety of Paraguayan Guaraní formed by mixing Guaraní and Spanish together (Gomez Rendón,

2008; Tonhauser, 2006). According to Gomez Rendón (2008), the use of Jopará in Paraguay can

be traced back to the 17th century. Today, it is typically used as the colloquial style of speech in

urban areas where most people can speak both Spanish and Guaraní (with varying degrees of

proficiency). Nevertheless, as Gomez Rendón (2008) puts it, even though this code-mixing form

of communication is commonly associated with urban areas, it is perfectly possible to hear

someone from the countryside speak Jopará.

   Gomez Rendón (2008) identifies two varieties of Jopará: Guarañol[26] and Castení.[27]

Guarañol refers to the variety of Jopará whose matrix language is Guaraní, whereas Castení is

used for the variety in which the matrix language is Spanish. In terms of their lexicons, these

varieties of Jopará differ from each other in that while the majority of the lexical items of

Guarañol are Spanish, Castení mostly uses Guaraní words. Morphosyntactically, Jopará Guaraní

is similar to traditional Guaraní. However, they show different degrees of polysynthesis, with

Jopará Guaraní being less polysynthetic than traditional Guaraní and thus closer to Spanish in

this respect. There are also noticeable phonological differences between Guarañol and traditional

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[25] This variety of Guaraní is also referred to as Guaraní Paraguayo Colloquial (Krivoshein de Canese & Corvalan, 1992, as cited in Tonhauser, 2006, p. 124).
[26] The term Guarañol is a blend of Guaraní and Español coined by Melià (1988) (as cited in Gomez Rendón, 2008, p. 209). It is also referred to by Gomez Rendón as Jopará Guaraní (JG).
[27] Castení is a blend of Castellano and Guaraní (Gomez Rendón, 2008, p. 209). It is also referred to as Jopará Spanish (JSp). As Gomez Rendón (2008) puts it, since JSp uses Spanish as its matrix language, it would be more properly classified as a variety of Spanish.

Guaraní at both segmental and suprasegmental levels (see Gomez Rendón, 2008, pp. 215-224 for

further detail).

2.2 Phonology

The articulatory system of Paraguayan Guaraní is characterized by an egressive pulmonic

airstream mechanism, with the phonation modes being voiceless and voiced. While vocalic

sounds are all normally voiced, both voiceless and voiced consonants occur in the language. The

surface consonant and vowel inventories of Guaraní are given in Tables 2.1 and 2.2 respectively.

Note that voiced stops in Guaraní realize as nasal when they occur in a nasal harmony domain

(discussed briefly later in this section); otherwise, they occur as pre-nasalized stops.

Table 2.1 *Guarani Consonant Inventory*

	Bilabial	**Labiodental**	**Alveolar**	**Palatal**	**Velar**	**Labiovelar**	**Glottal**
Plosive	P		T		k	k^w	ʔ
Pre-nasalized stop	mb		nd	dʒ	ŋg	$ŋg^w$	
Nasal	m		n	ɲ	ŋ	$ŋ^w$	
Tap			ɾ				
Fricative		v	S	ʃ	ɣ	$ɣ^w$	h
Lateral approximant			l				

Non-native Consonants

	Alveolar
Stop	d
Trill	r

Table 2.2 *Guarani Vowel Inventory*

	Front	**Central**	**Back**
High	i ĩ	ɨ ɨ̃	u ũ
Mid	e ẽ		o õ
Low		a ã	

In the above consonant inventory, the glottal fricative /h/ sometimes realizes as [χ] or [x]. Also, it

is common for the labiodental fricative /v/ to lenite to [ʋ], or even be deleted. The deletion of [ʋ]

mostly (though not exclusively) happens when it occurs in an unstressed syllable preceded by a

stress-bearing syllable. (Examples in this section are presented using the IPA conventions.)

(1) a. túva 'father' → túa

    b. tuviʃá 'big' → tuiʃá

    c. péva 'that one' → péa

    d. ʤeví 'again' → ʤeí

Similarly, the voiced labiovelar fricative /ɣʷ/ typically realizes as the approximant [w], with

almost no perceptible frication. Note also that the palatal affricate /ʤ/ sometimes occurs as [ʒ] or

even [j].[28] This obstruent also exhibits a similar behavior to the pre-nasalized stops with respect

to nasal harmony in that it appears as a full nasal in a "nasal span" (Gregores and Suarez's

(1967) term for a nasal harmony domain). However, unlike the pre-nasalized stops, which trigger

regressive nasal harmony, it never triggers a nasal spread, in this respect behaving similarly to

voiceless stops.

(2) a. /ʤe-hendu/ [NMLZ-hear] → ɲe-hendu
    b. /ʤe-ʤapo/ [NMLZ-do] → ʤe-ʤapo

      The surface structure of Guaraní syllables is characterized by a (C)V pattern, with the

possibility of an optional high vowel acting as a glide either preceding or following the nucleus

(e.g., [pɨaʔé] 'fast', [puɾahéi] 'sing'). Onsets are optional, and codas and consonant clusters

impermissible (although this does not apply to Spanish loanwords). Stress is often word-final,

but non-final stress also occurs. In cases where a base is followed by any of a number of

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[28] Note that the use of the symbol /ʤ/ here is only for convenience. I am not sure at this point where this phoneme's
precise place of articulation is within the post-alveolar to palatal region.

stressable suffixes including, but not limited to, *-pa* [totalitive], *-uka* [causative], *-se* [desiderative] and *–mĩ* [diminutive], stress shifts from the final syllable of the root to the stress-attracting suffix (e.g., [ʃe-ɾú] [B1SG-father] 'my father' vs. [ʃe-ɾu-mĩ́] [B1SG-father-DIM] 'my daddy'). There are also a limited number of words that bear non-final stress. Some examples include [óɣa] 'house', [héɾa] 'name', and [táva] 'town'. To this list, we should also add some Spanish loanwords such as [letɾádo] 'sneaky', [víɾo] 'silly', [ɣʷápo] 'hard-working', etc. which have preserved their original stress pattern.

Since stress in Guaraní is typically word-final, only deviations from this general pattern are indicated in writing (e.g., *so'o* [soʔó] 'meat' vs. *óga* [óɣa] 'house'). Also, as inherently nasal vowels normally occur in stressed syllables, they are not marked for stress. Compare the orthographic stress marking in (3a) with that of (3b) below. Note that the nasal quality of [õ] in [õ-sẽ-ta] (3b) results from its occurrence in a nasal harmony domain.

(3) a. Okýma.
    o-kɨ́-mã
    a3-rain-PRF
    'It's started raining already.' (1b7kr027)

   b. Peru osẽta.
    peɾu   õ-sẽ́-ta
    Pedro   a3-leave-FUT
    'Pedro is going to leave.' (1btlm016)

Also, nasal vowels which are preceded immediately by a nasal stop do not receive orthographic nasal marking (e.g., *kuña* [kũɲ̃ã́] 'woman'). Those sounds of Guaraní whose spelling might not be straightforward to the reader are given in Table 2.3 below along with their corresponding graphemes.

Table 2.3 Sound Symbol Correspondences

Sound	Symbol	Example	Gloss
ʃ	ch	chipa [ʃipá]	bread
ʤ	j	jagua [ʤaɣʷá]	dog
ʔ	'	so'o [soʔó]	meat
ɣ	g	óga [óɣa]	house
ɾ	r	karape [kaɾapé]	short
r	rr	hárro [háro] (only in some Spanish loanwords)	cup
ɲ	ñ	kuña [kũɲã́]	woman
ŋ	g̃	ko'ág̃a [koʔáŋã]	now
ŋʷ	g̃u	hag̃uã [hãŋʷã]	in order to
ɣʷ	gu	guasu [ɣʷasú]	big
kʷ	ku	kuehe [kʷehé]	yesterday
ɨ	y	ype [ɨpé]	duck

Metrical feet are built in Guarani in an iambic pattern at the right most edge of words, as shown in Figures 2.1 and 2.2 below.[29] This is assuming that stressless suffixes are extrametrical.

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[29] The term "iambic foot" refers to a metrical constituent consisting of two syllables arranged in an unstressed-stressed pattern. The most prominent element in a foot is called the head.

Figure 2.1 Metrical Tree: o-sapukái [A3-shout]   Figure 2.2 Metrical Tree: o-puká [A3-laugh]
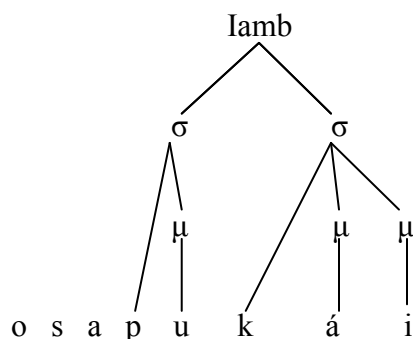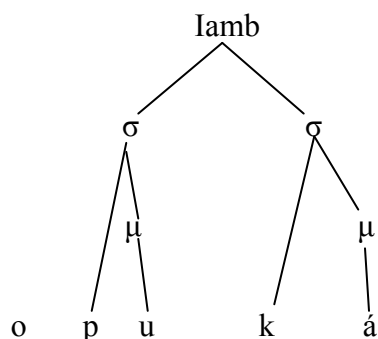
A comparison of the above figures shows that Guaraní is a quantity-insensitive language in

which the weight distinction between heavy and light syllables is irrelevant for foot construction.

In this respect, Guaraní represents an atypical case since generally languages with iambic feet

insist on having a heavy syllable as the prominent element of their iambs (see Hayes, 1995).

One of the aspects of Guaraní phonology relevant to our discussion of reduplication in

Chapter 3 is its nasal harmony, which has attracted a lot of attention in the literature (Goldsmith,

1976; Gregores & Suarez, 1967; Humbert & Piggott, 1997; Leben, 1973; Lunt, 1973; Walker,

1999). Two patterns of nasal harmony can be identified in the language: a general pattern of

regressive harmony and a restricted pattern of progressive nasal spread which affects only certain

suffixes and postpositions. In the first general pattern, nasality is triggered by inherently nasal

vowels, which typically occur as the nucleus of a stressed syllable in the root-final position, and

spreads regressively, affecting voiced segments within the word (voiceless segments are

transparent). There is a negative correlation between the distance of targets from the trigger in a

nasal harmony domain and their degree of nasality; i.e., the farther away a target is from the

trigger, the less nasalized it will be (see Lunt, 1973). The harmonic domain is blocked by oral

vowels functioning as the nucleus of a stressed syllable.

(4) a. /o-mbo-pẽ́/ [A3-CAUS-break] → õ-mõ-pẽ́

   b. /o-dʒe-kitĩ́/ [A3-PASS-cut] → õ-ɲẽ-kĩtĩ́

It is worth noting here that, besides nasal vowels, pre-nasalized stops also trigger nasal harmony.

(5) /dʒa-dʒo-hendú/ [A1PL.I-RECP-hear] → ɲã-ɲõ-hẽndú

In addition to the general regressive pattern, there is also a morphologically restricted nasal harmony pattern which spreads progressively and affects only certain suffixes and clitics, most notably the totalitive suffix [-pa] and optionally the clitic [-pe] in contemporary Guaraní.

(6) a. /mitã́=pe/ [child=to] → mĩtã́=mẽ

   b. /hoʔɨsã-pá/ [cold-TOT] → hõʔɨ̃sã-mbá

Pre-nasalized stops do not trigger progressive nasal harmony.

(7) oɾé   ɾ̃õ-hẽndu-pa-ité   sɨ-mĩ́
    1PL.E   A1PL.E-hear-TOT-very mother-DIM

   'We totally hear you, mom.' (T31a.033)

In cases where the trigger occurs in a suffix, nasality spreads only progressively (e.g., [sɨ-mĩ́] in (7) above). Consider also the following example.

(8) /kuɾe-ɾã́-pe/ → kuɾe-ɾã́-mẽ (Tonhauser, 2006, p. 130) (IPA transcription is mine)

   Nasality is a distinctive feature in Guaraní phonology when it occurs in stressed syllables, as demonstrated by the minimal pairs in Table 2.4 below.

Table 2.4 *Minimal Pairs Contrasted by Nasality*

Word	pitá	pĩtã́	piɾú	pĩɾṹ	potí	põtĩ́
Gloss	stay	red	replace	step on	defecate	clean

In the following section, we will take a brief look at some of the aspects of Guaraní morphology.

2.3 Morphology

If we wanted to locate Guaraní on the synthesis scale, it would have to be at the synthetic (as opposed to analytic) end of the continuum as the role of morphology in the organization of the language is crucial. In this section, we will briefly consider the use of the morphological processes of affixation (both inflectional and derivational) and compounding in Guaraní. (All the examples given in this section are transcribed according to the orthographic conventions of Guaraní presented in Section 2.2.)

2.3.1 Inflectional categories

2.3.1.1 Agreement

Agreement in Guaraní is marked on predicates by either of two sets of prefixal agreement (or cross-reference) markers), depending on the lexical category of the predicate. Following Tonhauser (2006), I will refer to these predicate classes as "Stative" and "Dynamic". Dynamic predicates generally include concepts that are expressed by verbs in English (e.g., *o-guata* [A3-walk], *o-po* [A3-jump], *o-ñe'ẽ* [A3-speak], etc.). However, it must be noted here that the use of the term "Dynamic predicates" does not mean that such predicates necessarily express dynamic situations, a semantic notion which usually appears in discussions of aspect. Thus, although many of the situations that Dynamic predicates in Guaraní denote are dynamic, there are some Dynamic verbs that refer to static situations (e.g., *o-reko* [A3-have], *o-pyta* [A3-be located]). In order to avoid this terminological confusion, we print the initial letter of "dynamic" and "stative" in upper case whenever these terms refer to the two predicate classes of Guaraní. As opposed to Dynamic predicates which typically correspond to verbs in English, Stative predicates can have as their English equivalents verbs (e.g., *i-mandu'a* [B3-remember]), adjectives (e.g., *i-porã* [B3-

beautiful]) or nouns (e.g., *i-mimby* [B3-flute] 'have a flute'). These two predicate classes can be

distinguished based on their co-occurrence with either Set A or Set B prefixes (Tonhauser's

(2006) labels for the two sets of agreement markers presented in tables 2.5 and 2.6 below). Note

that the prefixes of Set B are also used to mark pronominal possessors on nouns (e.g., *che-jagua*

[B1SG-dog] 'my dog').

Table 2.5 Set A Agreement Prefixes

Person	Singular		Plural	
	Prefix	Gloss	Prefix	Gloss
1	a(i)-	A1SG	ro(i)- (EXCL)	A1PL.E
			ja(i)- (INCL)	A1PL.I
2	re(i)-	A2SG	pe(i)-	A2PL
3	o(i)-	A3	o(i)-	A3

Table 2.6 Set B Agreement Prefixes

Person	Singular		Plural	
	Prefix	Gloss	Prefix	Gloss
1	che(i)-	B1SG	ore- (EXCL)	B1PL.E
			ñande- (INCL)	B1PL.I
2	nde(i)-	B2SG	pende-	B2PL
3	i-	B3	i-	B3

Table 2.7 below gives the paradigm of independent personal pronouns of Guaraní. However, it

must be noted here that the rich agreement-marking system of this language makes it possible to

omit these pronouns, as is typically the case in naturally-occurring speech.

Table 2.7 Paradigm of the independent personal pronouns of Guaraní

Person	Singular	Plural
1	che	ore (EXCL)
		ñande (INCL)
2	nde	peẽ
3	ha'e	ha'ekuéra

Stative predicates only appear with Set B markers, but Dynamic verbs can co-occur with the

prefixal morphemes of either set. The S argument of intransitive Dynamic predicates is marked

on the verb by Set A markers, and so is the A argument of their transitive counterparts

(abbreviatory argument labels S, A, and O are taken from Dixon 1979).[30] In Example (9) below,

we observe that the intransitive Dynamic predicate *o-ñani* [A3-run] bears the Set A third person

agreement marker, thus showing agreement with its sole core argument (i.e., the third person

singular pronoun *ha'e*). The Dynamic predicate *a-johéi* [A1SG-wash] in (10), however, has both

an A and an O argument and, in this case, the Set A first person singular prefix *a-* is attached to

the verb stem to mark agreement between the predicate and it's A argument (more on marking

agreement on transitive verbs below).

(9) Ha'e   o-ñani pya'e.
     3SG   A3-run fast
     'He ran fast.' (1batn004)[31]

---

[30] The label S refers to intransitive subjects, A to transitive subjects, and O to transitive objects. It is worth noting here that since there is not enough convincing evidence to warrant categorizing the core arguments of verbs in Guaraní based on an opposition between the grammatical relations subject and object, I avoid using these terms in the present work (see Vellázquez-Castillo (2002) for a detailed analysis of grammatical relations in Guaraní).
[31] Since only the future tense is marked on Guaraní verbs, clauses without an overt temporal adverb can be interpreted as either past or present depending on the context in which they occur.

(10) Che   a-johéi   hína   umi   plato-kuéra.
     1SG   A1SG-wash   PROG   those   plate-PL
     'I am washing the dishes.' (27jkh025)

The agreement markers of Set B, on the other hand, mark the S argument of intransitive

Stative predicates as well as the O argument of transitive Dynamic verbs.[32] This is illustrated in

example (11) below with the Stative verb *karape* 'short' and the Set B first person singular prefix

che-.

(11) Che   che-karape.
     1SG   B1SG-short
     'I am short.' (19sms007)

Note that since each predicate can take only one agreement marker, a choice needs to be

made as to which one of the (A or O) arguments must be marked on a transitive verb. This is

determined by the following person hierarchy: $1 > 2 > 3$. Hence, in a sentence with a first person

A argument and a third person O argument, the verb takes the prefix *a-* which marks the first

person singular A argument of Dynamic predicates. This is demonstrated by the following

example.

(12) A-hecha   chupe.
     A1SG-see   to.him
     'I see him.' (1a3kr015)

However, if the A argument is third person singular and the O argument first person singular

(i.e., the mirror image of the above example), what is marked on the verb will be the O rather

than the A argument.

(13) Ha'e   che-recha.
     3SG   B1SG-see
     'He sees me.' (1a3kr016)

---

[32] Stative predicates in Guaraní are intransitive.

In a similar pattern, we observe in (14) that the predicate *pei-su'u* [A2PL-bite] agrees with its A

argument, which is higher on the person hierarchy than the O argument *chipa* 'bread'.

(14) Pe'ẽ   pei-su'u   pe   chipa.
     2PL   A2PL-bite   that   bread
     'You guys bit the bread.' (19skr039)[33]

        There is a subgroup of Stative predicates which never take the Set B third person

agreement marker *i-*, but are instead marked with the relational prefix *h-*. These predicates,

commonly referred to as "alternating" or "oscillating" predicates, are marked with both Set B

agreement markers and a second relational prefix *r-* in their non-third person inflected forms.

The inflectional paradigm of the non-oscillating Stative verb *karape* 'short' is given in Table 2.8

below. Table 2.9 shows the inflected forms of the oscillating verb *asy* 'sick'.

Table 2.8 *The Inflectional Paradigm of Karape*

che-karape	B1SG-short	ore-karape	B1PL.E-short
		ñande-karape	B1PL.I-short
nde-karape	B2SG-short	pende-karape	B2PL-short
i-karape	B3-short	i-karape	B3-short

Table 2.9 *The Inflectional Paradigm of Asy*

che-r-asy	B1SG-R-sick	ore-r-asy	B1PL.E-R-sick
		ñande-r-asy	B1PL.I-R-sick
nde-r-asy	B2SG-R-sick	pende-r-asy	B2PL-R-sick
h-asy	H-sick	h-asy	H-sick

---

[33] Note that in addition to the determiner *pe* which can function as both a middle distance demonstrative and a definiteness marker*,* there is also a postposition *=pe* in Guaraní which is used to mark animate O arguments of transitive verbs, the recipient in ditransitive clauses and some spatial and temporal adverbs (see Shain & Tonhauser, 2011; Tonhauser, 2006).

In addition to the above agreement markers and relational prefixes, there are two other prefixal morphemes which ought to be mentioned here: *ro(i)-* and *po(i)-*. These portmanteau prefixes occur on Dynamic predicates and indicate a first person (singular or plural) A argument acting on a second person O argument. The prefix *ro(i)-* is used when the O argument is singular while *po(i)-* marks a plural O argument.

(15) Ro-HENDU.
    1.2sg-hear

    'I hear you.' (1a5kr028)

(16) Po-hecha kuri   che   ké=pe.
    1.2PL-see PAST   B1SG   sleep=to
     'I saw you guys in my dreams.' (1b2kr020)

2.3.1.2 Negation

Guaraní uses the circumfix *nd(a)-.. .-i* to mark negation on both Stative and Dynamic predicates, as demonstrated by the following pairs of examples.

(17) a. Che-r-asy.
        B1SG-R-sick
        'I am sick.' (1akse018)

    b. Nda-che-r-asý-i.
        NEG-B1SG-R-sick-NEG
        'I am not sick.' (1akse019)

(18) a. Ha'ekuéra   o-guata   hína.
        3PL   A3-walk   PROG
        'They are walking.' (1akse020)

    b. Ha'ekuéra   nd-o-guatá-i.
        3PL   NEG-A3-walk-NEG
        'They are not walking.' (1akse021)

Note that the pre-nasalized stop [nd] becomes fully nasalized when it appears in a nasal span (see Section 2.2 for a brief discussion of nasal harmony in Guaraní).

(19) a. A-mano.
     A1SG-die
     'I am dying.' (1akse008)

   b. Che   n-a-manó-i.
     1SG   NEG-A1SG-die-NEG
     'I am not dying.' (1akse009)

2.3.1.3 Imperative mood

Dynamic verbs may be inflected for the imperative mood using one of the two imperative

prefixes of Guaraní. The prefix *e-* is used for singular and *pe-* for plural addressees.

(20) Pe   arasa hi-'aju-rõ   e-jogua.
   that   guava B3-ripe-COND IMP.SG-buy
   'If the guava is ripe, buy it!' (1b7js018)

(21) Pe-maña   che=rehe.
   IMP.PL-look   B1SG=at
   'Look at me!' (1c5kr012)

2.3.1.4 Optative *t-*

The optative prefix *t(a)-* can be used with both Stative and Dynamic predicates to express

a (non-counterfactual) wish or desire (22, 23) or as an indirect imperative (24).

(22) Ta-pytá-na   che   ko'á=pe[34].
   OPT-stay-NA   1SG   here=to
   'I had better stay here.' (232tn022)

(23) E-ha'arõ   ta-che-mandu'a.
   IMP.SG-wait.for   OPT-B1SG-remember
   'Wait so I can remember.' (232tn020)

(24) E-re   chupekuéra   t-o-sẽ   Paraguái=gui.
   IMP.SG-say   to.them   OPT-A3-leave Paraguay=from
   'Tell them to leave Paraguay.' (Sept. 6, 2013)

---

[34] The suffix *–na* might be an imperative strengthener.

2.3.1.5 Future *-ta*

The suffix *-ta* occurs on both Stative and Dynamic predicates, expressing the occurrence of a given situation in the future of a relative or absolute reference time. Thus, verbs marked with this suffix can be considered to have been inflected for future tense. However, it must be noted here that Tonhauser (2011) considers *-ta* as a marker of prospective aspect rather than a tense suffix.

(25) Che   a-há-ta   che-jarýi   róga=pe.
     1SG   A1SG-go-FUT   B1SG-grandmother   house=to
     'I will go to my grandmother's house.' (1arsp049)

(26) A-há-ta   kuri   a-jogua   che-renda-guã,   péro   o-u
     A1SG-go-fut   PAST   A1SG-buy   B1SG-mount-for   but   A3-come
     che-visita   che-sy.
     B1SG-visit   B1SG-mother
     'I was going to buy myself a horse, but my mother came to visit me.' (27ckr047)

2.3.1.6 Unrealized aspect *-mo'ã*

The suffix *-mo'ã* can occur on Stative or Dynamic predicates to mark the failure of an intended or predicted/expected situation to realize.

(27) Ha'e   o-u-mo'ã.
     3SG   A3-come-UNREAL
     'She planned to come (but didn't).' (1cfkr022)

(28) Che-r-asymo'ã   ha   a-ñe-pohano.
     B1SG-R-sick-UNREAL   and   A1SG-REFL-medicate
     'I was starting to get sick, but I took medicine.' (1cfkr030)

2.3.1.7 Completive aspect *-pa*

The suffix *-pa* indicates the completion or termination of the situation denoted by a given predicate (see Tonhauser, 2006).

(29) Pe   óga   o-kai-pa-ite.
      that   house   A3-burn-TOT-very
      'The house completely burned down.' (1b2tn011)

(30) A-pinta-pá-ma   pe   ogyke.
      A1SG-paint-TOT-PRF   that   wall
      'I have already finished painting the wall.' (1b2tn002)

As Tonhauser (2006) points out, the notion of "completeness" expressed by *-pa* naturally

involves complete affectedness of the semantic patient of the sentence. This should be clear from

(29) and (30) above, but consider also the following example.

(31) Che-rete-rasy-pa.
      B1SG-body-sick-TOT
      'My body hurts all over.' (1apjs008)

In cases where a plurality of participants are involved in a situation, the occurrence of *-pa* on the

verb denoting that situation indicates that the entire set of participants either instigated the

situation or was affected by it.

(32) Ore   ro-va-pa   upépe, péro   peteĩ   pueblo-'i
      1PL.3   A1PL.E-move-TOT   there   but   one   village-DIM
      michi-mí=nte   upéa.
      small-DIM=only   that.one
      'We all moved there, but it was just a small village.' (T08.007)

(33) Pe   ka'i   ho-'u-pa   umi   pakova.
      that   monkey   A3-eat-TOT   those   banana
      'The monkey ate all the bananas.' (38qkr012)

   This suffix can also be used as a marker of emphasis.

(34) Che-kangy-pa.
      B1SG-tired-TOT
      'I'm totally out of energy.' (b2tn010)

2.3.1.8 Perfect aspect *-ma*

The occurrence of *–ma* on Guaraní predicates yields a perfect interpretation, as

demonstrated by the following examples.[35]

(35) Ha-'u-pá-ma   la chipa.
  A1SG-eat-TOT-PRF DET bread
  'I have already eaten the bread.' (1aptn011)

In addition to the perfect interpretation of predicates with *-ma* exemplified above, Tonhauser

(2006, pp. 270-271) identifies two other readings associated with this suffix: inceptive and

prospective. An inceptive reading is one in which reference is made to "the inception of the

eventuality" (36), whereas a prospective interpretation denotes "a potential transition from the

pre-state to the eventuality itself" (37).

(36) O-ký-ma.
  A3-rain-PRF
  'It's started raining.' (1b7kr027)

(37) A-há-ta-ma.
  A1SG-go-FUT-PRF
  'I'm going to go (soon).' (1arsp043)

2.3.2 Derivational affixes

In this section, we will look at a few derivational affixes that appear on Guaraní Stative

and Dynamic predicates.

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[35] Although we are considering *-ma* as an inflectional suffix for the purposes of the present discussion, perhaps it would be more appropriately categorized as some kind of aspectual clitic since, in addition to predicates, it can occur on nominal and adverbial expressions, as illustrated below.
Tres semána-ma a-mbo-jy-hague   pan.
three week-PRF   A1SG-CAUSE-cooked-PAST.SUBORD bread
'Three weeks ago I baked bread.' (1bndh017)
Ko'áğa-nte-ma o-ñe-hundi-pa.
now-only-PFR A3-PASS-destroy-TOT
'(But) now it's all gone.' (T34a.087)

2.3.2.1 Passive/reflexive *je-*

The prefix *je-* (*ñe-* inside a nasal span) can be used with transitive Dynamic predicates to form passive constructions.

(38) Pe   hárro   o-je-joka.
     that   cup   A3-PASS-break
     'The cup was broken.' (1arsg031)

(39) A-je-su'u   kuri.
     A1SG-PASS-bite   past
     'I was bitten.' (1bnkh002)

(40) Ramón   o-ñe-mbuepoti   kuri.
     Ramon   A3-PASS-hit   past
     'Ramon got hit.' (1bnkh005)

Note that the same prefix may be used to form impersonals (41) and reflexives (42).

(41) I-katu   o-je-gasta   *un*   *millon*   *de*   *dólares*
     B3-possible   A3-REFL-spend   one   million   of   dollars
     peteĩ   pyharé=pe.[36]
     one   night=to
     'It is possible to spend a million dollars overnight.' (1bnkh021)

(42) Ñande   ja-je-johéi   ñande-jupe.
     1PL.I   A1PL.I-REFL-wash   B1PL.I-self
      'We washed ourselves.' (1aqdh005)

2.3.2.2 Reciprocal *jo-*

The reciprocal prefix *jo-* (*ño-* in a nasal span) can co-occur with Dynamic predicates whose A argument is interpretable as plural.

(43) Ha   ore   ro-jo-haihu,   ro-jo-haihu   eterei   enseguída
     and   1PL.E   A1PL.E-RECP-love   A1PL.E-RECP-love   very   immediately
     voi.
     right.away
     'And we loved each other, loved each other so much right away.' (T14.007)

---

[36] The italicized part of the sentence represents code switching from Guaraní to Spanish.

(44) Ha'ekuéra   o-ño-hetũ.
     3PL   A3-RECP-kiss
     'They kissed each other.' (1bsvb006)

2.3.2.3 Causative *mbo-*

The derivational prefix *mbo-* (*mo-* in a nasal harmony domain) attaches to intransitive

predicates and increases their valency, as demonstrated by the following examples.

(45) a. Pe   mitã-mi   h-asẽ.
        that   child-DIM   H-cry
        'The baby is crying.' (19thz022)

     b. Peru   o-mo-h-asẽ   Luís=pe.
        Pedro A3-CAUS-H-cry   Luis=to
        'Pedro made Luis cry.' (1boms001)

(46) a. Che-pochy   hese.
        B1SG-angry   at.him
        'I am mad at him.' (26mvc064)

     b. Peru   katuetei   che-mbo-pochy   jepi.
        Pedro always   B1SG-CAUS-angry   repeatedly
        'Pedro is always bugging me.' (1bskr042)

This prefix can also be attached to nouns to derive verbs, as illustrated by the following example.

(47) irũ 'companion' → mo-irũ 'accompany'
     Ha'e   ne-moirũ-ta,   mama, anichéne   nde-reja.
     3SG   B2SG-go.with-FUT   mom   NEG.UNCERT   B2SG-leave
     'She will keep you company, mom, she won't leave you.' (T33c.009)

2.3.2.4 Causative *-uka*

Transitive verbs can also be causativized, using the suffix *–(u)ka*. The A argument of the

original transitive verb is marked with the postposition *-pe* (or any of its allomorphs).

(48) Ramon   o-hech-uka   pe   jagua   Mariá=pe.
     Ramon   A3-see-CAUS   that   dog   Maria=to
     'Ramon showed the dog to Maria.' (1apkh007)[37]

(49) a. Ha-'u   pe   chipa.

     A1sg-eat   that   bread

     'I'm eating the bread.' (1aokr032)

   b. Mba'é=iko   che   ha-'u-ká-ta   chu=pe.
      what=Q   1SG   A1SG-eat-CAUS-FUT   3=TO
      'What am I going to feed her?' (T34a.047)

2.3.2.5 Desiderative -se

The desiderative suffix -*se* can occur on both Stative and Dynamic predicates to express

the desire of the S or A argument for the situation denoted by the predicate to occur. It is

typically translated into English as "want".

(48) Che   ha-'u-se   pe   chipa.
     1SG   A1SG-eat-DES   that   bread
     'I want to eat the bread.' (1aokr029)

(49) Che-yvate-se.
     B1SG-tall-DES
     'I want to be tall.' (1aokr042)

2.3.2.6 Mitigative -*vy*

The derivational suffix –*vy* may appear with both Stative and Dynamic predicates,

moderating their meaning. It can normally be translated into such English attenuative

expressions as "a little', "somewhat", "kind of", etc.

(50) Che-akã-nundu-vy   hína.
     B1SG-head-throb-MIT   PROG
     'I have a mild fever.' (25okr024)

---

[37] The initial [u] of [-uká] often coalesces with the final vowel of the stem. Thus, in this example *o-hecha-uka* [o-heʃa-uká] is realized as *o-hech-uka* [o-heʃ-uká].

(51) O-ky-vy   hína.
    A3-rain-MIT   PROG
    'It is drizzling.' (25okr062)

(52) María   o-puka-vy
    Maria   A3-laugh-MIT
    'Maria is smiling a little.'

2.3.2.7 Comparative *-ve*

    The suffix *-ve* is used with Stative predicates denoting gradable qualities to form

comparative constructions. The expression denoting the standard or reference of comparison

typically occurs with the clitic *=gui* 'from'.

(53) I-japu-ve   Perurimá=gui.
    B3-lie-more   Perurima=from
    'He is a bigger liar than Perurima.' (22rkr004)

(54) I-juru-guasu-ve   jakaré=gui.
    B3-mouth-big-more   crocodile=from
   'He has a bigger mouth than a crocodile.' (22rkr008)
With Dynamic predicates, *-ve* serves as a sort of intensifier.

(55) A-ha-rõ   eskuéla=pe   che   a-ñe-mo-arandu-vé=ta.
    A1SG-go-COND   school=to   1SG   A1SG-REFL-CAUS-knowledge-more-FUT
    'If I go to school, I will become educated even more.' (1bojs001)

(56) Pe   méskla=pe   e-moĩ-ve   hína   la   ñandy   ha
    that   mixture=to   IMP.SG-put-more   PROG   DET   lard   and
    re-moĩ-ve   hína   la   ryguasu   rupi'a.
    A2SG-put-more   PROG   DET   chicken   egg
    'Into the mixture you put in more lard and more eggs.' (T30.088)

(57) Nd-o-ky-vé-i-ma.
    NEG-A3-rain-more-NEG-PRF
    'It is not raining anymore.' (1b7kr026)

2.3.3 Compounding

    Another derivational process used in Guaraní morphology besides affixation is

compounding. Both noun-noun and noun-verb compounds occur in the language. Some

examples of right-headed endocentric compound nouns include *tova-yke* [face-side] 'cheek',

akãrague [head-hair] 'hair', and *tesa-y* [eye-water] 'tear'. Guaraní also has left-headed N-N

compounds such as *mitã-kuña* [child-woman] 'teenage girl', *memby-karia'y* [child-young.man]

'son' and *kure-ka'aguy* [pig-forest] 'wild pig'. The word *tetyma-yvyra* [leg-wood] 'clumsy

person' is an example of an exocentric N-N compound.

Guaraní N-V compounds can be divided into two groups: those derived from a Stative

verb and a nominal dependent, and those derived from a Dynamic verb and a nominal dependent.

The N-V compound *akã-rasy* 'have a headache' in (58) below is derived from the Stative verb

rasy 'be sick' and the noun *akã* 'head'.

(58) Che-akã-r-asy.
     B1SG-head-R-sick
     'I have a headache.' (1b2kr048)

We can see in example (59) below that the nominal dependent of a verb-headed N-V compound

may itself be a complex word.

(59) Che-akã-rague-puku.
     B1SG-head-hair-long
     'I have long hair.' (21bkh003)

The N-V compound in the above example is derived from the Stative verb *puku* 'long' as the

head of the compound and the compound noun *akã-rague* [head-hair]. An example of a verb-

headed N-V compound derived from the Dynamic verb *pete* 'smack' and the noun *tova* 'face' is

given in (60) below.

(60) A-je-hova-pete   ange   pyhare jeroky-há=pe.
     A1SG-PASS-face-smack   recently   night   dance-NMLZ=to

     'I was slapped in the face last night at the dance.' (21bkh038)

Note that in the above example the compound verb *hova-pete* has been passivized by the prefixal passive morpheme *je-*.

2.4 Basic syntax

Guaraní exhibits free word order; however, SVO is particularly common in isolated clauses and thus may be considered the unmarked constituent order. As was mentioned in 2.3.1.1, Guaraní is a pro-drop language in which the occurrence of pronominal S and A arguments is optional. (All the examples given in this section are transcribed according to the orthographic conventions of Guaraní presented in Section 2.2.)

(61) a. Che   a-hecha   pe   jagua.
      1SG   A1SG-see   that   dog
      'I saw the dog.' (27bkr025)

    b. Pe jagua a-hecha che. (27bkr026)

    c. A-hecha pe jagua che. (27bkr027)

    d. A-hecha che pe jagua. (27bkr028)

    e. Che pe jagua a-hecha. (27bkr029)

    f. Pe jagua che a-hecha. (27bkr030)

Similarly, the S argument of intransitive verbs, whether Stative or Dynamic, often occurs before the verb; however, it is also possible for the verb to precede its S argument. Examples (62) and (63) below illustrate the typical SV word order using the Dynamic verb *guata* 'walk' and the Stative verb *porã* 'good/beautiful'.

(62) Kuehe   ka'aru   Peru   o-guata   hína   kuri   tape
      yesterday   afternoon   Pedro A3-walk   PROG PAST   road
      po'í=re.
      narrow=at
      'Yesterday afternoon, Pedro was walking along a trail.' (1b9kr033)

(63) Nde-ao   i-porã.
     B2SG-clothing   B3-beautiful
     'Your dress is beautiful.' (19skr014)

Observe, however, that in the following example the pronominal S argument of the Dynamic

intransitive verb *iko* 'live' follows the verb, rather than preceding it.

(64) Nd-o-ikó-iri   upéa.
     NEG-A3-live-NEG   that.one
     'He is not good at what he does.' (1cfkr041)

Likewise, in (65) below the S argument of the Stative verb *porã* appears after the verb.

(65) I-porã   la   che-táva.
     B3-beautiful   DET   B1SG-town
     'My town is beautiful.' (T07.027)

In the agreement-marking system of Guaraní, the S argument of Stative predicates is

marked on the verb with the same set of agreement prefixes as the O argument of Dynamic

transitives while the S argument of Dynamic intransitives and the A argument of Dynamic

transitives group together in terms of their occurrence with a second set of agreement markers

(see examples in 2.3.1.1). This differential marking of the S argument of intransitive verbs

characterizes Guaraní as a split-S language.

Guaraní noun phrases consist minimally of a noun, as shown in (66) below, but can be

expanded by both pre-nominal and post-nominal modifiers.

(66) … e-moĩ-sé-ramo   kamby.
        IMP.SG-put-DES-COND   milk
     '… add milk if you like.' (T30.044)

Determiners and quantifiers normally occur before the noun they modify, as illustrated by the

following examples.

(67) Ne-mandu'á=ke   re-ru   haǧua   la   kamby.
     B2SG-remember=IMP   A2SG-bring   in.order.to DET   milk
     'Remember to bring the milk.' (26mvc036)

(68) Peru   ho-'u heta   pakova.
    Pedro   A3-eat a.lot.of   banana
    'Pedro ate a lot of bananas.' (1bakh019)

We can see in the following examples that the demonstratives *ko* 'this' and *pe* 'that' also precede

the noun they modify. Note that *pe* often functions as a definite article.

(69) Ko   ita   i-pohýi-eterei.
    this   rock   B3-heavy-very
    'This rock is very heavy.' (1b2kh007)

(70) Pe   jagua oi-su'u   pe   mbarakaja.
    that   dog   B3-bite   that   cat
    'The dog bit the cat.' (19skr031)

Also, in possessive constructions, the noun referring to the possessor precedes the noun which

refers to the possessum.

(71) a. vaka   rati
     cow   horn
     'a cow's horn' (237kr012)

  b. Peru   reindy
    Pedro sister
    'Pedro's sister' (Oct. 31, 2013)

Pronominal possessors are expressed by Set B prefixes on the noun which refers to the

possessum.

(72) a. che-jagua
    B1SG-dog
    'my dog' (19qkr006)

  b. ore-jagua
    B1PL.E-dog
    'our (excl) dog' (19qkr014)

Note that in Guaraní orthography Set B prefixes marking possession on nouns are often

separated from the noun referring to the possessum (e.g., *che jagua* 'my dog').

Attributive adjectives occur post-nominally, as demonstrated by the following example.

(73) O-japo   óga   pyahu, klínika.
     A3-make house new   clinic
     'She built a new building, a clinic.' (T34a.214)

In order for an adjective to be further modified, it needs to occur as the predicate of a relative

clause, as shown in (85) in the following paragraph.

Relative clauses are post-nominal and externally-headed. They are marked by the suffix –

va or, if they are past relative clauses, by *-va'ekue*.

(84) E-jagarra   oimeraẽ   mba'e rei-potá-va.

     IMP.SG-take   some   thing   A2SG-want-REL

     'Take anything you want.' (1blkr015)

(85) Ha   umi   ao   i-ky'a-ité-va,   o-ime o-jagarra

     and   those clothing   B3-dirty-very-REL   A3-be A3-take

     o-johéi   hína.

     A3- wash PROG

     'And there were those very dirty clothes, and she took them, and she is washing them.'

(T24.030)

In the example below, the relative clause following the noun *karai* 'man' describes a past

situation and is thus marked with *-va'ekue*.

(74) Pe   karai a-hecha-va'ekue   kuehe   o-ho hóga=pe.
     that   man   A1SG-see-REL.PAST   yesterday   A3-go 3.house=to
     'The man that I saw yesterday went home.' (1b3sg003)

Headless relative clauses also occur in the language.

(75) Ei-potá-va   o-reko   hikuái.
     IMP.SG-want-REL   A3-have   3PL
     'They have whatever you want.' (T29.099)

      Both bare complement clauses and complement clauses with overt subordinators can be

identified in Guaraní. Some verbs which occur with bare complement clauses include *katu*

'possible', *ñepyrũ* 'begin', *ñeha'ã* 'try' and *pota* 'want'.

(76) Ai-katú-ma   a-ñepyrũ   a-mba'apo.
     A1SG-possible-PRF   A1SG-begin   A1SG-work
     'Now I'm allowed to start working.' (T06.012)

However, in the following example, the verb *he'i* 'say' takes a complement clause with the

suffixal subordinator *-ha*.

(77) He'i   chéve o-mbo'e-ha   Guaraní.
     3.say   to.me A3-teach-SUBORD   Guaraní
     'He said he teaches Guaraní.' (1ajtn005)

The verb in a past-time complement clause takes the suffix *-hague*.

(78) Che-mandu'a   nde-r-asy-hague.
     B1SG-remember   B2SG-R-sick-SUBORD.PAST
     'I remember that you were sick.' (1avkr026)

      Tense is not marked on verbs in Guaraní; rather, the expression of time is accomplished

by means of such temporal adverbs as *kuri* 'past (whether immediate or remote)' and *va'ekue*

'remote past'.

(79) A-reko   peteĩ véka   kuri   péro Paraguái=pe.
     A1SG-have one   scholarship   PAST   but   Paraguay=to
     'I had a scholarship, but in Paraguay.' (T06.030)

(80) Che   chemandu'a   a-kyhyje   va'ekue   Jasyjateré=gui,
     1SG   B1SG-remember   A1SG-scare   REMOTE.PAST   Jasyjatere=from
     o-sẽ-va   asaje.
     A3-leave-REL   siesta
     'I remember I used to be afraid of Jasyjatere, who comes out at siesta time.' (T09.002)

2.5 Summary

Paraguayan Guaraní is a Tupí-Guaraní language spoken by about four million people in Paraguay and neighboring areas in Brazil and Argentina. It is a synthetic language with a rich system of inflectional and derivational morphology. In general, agreement and voice are marked on verbs with prefixes, whereas subordination and some of the tense/aspect/mood distinctions are marked with suffixal morphemes (other tense/aspect/mood categories are expressed by free forms). Besides affixation, Guaraní also uses compounding as a productive morphological process. Word order is basically free, but SVO is preferred in isolated sentences. Verbs are inflected only for the future tense using the suffix *-ta, with the expression of other temporal distinctions* being accomplished by the use of adverbs. In terms of its case marking, Guaraní exhibits a split-S pattern, with the S argument of Stative intransitive verbs being marked with the same set of agreement markers as the O argument of Dynamic transitives, and the S argument of Dynamic intransitives being marked on the verb with the same agreement prefixes as the A argument of transitive verbs.

The Guaraní syllable is of the shape (C)V with the possibility of an optional (V) either preceding or following the nucleus. Stress is often word-final, but non-final stress also occurs. The most prominent characteristic of Guaraní phonology is its nasal harmony in which nasality spreads from inherently nasal vowels, usually in the root-final position, as well as from prenasalized stops to the preceding voiced segments within the word. In addition to this general regressive pattern, there is also a morphologically restricted pattern of nasal harmony which affects only certain affixal morphemes.

3 **The structure of Guaraní reduplicative forms**

In this chapter, I will demonstrate that Paraguayan Guaraní exhibits both patterns of total

and partial reduplication. With the exception of words with monosyllabic roots, fully

reduplicated forms in Guaraní include reduplicants that copy the entire root of the original

(unreduplicated) word. Where reduplication is partial, the reduplicant typically consists of the

last two syllables of the base (although there are cases which do not fit this generalization). The

reduplication system in Guaraní is suffixal, with the reduplicant following the base (e.g., [õ-ɲẽ-

mõ-mãnduʔá] [A3-REFL-CAUS-remember] 'memorize', [õ-ɲẽ-mõ-mãnduʔà~nduʔá] 'keep

memorizing'; [pẽtẽ�ం́] 'one', [pẽtẽ�ં̀~tẽ�ం́] 'one by one').

The choice between total and partial reduplication in Guaraní seems to be a question of

dialectal and/or idiolectal difference, with some speakers tending to use partial reduplication and

others showing a preference for the total type. For still others this appears to be more like a

pattern of free variation rather than a strict dichotomy. This observation, however, is based on

my work with only three consultants, and hence should be taken with extreme caution. The

variation in the use of total and partial reduplication in Guaraní might also be an extension to the

diachronic path, as suggested by Rose (2005), from monosyllabic to disyllabic reduplication in

Tupí-Guaraní languages which is now moving towards a full reduplication pattern. According to

Rose (2005), although both monosyllabic and disyllabic reduplication were once productive

morphological operations in many Tupí-Guaraní languages, the former pattern has now been

replaced by the disyllabic one, with its traces being observable through some fossilized forms

still in use in these languages. Rose (2005) mentions Wayampi as an example of a language

which has undergone this shift from both monosyllabic and disyllabic reduplication to a

disyllabic-only pattern and Emerillon as a language in which this process is underway. We can

consider Paraguayan Guaraní as another language to which Rose's observation applies since the

only examples of monosyllabic reduplication found in this language are lexicalized forms such

as [kĩrĩrĩ́] 'quiet', [tɨrɨrɨ́] 'crawl', and [povɨvɨ́] 'scrounge for'. Of course, the distinction between

total and partial disyllabic reduplication becomes relevant only in cases where a given root is

longer than two syllables. It must be pointed out here, however, that native monomorphemic

verb roots in Guaraní are typically disyllabic and very few verb roots in this language exceed two

syllables in length. In sections 3.1-3.3 below, we will look at the different reduplication patterns

in Guaraní Stative and Dynamic predicates. Section 3.4 is concerned with the reduplication of

numerals.

3.1 Total reduplication

As mentioned above, the pattern of total reduplication in Guaraní copies the whole root

of the word. However, there is an array of exceptions to this generalization which will be

presented and discussed throughout the rest of this chapter. Since Guaraní also displays partial

disyllabic reduplication, some of the root forms used as examples in this section as well as in

Section 3.2 are chosen to be longer than two syllables so that the distinction between total and

disyllabic reduplication can be clearly established. Note that the reduplicative forms in (1) and

(3) presented below as full root reduplications will reappear in Section 3.2 as partially

reduplicated forms in order to illustrate the variation in the use of these two reduplication types.

The Guaraní examples provided in this chapter are transcribed following the orthographic

conventions of the language presented in Section 2.2; IPA transcriptions are used only when it is

necessary to preserve as much phonetic detail as possible.

(1) Móncho   o-sapukái~sapukái   hína   o-hó-vo.[38]
    Ramon   A3-shout~REDUP   PROG   A3-go-SER
    'Ramon keeps shouting.' (24dkh023)

(2) Ha'ekuéra i-karape~karape.
    3PL   B3-short~REDUP
    'Each of them is short.' (24ckh006)

In example (1) above, we observe that the reduplicant copies the entire verb root *sapukái* 'shout'

but excludes the agreement prefix *o-* from the domain of copying. Similarly, the reduplicative

form of the Stative predicate *i-karape* in (2) consists only of a copy of the root *karape* to the

exclusion of *i-*, the Set B third person marker. Example (3) below exhibits the same pattern of

total root reduplication.

(3) Kristína   o-ñe-mo-mandu'a~mandu'a   kuri   umi   yvyramata-kuéra.
    Kristina   A3-REFL-CAUS-remember~REDUP   PAST   those tree-PL
    h-éra   h-asý-va=gui.
    H-name   H-hard-REL=from
    'Kristina kept refreshing her memory on the tough names of the trees.' (28vkh087)

In (3) above, the verb root *mandu'a* 'remember' in the base of reduplication is preceded by three

affixal morphemes: the causative *mo-*, the reflexive *ñe-* and the Set A agreement prefix *o-*.

However, it is only the root that is copied by the reduplicant; none of the three inflectional or

derivational prefixes participates in the reduplication operation. The exclusion of prefixal

material from the copying domain is also evident in the reduplicated form of the verb *o-mbo-*

popo [A3-CAUS-jump] in the following example. Note that the root *popo* 'jump up and down' is

itself a frozen reduplicative form derived from *po* 'jump'.

(4) Peru   o-mbo-popo~popo   pe   vakapipopo   pe   tápia=re.
    Pedro   A3-CAUS-jump~REDUP   that ball   that wall=at
    'Pedro bounced the ball against the wall repeatedly.' (27jkh081)

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[38] Despite the orthographic convention of maintaining the stress mark on the base in reduplicated forms like *sapukái~sapukái* 'shout' and *purahéi~rahéi* 'sing', the final syllable of the base carries only secondary stress, with primary stress falling on the last syllable of the reduplicant.

It is worth noting here that in Guaraní reduplicated forms the base receives secondary and the reduplicant primary stress. Thus, while stress in the Stative verb [i-kaɾapé] [B3-short] falls on the last syllable of the word, the reduplicative form [i-kaɾapè~kaɾapé] is stressed on the last syllable of the reduplicant, with the final syllable of the base taking on secondary stress. This stress pattern applies to both total and partial reduplication in Guaraní. Of course, as we shall see below, this pattern does not apply to cases where a stress-attracting suffix in a given verb does not participate in reduplication.

The exclusion of material extraneous to disyllabic or longer roots from copying applies to suffixal morphemes as well (although there are some cases that do not fit this general pattern). Consider the following examples.

(5) a. Peru omyañambaite pe pakova ijurupe.

    peɾú   õ-mĩãɲã-mba-ité   pe   paková   i-dʒuɾú=pe
    Pedro   A3-push-TOT-very   that   banana   B3-mouth=to
  'Pedro pushed the whole banana into his mouth.' (26lkh056)

    b. Peru omyaña myañambaite pe pakova ijurúpe.

     peɾu   o-mĩãɲã~mĩãɲã-mba-ité   pe   paková   i-dʒuɾú=pe

     Pedro A3-push~REDUP-TOT-very   that   banana   B3-mouth=to
    'Pedro kept trying to push the whole banana into his mouth.' (26lkh057)

(6) a. Orekyrave ndehegui.

    oɾe-kɨɾa-vé   ndeheɣʷí
    B1PL.E-fat-more   from.you
  'We are fatter than you.' (38qkr082)

    b. Orekyra kyrave ndehegui.

     oɾe-kɨɾa~kɨɾa-vé   ndeheɣʷí
     B1PL.E-fat~REDUP-more   from.you
    'Each of us is fatter than you.' (38qkr083)

In (5a) above, the verb stem *o-myaña* 'push' is followed by the totalitive suffix *-mba* which is in turn followed by a second suffix, namely the intensive *-ite*. When reduplicated, however, the copy includes only material from the root, with both of the suffixal morphemes being attached to the entire reduplicative complex. This pattern is also evident in *ore-kyra~kyra-ve* (6b) where the comparative suffix *-ve* is not part of the copied material in the reduplicant, but is instead affixed to the reduplicative stem as a whole (**ore-kyra-ve~kyrave*, **ore-kyra-ve~rave*). More examples are given below. Note that the suffix *–mo'ã* in (7) indicates unrealized aspect (i.e., the situation denoted by the verb was about to occur but didn't).

(7) Pe karai tuja oinupã nupãmo'ã kurépe.

pe	kaɾaí	tudʒá	õĩ-nũpã~nũpã-mõʔã́	kuɾé=pe
that	man	old	A3-hit~REDUP-UNREAL	pig=to

'The old man almost hit the pig frantically.' (Sept. 6, 2013)

(8) Ikyra kyraite Peru vakakuéra.

i-kɨɾa~kɨɾa-ité	peɾú	vaka-kʷéɾa
B3-fat~REDUP-very	Pedro	cow-PL

'Each of Pedro's cows is really fat.' (Sept. 6, 2013)

(9) Orepya'e pya'eve chugui.

oɾe-pɨaʔe~pɨaʔe-vé	ʃuɣʷí
B1PL.E-fast~REDUP-more	from.him

'Each of us is faster than him.' (Sept. 6, 2013)

Many verbs in Guaraní are formed by concatenative derivational processes such as compounding and noun incorporation (NI). Some examples are given in Table 3.1 below.

Table 3.1 *N-V Compounds*

Noun	Verb	Compound
juru 'mouth'	jái 'open'	juru-jái 'be amazed'
kure 'pig'	juka 'kill'	kure-juka 'slaughter pigs'
mba'e 'thing'	'apo 'do'	mba-'apo 'work'
po 'hand'	johéi 'wash'	po-héi 'wash hands'
py'a 'guts/heart'	pu 'make a sound'	py'a-py 'worry'
ta'anga 'picture'	'apo 'do'	ta'anga-'apo 'draw, paint'
tembi'u 'food'	'apo 'do'	tembi'u-'apo 'cook'
turu 'horn'	ñe'ẽ 'talk'	turu-ñe'ẽ 'whistle'
tova 'face'	pete 'smack'	hova-pete 'slap face'
vaka 'cow'	juka 'kill'	vaka-juka 'slaughter cattle'

Such predicates behave similarly to the ones with simplex underived roots with respect to reduplication in that they exclude affixal material from the reduplicant. In other words, the reduplicated forms of compounds copy either only the final element or both members of the derived form, excluding any affixal morphemes if present. For instance, we observe in the following examples that *juru-jái* [mouth-open] reduplicates as *jurujái~jurujái*, while in *kure-juka* [pig-kill] only the verbal head of the compound (i.e., *juka*) appears in the reduplicant.

(10) Umi karia'ykuéra ijurujái jurujái pe kuñataĩre.
    ũmí   karia?ɨ-kʷéɾa i-ʤuɾu-ʤài~ʤuɾu-ʤái   pe   kũɲãtãĩ́=ɾe
    those   man-PL   B3-mouth-open~REDUP   that   young.woman=at
    'Each of the guys was blown away at the sight of the young woman.' (Aug. 30, 2013)

(11) Rokurejuka juka jepi.
    ɾo-kuɾe-ʤukà~ʤuká   ʤepí
   A1PL.E-pig-kill~REDUP repeatedly
   'We slaughter pigs from time to time.' (Sept. 6, 2013)

Although the claim we made above about the presence of a pattern of full root reduplication in Guaraní seems to be generally well-supported, it does not remain unchallenged. Here, we will quickly mention two problematic cases which militate against this claim. First, there are a number of verbs in Guaraní which cannot be reliably analyzed as either simplex or derived. A good example of such verbs is *mondoro* 'cut', which can be reduplicated as both *mondoro~mondoro* and *mondoro~ndoro*. Given the fact that Guaraní also has an intransitive verb *soro* 'tear', we can more viably analyze *mondoro* as a derivative of *soro* (*mbo-soro* [CAUS-tear]) rather than as an underived root. Adopting the former analysis, the fact that *mondoro* can reduplicate as *mondoro~mondoro* goes against the pattern of full root reduplication proposed above in which no affixal material is expected to be copied by the reduplicant of a base containing a disyllabic or longer verb root.[39]

Secondly, there are a number of words which have entered the Guaraní lexicon as loanwords from Spanish. Unlike native Guaraní words which are typically stress-final, some of these Spanish loanwords have preserved their original stress pattern and are stressed on their penultimate syllable (e.g., *letrádo* 'sneaky', *guápo* 'hard-working', *výro* 'silly'). When reduplicated, these forms copy, not only the root, but also the accompanying prefixal material. In

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[39] A similar case would be the verb *jeroky* 'dance', which can be reduplicated as both *jeroky~jeroky* and *jeroky~roky*. Although an analysis of *jeroky* as a reflexive *je-roky* [REFL-dance] seems plausible, I have not been able to identify *roky* as a synchronic root in modern Guaraní. Also, the viability of such an analysis is especially weakened by the fact that *jeroky* can co-occur with the reflexive/passive *je-* as demonstrated below.
Ojejeroky.
o-je-jeroky
A3-REFL-dance
'There was dancing going on.' (39dkr021)

the following examples, compare the reduplicated form of *porã* 'nice' and *héra* 'name' from

Guaraní with that of *výro* 'silly'. Note that in *i-porã* (12), the stress falls on the final syllable, and

the stressed syllable in *ore-mbo-héra* (13) is penultimate.

(12) Iporã porã umi mitãkuña.
    ĩ-põɾã̀~põɾã́   ũmí   mĩtã-kũɲã́
    B3-beautiful~REDUP   those   child-woman
    'Each of those young girls is beautiful.' (22dkh084)

(13) Orembohéra héra hikuái.
    õɾẽ-mbo-hèɾa~héɾa   hikʷái
    B1PL.E-CAUS-name~REDUP   3PL
    'They gave us each a nickname.' (38qkr009)

(14) Ivýro ivýro umi arrierokuéra.
    i-vìɾo~ivíɾo   ũmí   ariero-kʷéɾa
    B3-silly~REDUP   those man-PL
    'Each of those guys is silly.' (Sept. 6, 2013)

Given the identical stress patterns of *héra* and *výro*, it seems unlikely that the divergent behavior

of Spanish loanwords with respect to reduplication is due to their pre-final stress locus.

3.2 Partial reduplication

      The pattern of partial reduplication in Guaraní is disyllabic and suffixal; that is, **in most**

cases, the last two syllables of the verb are copied by the reduplicant. Consider the following

examples.

(15) Kristína   o-ñe-mo-mandu'a~ndu'a   kuri   umi
    Kristina A3-REFL-CAUS-remember~REDUP   PAST those
    yvyramata-kuéra   h-éra   h-asý-va=gui.
    tree-PL   H-name   H-hard-REL=from
    'Kristina kept refreshing her memory on the tough names of the trees.' (Sept. 6, 2013)

(16) María   o-puka-vy~kavy.
      Maria   A3-laugh-MIT~REDUP
      'Maria smiles over and over.' (38qkr020)

We observe in (15) above that the verb *o-ñe-mo-mandu'a* [A3-REFL-CAUS-remember] consists of

the root *mandu'a* plus three prefixal morphemes, but no suffixes. The reduplication operation

copies only the last two syllables of the verb which in this case happen to be also the last two

syllables of the verb root, thus yielding the reduplicative form *o-ñe-mo-mandu'a~ndu'a*. The

verb *o-puka-vy* in (16), on the other hand, consists of the root *puka* 'laugh' plus the Set A

agreement prefix *o-* and the mitigative suffix *–vy* (translatable to English as something like "a

little" or "kind of"). When reduplicated, it is again the last two syllables of the verb that makes

up the reduplicant *kavy*. Note, however, that in this case each of the two copied syllables belongs

to a different morpheme; that is, the initial syllable [ka] in *kavy* is copied from the root *puka*,

whereas [vy] is a copy of the monosyllabic mitigative suffix *-vy*. We find a similar pattern in the

following example.

(17) O-ñakã-'o~kã'o   umi   kure.
      A3-head-remove~REDUP   those   pig
      'They cut the pigs' heads off one after another.' (38fkh078)

Assuming that *akã'o* is a denominal verb derived from the noun *akã* 'head' and the word class

changing eliminative suffix *-'o* 'remove',[40] we see in this example too that the reduplicant is a

copy of the last two syllables of the stem which do not correspond to a single morpheme (i.e., the

final syllable of *akã* plus the monosyllabic suffixal morpheme *-'o*). Now consider the following

example.

---

[40] An alternative analysis would be to consider *'o* in *o-ɲakã-'o* [A3-head-remove] as a bound verb root heading an
N-V compound.

(18) Pe   karai   tuja   oi-nupã-mo'ã~mo'ã   kuré=pe.
       that   man   old   A3-hit-UNREAL~REDUP   pig=to

   'The old man almost hit the pig several times.' (Sept. 6)

We observe in the above example that the reduplicant copies the aspectual suffix *-mo'ã*, which

happens to be two syllables long, but no part of the preceding morpheme (i.e., the verb root

nupã) is copied. A similar case is that of the verb *ho-'u-pa-se* (literally translated as 'they want to

eat it up') which has taken on a metaphoric meaning equivalent to "they are greedy" in English.

The reduplicated form of this verb is given in (19b) below.

(19) a. Ho-'u-pa-se.
     A3-eat-TOT-DES
     'They are greedy.'

   b. Ho-'u-pa-se~pase.
     A3-eat-TOT-DES~REDUP

   'Each of them is greedy'. (Aug. 27, 2013)

We see in this example too that what is copied by the reduplication operation consists only of

suffixal material, i.e., the totalitive *–pa* and the desiderative *–se* 'want', with the root itself being

left out of the reduplicant.

    The pattern emerging from these examples, and other similar ones, clearly shows that the

partial reduplication pattern in Guaraní is driven by a prosodic requirement of disyllabicity.

When this disyllabicity constraint can be met by a single morpheme, it is only syllabic units from

that morpheme which are copied. However, when a morpheme is not syllabically rich enough to

provide the reduplication operation with two syllables, then the onus is on the adjacent

morpheme to supply the missing syllabic unit. We shall see in the next section that this constraint

is in fact applicable to the entire reduplication system of the language, rather than being only

limited to partially reduplicated forms.

An important empirical advantage of identifying this disyllabicity requirement on

reduplication is that it allows us to gain insight into the syllabic structure of those Guaraní words

which contain a VV sequence (e.g., *purahéi* [puɾahéi] 'sing', *saingo* [sãĩŋgó] 'hang', *mondýi*

[mõndɨ́i] 'scare', etc.). The question that arises as regards such forms is whether the VV

sequence in these words corresponds to two different syllables or the two adjacent vowels are

both part of a single syllabic unit. We can find the answer in the reduplication pattern of the

following examples.

(20) Ha'e opurahéi rahéi.
    ha?é   o-puɾahèi~ɾahéi
    3SG   A3-sing~REDUP
    'He kept singing.' (24ckh004)

(21) Ikachiãi chiãi hikuái.
    ĩ-kãʃĩãĩ~ʃĩãĩ   hikʷái
    B3-funny~REDUP   3PL

    'Each of them is funny.' (Aug. 30, 2013)

Given that the pattern of partial reduplication in Guaraní is disyllabic, the fact that [puɾahéi] is

reduplicated as [puɾahèi~ɾahéi] and [kãʃĩãĩ] as [kãʃĩãĩ~ʃĩãĩ] (*[puɾahèi~héi], *[kãʃĩãĩ~ãĩ]) shows

that the Vi sequence in these words is tautosyllabic, with the final high vowel functioning as a

glide. In a form like [pɨa?é] 'fast' which reduplicates as [pɨa?è~pɨa?é] (9) (*[pɨa?è~a?é]), the

glide (i.e., the high vowel [ɨ]) actually precedes the nucleus, rather than following it.

Based on the evidence presented above, I consider the Guaraní syllable to have the shape

(C)V with the possibility of an optional high (V) either preceding or following the nucleus. The

tautosyllabicity of VV sequences in forms like [puɾahéi] 'sing' and [kãʃĩãĩ] 'funny' characterizes

Guaraní as a quantity-insensitive language in which the contrast between heavy and light

syllables is irrelevant in building metrical feet. Given the fact that feet in Guaraní are iambic, its

insensitivity to quantity makes it quite an odd case from a cross-linguistic point of view as

languages with iambic feet typically show a strong tendency to have a heavy syllable as the head

of their iambs (see Hayes, 1995).

At this point, we must mention an important and intriguing property of reduplication in

Guaraní. Consider the following example of reduplication with the verb *o-sapukái* 'shout'.

(22) Peru osapuka pukái korapýpe.
 perú o-sapukà~pukái korapɨ=pe
 Pedro A3-shout~REDUP backyard=to
 'Pedro kept shouting in the backyard.' (24ckh019)

Note that in the above example the [i] of the final syllable [kái] appears to be deleted in the base,

thus producing the reduplicative structure [o-sapukà~pukái]. This deletion of the final glide of a

CVi syllable in the final position of the base of reduplication seems to be partly optional and

partly lexically specified in Guaraní. Thus, while *purahéi* [puɾahéi] 'sing' and *mokõi* [mõkṍĩ]

'two' can only be reduplicated with their final [i] preserved in the base (*[puɾahè~ɾahéi],

*[mõkõ̀~mõkṍĩ]), *sapukái* [sapukái] 'shout', *jahéi* [ʤahéi] 'offend', *kachiãi* [kãʃĩã́ĩ] 'funny' and

jokuái [ʤokuái] 'hire' can reduplicate with or without their final [i] in the base. However, it must

be noted here that the variation observed in these examples is mostly based on data elicited from

only one consultant and therefore should be interpreted with caution.

(23) a. Umi mitã'ikuéra ojahéi jahéi hapicháre.
  ũmĩ́ mĩtã-ʔi-kʷéɾa o-ʤahèi~ʤahéi h-apiʃá=ɾe
  those child-DIM-PL A3-insult~REDUP H-fellow=at

 b. Umi mitã'ikuéra ojahe jahéi hapicháre.
  ũmĩ́ mĩtã-ʔi-kʷéɾa o-ʤahè~ʤahéi h-apiʃá-ɾe
  'Each of the children made fun of their fellow.' (Aug. 30, 2013)

(24) a. Ajokuái jokuái jepi che ra'ýpe ojogua hag̃ua so'o.

    a-dʒokʷài~dʒokʷái   dʒepí   ʃe-ɾaʔɨ=pe   o-dʒoɣʷá   hãŋʷã́

    A1SG-employ~REDUP repeatedly   B1SG-son=to A3-buy   in.order.to

    soʔó

    meat

    b. Ajokua jokuái jepi che ra'ýpe ojogua hag̃ua so'o.

    a-dʒokʷà~dʒokʷái dʒepí ʃe ɾaʔɨ-pe o-dʒoɣʷá hãŋʷã́ soʔó

    'I sometimes ask my son to buy meat.' (Aug. 30, 2013)

There are also some forms (e.g., [hɨʔái] 'sweat', [dʒeʔói] 'go away') which only appear without

the final [i] in the base when they are reduplicated.

(25) Umi hugadorkuéra hy'á hy'aipa.

    ũmí   huɣadoɾ-kʷéɾa   h-iʔa~hiʔai-pá

    those   player-PL   H-sweat~REDUP-TOT

    'Each of the players is sweating profusely.' (Aug. 27, 2013)

(26) Mbo'eharakuéra oje'o je'óima.

    mboʔehaɾa-kʷéɾa   o-dʒeʔò~dʒeʔói-mã

    teacher-PL   A3-leave~REDUP-PRF

    'The teachers left one after another.' (Aug. 27, 2013)

This pattern of [i] deletion seems to occur only in roots with two or more syllables; thus, [o-kái]

[A3-burn] 'they are burning' is reduplicated as [o-kài~okái] (*[o-kà~okái]) (more on the

reduplication of monosyllabic roots in Section 3.3). It should be noted here that final-glide

deletion, whether optional or obligatory, is specific to reduplication and does not occur in

unreduplicated forms. Since my data does not include any disyllabic or longer roots with a final

glide other than [i], I will refrain from making any claims as to whether or not this deletion

pattern is also applicable to other vocalic sounds of Guaraní.

      The final [i] deletion in the base of the reduplicative forms of Paraguayan Guaraní is

reminiscent of the coda consonant deletion in the final syllable of the base of reduplication in

some other Tupí-Guaraní languages, as demonstrated by the following examples.

(27) Tupinamba (Tupían, Brazil)
    a. a-i-mokón
     1SG-3-swallow
     'I swallowed it.' (Jensen, 1990, p. 128)

    b. a-i-mokó~mokón
     'I swallow(ed) them frequently.' (Jensen, 1990, p. 129)

(28) Kamaiura (Tupían, Brazil)
    a. pyhyk
     'take, hold'
    b. pyhy~pyhyk
     'take several times' (Seki, 2000, as cited in Rose, 2005, p. 358)

(29) Emerillon (Tupí-Guaraní, French Guiana)
    a. o-ʔal
     3-fall
     'He falls.'
    b. [oʔa]oʔal   (Rose, 2005, p.358)

At this point, one might be tempted to form a generalization about the partial pattern of

verb reduplication in Guaraní like the following:

"The pattern of partial reduplication in Guaraní is disyllabic and copies the last two

syllables of a verb, regardless of their morphological status."

Although the disyllabicity constraint on partial reduplication in Guaraní certainly holds true, the

above generalization turns out to be not quite airtight. Consider the following examples.

(30) a. Heindy hasẽvy.
    hẽĩndɨ   h-ãsẽ-vɨ
    3.sister   H-cry-MIT
     'His sister was sniffling.' (38fkh092)

    b. Heindy hasẽ hasẽvy. (38fkh093)
     hẽĩndɨ   h-ãsẽ~hãsẽ-vɨ
     3.sister H-cry~REDUP-MIT

c. *Heindy hasẽvy sẽvy. (38fkh094)

    hẽĩndɨ h-ãsẽ-vɨ̀~sẽvɨ́

'His sister sniffled over and over again.'

(31) a. Pe mitã hãisẽ hãisẽma.

    pe   mĩtã́   h-ãĩ-sè̃~hãĩsé̃-mã

    that   child   H-tooth-leave~REDUP-PRF

  b. *Pe mitã hãisẽma sẽma.

    pe mĩtã h-ãĩ-sè̃-mã~sé̃ma

    'The child is growing teeth already.' (Aug. 30, 2013)

The ungrammaticality of (30c) and (31b) shows that copying the last two syllables of a stem does not always produce the right reduplicative form. In *h-asẽ~hasẽ-vy* (30b) the reduplicant copies the root *asẽ* 'cry' plus the consonantal relational prefix *h-* to the exclusion of the mitigative suffix *–vy*. Note that this contrasts with the reduplication pattern of (16) in which the verb *o-puka-vy* [A3-laugh-MIT] is reduplicated as *o-puka-vy~kavy*. Similarly, in (31) the aspectual suffix *–ma* does not participate in reduplication, the disyllabicity constraint being satisfied by the relational prefix *h-* plus the elements (i.e., *ãi* 'tooth', *sẽ* 'leave') of the compound stem *h-ãi-sẽ*. Obviously, any viable theory of morphology must be able to account for this and similar phenomena in other languages.

3.3 Reduplication of monosyllabic roots

All of the examples of reduplication we have considered so far, whether total root or partial reduplication, have involved roots with either two or more syllables. However, there exist a number of root forms in Guaraní that consist of only a single syllabic unit. Some of these forms are given in Table 3.2 below.

Table 3.2 Monosyllabic roots

he 'delicious'	kã 'dry'	kái 'burn'	ke 'sleep'
mɨi 'move'	nẽ 'stink'	páɨ 'wake up'	pẽ 'break'
po 'jump'	so 'be cut'	sẽ 'leave'	sɨi 'slippery'

The question that arises at this point is how the reduplication system of Guaraní handles such monosyllabic roots? This section is intended to answer this question. We mentioned in 3.2 on partial disyllabic reduplication that in cases where the required two syllables cannot be supplied for the reduplication operation by a single morpheme, it is the adjacent morphological constituent that provides the missing syllabic unit(e.g., the final syllable of a stem preceding a monosyllabic suffix as in *o-puka-vy~kavy* (16)). The same strategy of "borrowing" syllabic units from adjacent morphemes is used when reduplication applies to monosyllabic roots. Consider the following example of reduplication with the root *he* 'delicious'.

(32) He-te~hete   ko'ã   pakova.
    delicious-very~REDUP   these   banana
    'Each of these bananas tastes really good.' (38qkr037)

In (32) above, we observe that the monosyllabic root *he* is not long enough to satisfy the disyllabicity requirement of prosody on reduplication. In order to meet this constraint, the reduplication operation provides the required syllabic unit by borrowing from the suffixal intensive morpheme *–te*, thus yielding the well-formed reduplicative structure *he-te~hete*. In the following Guaraní sentences with the verb roots *pẽ* 'break' and *'u* 'eat', we can see the use of the same strategy of syllable-borrowing to satisfy the constraint on reduplicant size. In the case of these examples, however, the morpheme that supplies the missing syllabic unit is a prefix rather than a suffix.

(33) Ha'e   o-mo-pẽ~mopẽ   pe   yvyra-rakã.
     3SG   A3-CAUS-break~REDUP   that   tree-branch
     'He broke the branch into pieces.' (26ekh052)

(34) Umi   avakachi   o-je-'u~je'u-pa.
     those   pineapple   A3-PASS-eat~REDUP-TOT
     'The pineapples were eaten up one after another.' (38fkh057)

Examples (35) and (36) below demonstrate that agreement markers can also be called on to

satisfy the disyllabicity requirement.

(35) A-po~apo.
     A1SG-jump~REDUP

   'I jump repeatedly.' (38gkr040)

(36) Ko'ã   ryguasu   rupi'a-kue   i-ne~ine.
     these   chicken   egg-former   B3-stink~REDUP
     'Each of these rotten eggs stinks.' (24ikh051)

In the above examples, we observe that the reduplication operation copies the roots *po* 'jump'

and *ne* 'stink' as well as the agreement prefixes *a-* and *i-* to yield the reduplicative forms *a-*

po~apo and *i-ne~ine* with disyllabic reduplicants (**a-po~po*, **i-ne~ne*). It is worth noting here

that when the agreement marker preceding the monosyllabic root in the base of reduplication is

longer than one syllable, the entire prefix is copied by the reduplicant, not just its final syllable.

This is illustrated by the examples in (37) and (38).

(37) a. Ore-ne~orene. (38qkr029)
       B1PL.E-stink~REDUP

   b. *Ore-ne~rene. (38qkr030)
      'Each one of us stinks.'

(38) Pene-ne~penene.
     B2PL-stink~REDUP
     'Each one of you guys stinks.' (38qkr031)

The base of the reduplicative forms in (37) and (38) consists of the monosyllabic *ne* and a

disyllabic agreement marker, *ore-* in (37) and *pende-* (realized as *pene-* in a nasal harmony

domain) in (38). Since the disyllabicity constraint on reduplication cannot be met by the

undersized root alone, the reduplicant has to make up for the missing syllabic unit by borrowing

from the closest morpheme within the base. However, borrowing just the final syllable of *ore-*

and *pende-* would yield ungrammatical forms as demonstrated by **ore-ne~rene* (37b). The

ungrammaticality of such forms indicates that there exists a morphological constraint in the

grammar of Guaraní which is responsible for preserving the integrity of agreement prefixes.

Therefore, the prosodic disyllabicity constraint needs to be defined non-templatically as follows:

*all reduplicants must be **minimally disyllabic***. Hence, although the reduplicant in forms like ore-

ne~orene and *pene-ne~penene* copies the entire affixal morpheme, it still complies with the

disyllabicity requirement of prosody.

        We saw in our overview of Guaraní inflectional morphology (Section 2.3) that negation

can be expressed on verbs by means of the negative circumfix *nd(a)...-i* as demonstrated below.

(39) Umi   mitã   nd-o-hó-i   eskuéla=pe.
     those   child   NEG-A3-go-NEG   school=to
     'The children don't go to school.' (Sept. 6, 2013)

Example (40) below shows that reduplicating the negative verb *ndohói* results in not only

copying *ho* and its agreement prefix *o-* but also the negative circumfix *nd-...-i*.

(40) Umi   mitã   nd-o-hó-i~ndohói   jepi   eskuéla=pe.[41]
     those   child   NEG-A3-go-NEG~REDUP   repeatedly   school=to
     'From time to time, the children don't go to school.' (Sept. 6, 2013)

---

[41] The reduplicated verb *nd-o-hó-i~ndohói* [nd-o-hò-i~ndohói] in this sentence can also appear as [nd-o-hò~ndohói] without the final high vowel in the base; however, my consultant prefers to preserve the former version with [i] present in both copies.

Also, in (41) below, we observe that both the agreement marker *o-* and the optative prefix *t-* preceding it are copied by the reduplicant.

(41) E-re   chupekuéra   t-o-sẽ~tosẽ   Paraguái=gui.
     IMP.SG-say   to.them   OPT-A3-leave~REDUP   Paraguay=from
     'Tell them to leave Paraguay separately.' (Sept. 6, 2013)

With the agreement marker *o-* copied to meet the disyllabic constraint, what we expect to see in the above example is **t-o-sẽ~osẽ*, not *t-o-sẽ~tosẽ*. Obviously, this poses a challenge to our characterization of Guaraní iterative forms as total root reduplication. In fact, the range of counterexamples is not limited to forms like *nd-o-hó-i~ndohói* and *t-osẽ~tosẽ*; a similar case appears in the following example of reduplication with the relational prefix *h-* appearing in the reduplicant as part of the copied material.

(42) Peteĩ   pyharevé-pe   Maléna   o-hendu   h-asẽ~hasẽ-ha
     one   morning=to   Malena   A3-hear   H-cry~REDUP-SUBORD
     hína   mbyju'i.
     PROG   swallow
     'One morning, Malena heard a swallow crying and crying.' (T27.046)

In the example above, while **h-asẽ~asẽ* would be fully compatible with a total root reduplication pattern, *h-asẽ~hasẽ* does not seem to be a perfect fit. These seemingly recalcitrant examples actually provide empirical evidence for the presence of CV syllabic units in the prosodic structure of Guaraní. More specifically, the prosody of Guaraní requires the obstruents [h] and [t] in *h-asẽ* and *t-o-sẽ* to be syllabified with the following vowel ([a] and [o] respectively), thus forming a CV syllable which then becomes available to the reduplication operation as a single prosodic unit. A similar argument could be made to account for the copying of negative circumfix *nd-...-i* in *nd-o-hó-i~ndohói* (40). The pre-nasalized stop [nd] serves as the onset to the initial syllable of the base *nd-o-hó-i* and is therefore copied by the reduplicant as part of the syllable [ndo].

Given the presence of syllabic units in the prosody of Guaraní, it should not be surprising at all to see them play an active role in a process like reduplication which is normally heavily influenced by prosodic constraints. Perhaps the strongest piece of evidence for the role of prosody as a key determinant of the shape of reduplicative structures in Guaraní comes from the reduplication of some monosyllabic roots which can occur as the main verb of a clause without taking any affixal morpheme. This is demonstrated by example (43) below using the color term *hũ* 'black'.

(43) Ko   pyhareve   pe   ára   hũ   lénto   hína.
    this   morning   that   sky   black   sort.of PROG
    'The sky is pretty dark this morning.' (1b2kh016)

However, when reduplicated, the prosodic constraint of disyllabicity forces *hũ* to take the agreement marker *i-* in (44b) below.

(44) a. Peru   o-hecha   heta   mbarakaja   hũ-va.
      Pedro   A3-see   a.lot.of   cat   black-REL
      'Pedro saw a lot of cats which were black.' (Oct. 31, 2013)

    b. Peru   o-hecha   heta   mbarakaja   i-hũ~ihũ-va.
      Pedro   A3-see   a.lot.of   cat   B3-black~REDUP-REL
      'Pedro saw a lot of cats, each of which was black.' (Sept. 6, 2013)

In a similar case, the Stative predicate *hái* 'sour' which can occur without an agreement marker as the main verb of a clause, necessarily takes the prefix *i-* when reduplicated.

(45) a. Hái   ko   arasa.
      sour   this   guava

    'This guava is sour.' (Aug. 30, 2013)

    b. I-hái~ihái   ko'ã   arasa.

      B3-sour~REDUP   these   guava

c. *Hái hái ko'ã arasa.

'Each of these guavas is sour.' (Aug. 30, 2013)

We are faced with an interesting situation when a monosyllabic root has both a prefix and a suffix. Since it is only one of the affixal morphemes which can contribute its syllabic unit(s) to help meet the disyllabic requirement on reduplication, it is important to see if the linear position of an affix per se (i.e., prefix vs. suffix) plays a role in deciding whether or not it participates in the reduplication process. The following table shows affix copying decisions for verbs made up of a monosyllabic base and both prefixal and suffixal material. The forms given in this table are based on data elicited from only one consultant. Ungrammatical forms are marked with an asterisk (*); the question mark (?) shows the consultant's uncertainty about the grammaticality of the form.

Table 3.3 *Affix copying decisions*

Verb	Base+prefix	Base+suffix
o-kai-ví A3-burn-MIT	*o-kai~okai-ví	o-kai-vì~kaiví
o-ʤe-ʔu-pá A3-PASS-eat-TOT	o-ʤe-ʔu~ʤeʔu-pá	o-ʤeʔu-pà~ʔupá
o-ʤo-ʔu-pá A3-RECP-eat-TOT	o-ʤo-ʔu~ʤoʔu-pá	o-ʤo-ʔu-pà~ʔupá
ha-ʔu-ká A1SG-eat-CAUS	*ha-ʔu~haʔu-ká	ha-ʔu-kà~ʔuká
ɾõ-sẽ-mí A1PL.E-leave-DIM	?ɾõ-sẽ~ɾõsẽmí	ɾõ-sẽ-mì~sẽmí
i-ɾo-vé B3-bitter-more	i-ɾo~iɾo-vé	*i-ɾo-vè~ɾové

It should be clear from the examples in Table 3.3 above that in the presence of both a prefix and

a suffix, there is an overall tendency for the reduplicant to copy the monosyllabic root plus the

suffix. Given the suffixal status of reduplication in Guaraní, this should not be surprising at all.

However, as is evident from most of these examples, there are many cases where the choice

between the prefix and the suffix seems to be a matter of free variation, the crucial requirement

being the disyllabicity of the reduplicant. It is also worth noting here that there are some suffixes

which do not participate in reduplication. We have already seen two examples of such suffixes in

this section, the subordinating suffix *-ha* (42) and the relativizer *-va* (44b). Two other suffixes

which behave similarly with respect to reduplication include the future tense suffix -*ta* and the

perfect aspect suffix –*ma*, both of which are non-stressable.

(46) a. Opo opóta ohóvo hikuái.

     o-pò~opó-ta   o-hó-vo   hikʷái

     A3-jump~REDUP-FUT A3-go-SER   3PL

   b. *Opóta póta ohóvo hikuái.

     o-pò-ta~póta o-hó-vo hikʷái

     'They will be jumping repeatedly.' (Oct. 31, 2013)

(47) a. Apo apóma.

    a-pò~apó-mã

    A3-jump~REDUP-PRF

   b. *Apóma póma.

    a-pò-mã~póma

    'I jumped repeatedly.' (Oct. 31, 2013)

    In the next section we will see that the same patterns of total and partial reduplication

found in Guaraní predicates also apply to numerals.

3.4 Reduplicative numerals

    Like other languages of Amazonia, Guaraní has a "restricted numeral system", in which

only the lowest four members of the set of natural numbers have corresponding native Guaraní

words, with Spanish numerals being used for higher numbers. (See Comrie (2013) and

Greenberg (1978) on the general properties of numeral systems across languages.) Even though

neologisms for higher numbers do exist in Guaraní, their use is not very common in naturally-

occurring speech. For this reason, we will only consider reduplication of the first four Guaraní

numerals in this thesis. Table 3.1 below shows these cardinal numerals as well as some of the

neologistical expressions intended to represent higher numbers.

Table 3.4 *Guaraní numerals and their English equivalents*

Guaraní	pẽtẽĩ	mokoĩ	mbohapɨ	iɾundɨ	po
English	one	two	three	four	hand (five)
Guaraní	poteĩ	pokoĩ	poapɨ	poɾundɨ	pa
English	six	seven	eight	nine	stop (ten)

Of the four numerals with which we are concerned, *peteĩ* 'one' normally occurs as a partially

reduplicated form when used as a distributive numeral.

(48) Ha'ekuéra ombyasy chupe hasẽ haguére ha peteĩ teĩ oupa jevy.
    ha?kʷéɾa õ-mbɨasɨ   ʃupé   h-ãsẽ-haɣʷé=ɾe   ha   pẽtẽ̂ĩ~tẽ̂ĩ
    3PL   A3-lament   to.her H-cry-PAST.SUBORD=at   and   one~REDUP
    o-u-pá   dʒeví
    A3-come-TOT   again
    'They felt sorry for her because of her crying, and one by one they all came back.'

    (T27.045)

In order to satisfy the disyllabicity constraint on reduplicant size, the numeral *mokõi* 'two' can

only appear as *mokõi~mokõi* (**mokõi~kõi*).

(49) Mokõi mokõi karia'y omoĩ irundy avati vosa pe kanóape.
    mõkõ̂ĩ~mõkṍĩ   kaɾia?ɨ́   õ-mõ-ĩ́   ĩɾũndɨ́ avatí vosá pe   kãnṍã=pe
    two~REDUP   young.man   A3-CAUS-be four corn bag that boat=to
    'Pairs of men put four bags of corn on the boat.' (Mar. 20, 2013)

The numerals corresponding to English "three" and "four" may appear as either total or partial

reduplication, as demonstrated by the following examples. Note that in the partially reduplicated

forms, the reduplicant copies only the last two syllables of the base (i.e., [hapɨ́] in [mbohapɨ́]

'three' and [ɾũndɨ́] in [ĩɾũndɨ́] 'four').

(50) a. Mbohapy mbohapy   ype o'yta hína lagúnape.

mbohapɨ~mbohapɨ́   ɨpé   o-ʔɨtá   hínã   laɣúnã=pe

three~REDUP   duck   a3-swim   PROG   pond=to

   b. Mbohapy hapy ype o'yta hína lagúnape.

mbohapɨ~hapɨ́ ɨpé o-ʔɨtá hínã laɣúnã=pe

'Sets of three ducks are swimming in the pond.' (Mar. 20, 2013)

(51) a. Mokõi karia'y omoĩ irundy irundy avati vosa pe kanóape.

mõkő̃ĩ kariaʔɨ́   õ-mõ-ɨ̃́   ĩrũndɨ~ĩrũndɨ́   avatí   vosá   pe   kãnő̃ã=pe

two   young.man   A3-CAUS-be   four~REDUP   corn   bag   that   boat=to

   b. Mokõi karia'y omoĩ irundy rundy avati vosa pe kanóape.

mõkő̃ĩ kariaʔɨ́ õ-mõ-ɨ̃́ ĩrũndɨ~irũndɨ́ avatí   vosá pe kãnő̃ã=pe

'Two men put sets of four bags of corn on the boat.' (Mar. 20, 2013)

When a numeral occurs with an affix, the affixal material is not copied by the

reduplicant. This is illustrated in (52) below with the distributive numeral *mbohapy~hapy* and the

stressable diminutive suffix *-mi.*

(52) a. mbohapymi

mbohapɨ-mɨ̃́

three-DIM

   'just three' (Sept. 6, 2013)

   b. Eme'ẽ chupekuéra mbohapy hapymi pakova.

ẽ-mẽʔẽ́   ʃupekʷéɾa   mbohapɨ~hapɨ-mɨ̃́   paková

IMP.SG-give   to.them   three~REDUP-DIM   banana

'Give each of them just three bananas.'

In this respect, the diminutive suffix *-mi* behaves similarly to the non-stressable limitative

enclitic *-nde* 'only' which does not participate in reduplication either (**mbohapý=nde~pýnde*).[42]

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[42] The clitic *–nde* realizes as *–nte* in many dialects of Guaraní.

(53) a. mbohapýnde
    mbohapí=nde
    three=only
    'only three' (Sept. 6, 2013)

     b. Eme'ẽ   chupekuéra   la   pakova   mbohapy hapýnde.

       ẽ-mẽʔẽ́   ʃupekʷéɾa   la   paková   mbohapì~hapí=nde

       IMP.SG-give   to.them   DET   banana   three~REDUP=only

     'Give them bananas, only three apiece.' (Sept. 6, 2013)

3.5 Summary

The description presented above of reduplication in Guaraní can be encapsulated in the

form of the following generalizations.

(i)   The reduplication operation in Guaraní is suffixal (e.g., [õ-ɲẽ-mõ-mãnduʔà~nduʔá] [A3-

         REFL-CAUS-remember~REDUP], [o-puka-vì~kaví] [A3-laugh-MIT~REDUP]).

(ii)   Primary stress falls on the final syllable of the reduplicant and the last syllable of the base

         takes secondary stress (e.g., [o-soɾó] [A3-tear], [o-soɾò~soɾó] 'tear in different parts').

         (This is assuming that the reduplicative complex is not followed by a stressable suffix.)

(iii)   The reduplication operation copies entire CV syllabic units, not discrete segments (e.g.,

         [h-asè̃~hasẽ́] [H-cry~REDUP], [t-o-sè̃~tosẽ́] [OPT-A3-leave~REDUP]).

(iv)   There is a disyllabicity constraint on reduplicative forms in Guaraní which requires all

         reduplicants to be at least two syllables in length ([i-kà̃~ikã́] [B3-dry~REDUP], *[i-

         kà̃~kã́]).

(v)   While stressless suffixes are not reduplicable, stressable suffixes may or may not be

         copied by the reduplication operation.

(vi)   Nasality does not spread across the base-reduplicant juncture (e.g., [mãnduʔà~nduʔá],

         *[mãnuʔà~nduʔá] 'remember'). Having identified the reduplicant as a suffix in Guaraní,

this fits nicely into the pattern of nasal harmony in Guaraní suffixal morphemes in which nasality does not spread from a suffix regressively.

(vii)   It is both prosodic and morphological determinants that are involved in deciding the form of Guaraní reduplicative structures. Thus, while *[õɾẽ-nẽ̀~rẽnẽ́] satisfies the prosodic requirement of disyllabicity on reduplicative forms in Guaraní, it does not occur in the language as a grammatical structure, being instead superseded by [õɾẽ-nẽ̀~õɾẽnẽ́] [B1PL.E-stink~REDUP] which meets both the constraint on disyllabicity and copies the entire prefix oɾe- rather than just part of it.

4 Semantic functions

The focus of this chapter is to provide an account of the various meanings associated with verbal and numeral reduplication in Paraguayan Guaraní. We shall see over the course of the following descriptive report that reduplication is used in Guaraní to express a range of semantic notions, most of which are highly iconic. The iconicity of reduplicative forms is not peculiar to Paraguayan Guaraní; rather, as reported by Rose (2005), it is a characteristic of reduplication in Tupí-Guaraní languages in general. In her paper, Rose (2005) subsumes the semantic functions of reduplication in the Tupí-Guaraní language family under two broad categories: "event-internal" and "event-external" repetition. Event-internal repetition refers to multiple occurrences of a situation conceived of as a single event confined to a single occasion (1, 2). Event-external repetition, on the other hand, concerns those situations which occur repeatedly on a number of separate occasions or in different locations (3, 4).

(1) Tupinamba (Tupían, Brazil)
    a. oro- pór
      1EX-jump
      'We jumped.'

    b. oro-pó-pór
      'We jumped, one after the other.' (Jensen, 1990, p. 129)

(2) Emerillon (Tupí-Guaraní, French Guiana)
    ãduʤa   wɨla   o-[su]suʔu
    rat   wood   3-RED-bite
    'The rat gnawed the wood.' (Rose, 2005, p. 354)

(3) Tupinamba
    a. a-i- mokón
      1sg-3-swallow
      'I swallowed it.' (Jensen, 1990, p. 128)

b. a-i-mokó-mokón
  'I swallowed them frequently.' (Jensen, 1990, p. 129)

(4) Emerillon
   [õhe]õ-hem-ne   o-ʔa
   RED-3-go.out-CONTRAST   3-fall
   'He goes out again and falls down.' (Rose, 2005, p. 353)

Although some of the reduplicative data from Paraguayan Guaraní can be analyzed in terms of Rose's dichotomy between event-internal and event-external repetition, I will use the more familiar and more descriptively-oriented terms iterativity, continuity, distributivity, etc., which will also allow us to tease out the various semantic functions of Guaraní reduplicated forms with greater detail. It should be noted here that the expression of these notions is determined by the inherent semantic properties of the input to the reduplication operation, and by the context in which a given reduplicative form occurs; the formal distinction between total root reduplication and partial reduplication is not a determinant of distinctions in meaning in Paraguayan Guaraní. Unless stated otherwise, the terminology used in this chapter is to be understood as laid out in Comrie (1976) and Lyons (1977).

4.1 Iterativity

One of the semantic functions of reduplication in Guaraní is to express iterative situations. By iterativity, we mean that the situation denoted by the verb occurs repeatedly (or frequently) at different times (Kouwenberg & LaCharité, 2001, Lyons, 1977). The notion of iterativity can be expressed in Guaraní by reduplicated forms of Dynamic predicates, sometimes accompanied by the adverbial form *jepi* 'repeatedly'.

(5) Che-ru   che-mbo-kyhyje~kyhyje   jepi   a-sẽ-ta.
    B1SG-father   B1SG-CAUS-scare~REDUP   regularly   A1SG-leave-FUT
    jave   pyharekue.
    during   at.night
     'My father repeatedly makes me afraid of going out at night.' (26lkh017)

(6) Ai-kotevẽ~tevẽ-ta y.
    A1SG-need~REDUP-FUT   water
    'I will need water regularly.' (26lkh041)

Example (5) above contains the reduplicated form of a verb denoting an achievement. The

utterer of the sentence in (5) is referring to his/her father's frequent warnings when he/she wants

to go out at night-time; thus, reduplication in the context of this example indicates the utterer's

father's repeated act of creating fear in his child. In (6), on the other hand, the verb *kotevẽ* 'need'

denotes a state, with reduplication expressing the recurrent realization of the state on multiple

occasions. In other words, the necessity for having access to water, occurs not only on a single

occasion but frequently, for example, to make cement during the construction of a building.

More examples of iterative situations expressed by reduplicative verbs are given in (7-9) below.

(7) Pe   mbarakaja   o-kuaru~kuaru   tupa-guý=pe.
    that   cat   A3-urinate~REDUP   bed-under=to
    'The cat urinated under the bed several times.' (Sept. 6, 2013)

(8) Ore   ro-mbo-kua~mbokua   la   yvy.
    1PL.E   A1PL.E-CAUS-hole~REDUP   DET   soil
    'We shovel the soil from time to time.' (27jkh048)

(9) Peru   o-monda~monda   kuri   peteĩ   óga=pe.
    Pedro   A3-rob~REDUP   PAST   one   house=to
    'Pedro robbed a house several times.' (27jkh054)

The reduplicated form *o-kuaru~kuaru* in (7) refers to the cat's activity of urinating under the bed

on a number of separate occasions. Similarly, in (8), the activity of shoveling the soil occurs

frequently, and in (9) Pedro robs a house, not once, but several times. For Rose (2005), the

iterative situations expressed by the reduplicated forms of (5-9) represent "event-external repetition".

4.2 Continuity

Another semantic function of reduplication in Guaraní is to express continuous or ongoing processes, as demonstrated by the reduplicative forms of the verbs in the following sentences.

(10) Che   a-guata~guata.
     1SG   A1SG-walk~REDUP
     'I kept walking.' (24ckh001)

(11) Ha'e   o-purahéi~rahéi.
     3SG   A3-sing~REDUP
     'He kept singing.' (24ckh004)

The reduplicated form of the process-denoting verbs *guata* 'walk' and *purahéi* 'sing' in (10) and (11) above express that the agent continues performing the activity denoted by the verb for an unspecified period of time. In the following example, we shall see that this continuous interpretation is also available for the inchoative verb *jeka* 'crack' when reduplicated.

(12) Pe   kanóa o-jeka~jeka   hína.
     that   boat   A3-crack~REDUP   PROG
     'The boat is cracking.' (Mar. 11, 2013)

The sentence in (12) above describes a situation where a crack appears in one part of the boat and starts spreading to the adjacent parts while maintaining its integrity as a single crack.[43]

The aspectual category of continuity can also be expressed in Guaraní by means of the Dynamic verb *ho* 'go' in a serial verb construction as demonstrated below.

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[43] This sentence also has an alternative reading in which the reduplicative form *jeka~jeka* is interpreted as referring to the emergence of separate cracks in different parts of the boat. We can subsume this interpretation under the category of dispersivity discussed in Section 4.6.

(13) Pe   mitã-mi   h-asẽ   o-hó-vo.
     that   child-DIM   H-cry   A3-go-SER
     'The baby keeps crying.' (23qkh010)

4.3 Multiplicity

While for some speakers reduplicated forms of verbs referring to such durative situations as singing, walking, dancing, etc. indicate continuity, for others, they are associated with a multiplicative reading; the situation occurs intermittently, or in Gil's (1988) terms "in stages".

(14) Che   a-guata~guata   a-há-vo   hína.
     1SG   A1SG-walk~REDUP   A1SG-go-SER   PROG
     'I am walking intermittently.' (23lkh001)

(15) Ha'e   o-purahéi~purahéi   o-hó-vo   hína.
     3SG   A3-sing~REDUP   A3-go-SER   PROG
     'He is singing intermittently.' (23lkh004)

(16) Pe   pyhare entéro o-ky~oky   kuri.
     that   night   entire A3-rain~REDUP   PAST
     'It kept raining on and off all night.' (24ikh062)

Similarly, reduplicated forms of verbs of perception such as *hecha* 'see', *hendu* 'hear', and *ñandu* 'feel' can also be associated with a multiplicative interpretation.

(17) Ha'ekuéra   o-hecha~hecha   kuri   pe   várko amo   mombyry.
     3PL   A3-see~REDUP   PAST   that   ship   there far
     'They could see the ship at intervals far away in the distance.' (28akh062)

(18) A-hendu~hendu kuri   umi   aguaraguasu-kuéra.
     A1SG-hear~REDUP   PAST   those fox-PL
     'I could hear the foxes howl at intervals.' (28akh067)

(19) Kálo   o-ñandu~ñandu   la   tata   haku.
     Carlos   A3-feel~REDUP   DET   fire   heat
     'Carlos could feel the heat of the fire at intervals.' (28akh071)

With verbs referring to punctual situations, a multiplicative interpretation indicates that the situation occurs repeatedly at the same time and involves the same actants (Kouwenberg & LaCharité, 2001).

(20) Pe   karai   tuja   oi-kutu~kutu   pe   kure.
     that   man   old   A3-stab~REDUP   that   pig
     'The old man stabbed the pig several times.' (26lkh008)

(21) Peru   o-mbo-popo~popo   pe   vakapipopo   tápia=re.
     Pedro   A3-CAUS-jump~REDUP   that   ball   wall=at
     'Pedro bounced the ball against the wall several times.' (27jkh081)

The sentence in the following example describes a situation in which a sinking ship is bobbing up and down in the water.

(22) Pe   várko   o-ñapymi~pymi.
     that   ship   A3-plunge~REDUP
     'The ship is bobbing up and down.' (24ikh014)

4.4 Distributivity

Yet another function of reduplication in Paraguayan Guaraní concerns the notion of distributivity: repeated occurrence of a situation, either successively or simultaneously, involving different participants (see Kouwenberg & LaCharité, 2001). As we shall see below, the notion of distributivity in Guaraní can be expressed by both reduplicated verbs and reduplicative numerals. In 4.4.1, we will look at distributivity as a semantic function of verb reduplication. Section 4.4.2 demonstrates how Guaraní uses reduplication to form distributive numerals.[44]

4.4.1 Distributive verbs

Reduplicated Dynamic predicates can express the distribution of the situation they denote over any of their arguments, as long as the relevant argument is plural. With transitive verbs, this

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[44] The terms "distributive numerals" and "distributive verbs" used in this thesis have been taken from Gil (1988).

can be either the A or the O argument and, of course, with intransitives the only choice is the S

argument.

(23) Umi   guyra-kuéra   o-veve~veve   hína.
     those   bird-PL   A3-fly~REDUP PROG
     'Each of the birds is flying.' (28akh052)

(24) Umi   mitã-kuéra   o-vy'a~vy'a   o-'yta   jave.
     those   child-PL   A3-enjoy~REDUP   A3-swim   during
     'Each of the children enjoys swimming.' (26lkh023)

(25) Umi   mitã-karia'y   o-jahoga~hoga   hína   pe   ysyrý=pe.
     those   child-young.man   A3-drown~REDUP   PROG   that   river=to
     'Each of the boys is drowning in the river.' (24dkh028)

        We observe in (23-25) above that the situation denoted by the verb distributes over its

sole argument, regardless of its thematic role in the sentence. Thus, in (23) the activity of flying

is associated with each bird; (24) describes a situation where each child experiences the state of

joy; and the event of drowning affects each of the boys in (25).

        The same distributive pattern occurs in examples (26) and (27) below which contain

reduplicative forms of transitive verbs.

(26) Ha'ekuéra   o-po'i~po'i   ita-'i   y-ryepý=pe.
     3PL   A3-drop~REDUP   stone-DIM   water-inside=to
     'They each dropped a pebble into the water.' (26lkh082)

(27) Ha'ekuéra   oi-nupã~nupã umi   kuré=pe.
     3PL   A3-hit~REDUP those   pig=to
     'They each hit the pigs.' (Aug. 27, 2013)

In the case of the above examples, the reduplicative event-denoting verbs *o-po'i~po'i* 'drop' and

oi-nupã~nupã 'hit' distribute over their A argument. However, as mentioned above, it is possible

for transitive distributive verbs to operate on their O argument as well. This is illustrated by the

following examples.

(28) Che   a-joka~joka   umi   hárro.
     1SG   A1SG-break~REDUP   those   cup
      'I broke each of the cups.' (26ekh132)

(29) Ha'ekuéra   o-pinta~pinta   umi   apyka-kuéra.
     3PL   A3-paint~REDUP   those   chair-PL
      'They painted each of the chairs.' (Aug. 27, 2013)

Even though the verbs *joka* 'break' (28) and *pinta* 'paint' (29) denote different types of situations

(with *joka* referring to a punctual situation and *pinta* denoting a durative one), they both can still

enter into a distributive relation with their O argument. Note also that while the A argument in

(28) is interpreted as singular, (29) has an A argument which refers to a plurality of participants.

Thus, the sentence in (28) refers to a situation where the agent acts on a number of cups breaking

one after another, (29) describes a situation in which each chair in a set of chairs is painted by

one or more members of a group of active participants on the same occasion.

An analysis within the framework adopted by Rose (2005) would subsume examples (23-

29), excluding (24), under event-internal repetition. It must be noted here that transitive

distributive verbs do not operate on both of their arguments simultaneously. Thus, the sentence

in (27) cannot be interpreted as "they each hit every pig".

As opposed to reduplicative dynamic predicates which can have a wide range of

interpretations, the only possible reading associated with reduplicated stative predicates is, at

least in the majority of cases, that of distributivity. A few examples are given below.

(30) Ha'ekuéra   i-karape~karape.
     3PL   B3-short~REDUP
      'Each of them is short.' (24ckh006)

(31) Umi   óga   i-tuja~tuja.
     those   house   B3-old~REDUP
      'Each of the houses is old.' (24ckh025)

(32) *(Che)   che-kyra~kyra. (22okh027)
    1SG   B1SG-fat~REDUP

Observe in the following example that the co-occurrence of the reduplicative Stative predicate *i-piru~piru* 'skinny' with the Dynamic verb *o-ho* 'go' in a serial verb construction yields a compositional meaning of distributivity and ongoing process.

(33) Che-angiru-kuéra   i-piru~piru   o-hó-vo.
    B1SG-friend-PL   B3-skinny~REDUP   A3-go-SER
     'Each one of my friends is getting skinny.' (24ckh021)

Examples (34) and (35) below demonstrate that denominal verbs of possession (formed by affixing a Set B marker to a noun) are generally unreduplicable.

(34) a. Ñande ñane-mimby.
     1PL.I   A1PL.I-flute
     'We have flutes.' (38fkh002)

    b. *Ñande   ñane-mimby~mimby.
      1PL.I   A1PL.I-flute~REDUP
     (Intended meaning: We each have a flute.) (38fkh004)

(35) a. Ha'ekuéra   i-po.
     3PL   B3-hand
     'They have hands.' (38fkh008)

    b. *Ha'ekuéra   i-po~ipo.
      3PL   B3-hand~REDUP
     (Intended meaning: They each have hands.) (38fkh009)

4.4.2 Distributive numerals

As mentioned in Section 3.4, the numeral system of Guaraní is restricted to the lowest four members of the set of natural numbers (i.e., 1-4) and the expression of higher numbers is accomplished by means of Spanish numerals. As part of an effort to "purify" the language, a set of neologisms have been devised to replace the Spanish numerals; however, their use is not

common in colloquial Guaraní. The four cardinal numerals of Guaraní along with some of the

neologisms for higher numbers are given in Table 4.1 below (repeated from Section 3.4).

Table 4.1 *Guaraní numerals and their English equivalents*

Guaraní	pẽtẽĩ	mokoĩ	mbohapɨ	iɾundɨ	po
English	one	two	three	four	hand (five)
Guaraní	poteĩ	pokoĩ	poapɨ	poɾundɨ	pa
English	six	seven	eight	nine	stop (ten)

(36) Mokõi   ajaká=pe   o-ĩ   hína   po   pakova.

 two   basket=to   A3-be PROG five   banana
 'There are five bananas in two baskets.' (Mar. 11, 2013)

(37) Mbohapy ype   o-'yta   hína   lagúna=pe.[45]

 three   duck   A3-swim   PROG   pond=to

 'Three ducks are swimming in the pond.' (Mar. 11, 2013)

   In order to form distributive numerals, cardinal numerals are reduplicated, as shown by

the following examples. It is worth noting here that the examples given in this section with

distributive numerals do not represent commonly occurring utterances of Guaraní in everyday

speech.

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[45] Observe the structural ambiguity in the following sentence resulting from the co-occurrence of the numeral
mbohapy 'three' and the set-denoting term *aty*.
Mbohapy   ype   aty   o-'yta   hína   lagúnape.
three   duck   set   A3-swim   PROG   pond=to
a.   'Three sets of ducks are swimming in the pond.'
b.   'A set of three ducks is swimming in the pond.' (Mar. 20)

(38) Mbohapy~hapy   ype   o-'yta   hína   lagúna=pe.

three~REDUP   duck   A3-swim   PROG   pond=to

a. 'Sets of three ducks are swimming in the pond.'

b. 'Ducks are swimming in the pond, three at a time.' (Mar. 20, 2013)

The Guaraní sentence in the above example can have two interpretations. In one reading, a

number of ducks are swimming in a pond simultaneously in sets of three. In an alternative

interpretation, this sentence describes a situation where there is a set of three ducks swimming in

a pond at each separate interval. Both of these interpretations presuppose that there are at least

two sets of ducks involved in the situation.

In the example given in (39) below, the utterer of the sentence is asking the addressee to

distribute some bananas among a number of people such that each member of the group receives

just one banana.

(39) E-me'ẽ   chupekuéra   peteĩ~teĩ-mi   pakova.
     IMP.SG-give   to.them   one~REDUP-DIM   banana
     'Give them just one banana apiece.' (Sept. 6, 2013)

The situation described by the following example is one in which two workers walk back and

forth from a pier to a boat, each time loading four bags of corn on the boat.

(40) Mokõi   karia'y   o-mo-ĩ   irundy~rundy avati   vosa   pe
     two   young.man   A3-CAUS-be   four~REDUP   corn   bag   that
     kanóa=pe.
     boat=to
     'Two men load bags of corn on the boat, four at a time.' (Mar. 20, 2013)

Now consider the following example describing a situation in which four bags of corn were

loaded on a boat, each one by a different pair of workers.

(41) Mokõi~mokõi   karia'y   o-mo-ĩ   irundy avati   vosa   pe

     two~REDUP   young.man   A3-CAUS-be   four   corn   bag   that

     kanóa=pe.
     boat=to
     'Four bags of corn were loaded on the boat by two men each.' (Mar. 20, 2013)

Finally, in (42), pairs of workers are loading sets of four bags of corn on a boat, with each pair of

men loading one set of bags.

(42) Mokõi~mokõi   karia'y   o-mo-ĩ   ohóvo   irundy~rundy avati

     two~REUDP   young.man   A3-CAUS-be   A3-go-SER   four~REDUP   corn
     vosa   pe   kanóa=pe.
     bag   that   boat=to
     'Pairs of men are loading sets of four bags of corn on the boat.' (Mar. 20, 2013)

     Adopting Gil's (1988) line of analysis, in what would be admittedly a short diversion

from our descriptive route, we can account for the various relations of distributivity observed in

the above examples as follows. For the first interpretation of (38), one could posit a relation of

distributivity between the distributive numeral *mbohapy~hapy* [three~REDUP] and the noun it

precedes (i.e., *ype* 'duck') where the distributive numeral distributes over the noun it quantifies.

Thus, what we are faced with in this example is, in Gil's terms, a relation of "phrase-internal

distributivity". We can actually see in (42) two relations of phrase-internal distributivity holding

simultaneously in a single clause; that is, the distributive numeral in each of the arguments of the

transitive verb *moĩ* 'put' distributes over the noun it quantifies. In examples (39-41) as well as in

interpretation (b) of (38), however, the distributive relation holds at a clausal level, rather than at

a phrasal one. Thus, in (39) the distributive numeral *pẽtẽĩ~teĩ* [one~REDUP] forces the quantified

noun *pakova* 'banana' to distribute over the R argument (i.e., *chupekuéra* [to.them]) of the verb

me'ẽ 'give'. The sentence given in (40) can be analyzed in terms of the distribution of the NP

containing the distributive numeral *irundy~rundy* [four~REDUP] which functions as the O argument of the clause over what Gil (1988) refers to as a "covert constituent" semantically associated with the verb, denoting events. Hence, in this example each event of putting is associated with a set of four bags. Similarly, interpretation (b) of (38) results from the distribution of the noun phrase *mbohapy~hapy ype* [three~REDUP duck] over such a covert semantic constituent. Thus, in (38b) each event of swimming is associated with a set of three ducks. The clausal distributivity in (41) differs from the one in (38b) and (40) in that in the former the distributive relation holds between the two core arguments of the verb, rather than between the verb and one of its arguments. In this sentence the noun phrase containing the distributive numeral *mokõi~mokõi* [two~REDUP] which serves as the A argument of the verb *moĩ* 'put' distributes over the verb's O argument, yielding a reading in which each of the four bags is associated with two men. This analysis of distributivity is formalized by Gil (1988, p. 1046) as follows: "Reduplication of an expression A forces an expression B containing A to distribute over a constituent C disjoint from B."

Based on our discussion of the distributive function of Guaraní verb and numeral reduplication, we can observe that reduplicative verbs and numerals in this language when used as distributive quantifiers can operate on the S argument of intransitive Stative and Dynamic predicates as well as the A and O arguments of transitive verbs. In addition, as demonstrated by example (39), it is possible for a noun phrase containing a distributive numeral to operate on the R argument of a ditransitive verb like *me'ẽ* 'give'. This is in contrast to the range of arguments which can be quantified by the totalitive verb suffix *-pa*. As demonstrated by the examples in Section 2.3.1.7, this suffix can only quantify the S argument of Stative and Dynamic intransitive predicates and the O argument of transitive verbs.

4.5 Intensivity

Reduplication is sometimes used in Guaraní to express that the action denoted by the verb

is performed with increased force, often violently. The following examples are illustrative.

(43) Móncho   oi-nupã~nupã la   kuré=pe.
    Ramon   A3-hit~REDUP DET   pig=to
    'Ramon beat the pig frantically.' (Aug. 30, 2013)

(44) Kalísto   che-myaña~myaña   ro-huga-há=pe   partído.
    Kalisto   B1SG-push~REDUP   A1PL.E-play-SUBORD=TO   game
    'Kalisto pushed me roughly during the game several times.' (28akh050)

4.6 Dispersivity

The last function of reduplication associated with iconicity in Paraguayan Guaraní we

mention here is that of dispersivity: only discontiguous parts of the patient are affected by the

situation denoted by the verb.

(45) Ha'ekuéra   o-pinta~pinta   pe   apyka.
    3PL   A3-paint~REDUP   that   chair
    'They left paint spots here and there on the chair.' (Aug. 27, 2013)

(46) Ha'ekuéra   o-mbo-gue~mbogue   kuri pe   ta'anga   pe
    3PL   A3-CAUS-go.away~REDUP   PAST that picture   that
    tápia=gui.
    wall=from
    'They erased parts of the picture from the wall.' (27jkh006)

4.7 Carelessness

The only non-iconic meaning associated with reduplication I have encountered in

Guaraní is that of haste/carelessness. In the following examples, the act or activity denoted by

the verb is performed hurriedly or with little or no attention/interest on the part of the agent.

(47) Pe   karai   tuja   o-mbo-tyryry~ryry   pe   yvyra-rakã-ngue

     that   man   old   A3-CAUS-crawl~REDUP   that   tree-branch-former
     pe   tapé=gui.
     that   road=from
     'The old man dragged the dead branch off the road hastily.' (28akh036)

(48) Móncho   o-mo-potĩ~potĩ   umi   koty.

     Ramon   A3-CAUS-clean~REDUP   those   room

     'Ramon cleaned the rooms carelessly.' (Aug. 30, 2013)

4.8 Summary

In this chapter, we saw that reduplication in Paraguayan Guaraní is associated with a

range of semantic notions including iterativity, continuity, multiplicity and distributivity. It is

possible to present a unified account of these various semantic functions of Guaraní reduplicative

forms by characterizing Guaraní as a language which uses the morphological device of

reduplication to mark pluractionality (or event plurality) (see Lasersohn (1995) for such an

approach to the analysis of verbal plurality). The iconicity of Guaraní reduplication aligns it with

other Tupí-Guaraní languages, in which reduplicative structures are normally associated with

iconic meanings. Thus, such semantic notions as iterativity, distributivity, continuity,

dispersivity, etc. have been reported as some of the functions of reduplication in Tupinamba,

Emerillon, Guarayo and some of the other Tupí-Guaraní languages (see Rose (2005) and

references therein). Of course, the expression of iconic concepts by reduplication is not restricted

to any one language family, and as Moravcsik (1978, p. 317) points out, the concept of

"increased quantity", which encompasses such iconic notions as repetition, continuity,

distributivity, intensity, etc., is "the most outstanding single concept that reduplicative

constructions recurrently express in various languages." Given this universal tendency, perhaps it

should not be surprising to see a language which is as distant from Guaraní as Georgian employs

the morphological operation of reduplication as a strategy for expressing multiplicity and

distributivity in almost the same way that Guaraní does.

(49) Georgian (Kartvelian, Georgia)
    a. Man   vašlebi   *mic'-mic'ia*.
      3sg-ergapples-abs   moved-*clausal:dist*-3sg
     'He moved each of the apples separately.' (Gil, 1988, p. 1052)
    b. Man   vašlebi   *mic'i-mic'ia*.
      3sg-erg   apples-abs   moved-*phrasal:dist*-3sg
     'He moved the apples in stages.' (Gil, 1988, p. 1052)
    c. Or-orma   ka'cma   sam-sami   čanta   c'aiɣo.
      two-distr-erg   man-erg   three-distr-abs suitcase-abs   carried-3sg
     'Sets of two men carried sets of three suitcases.' (Gil, 1988, p. 1047)

5 Concluding remarks

The findings of this study characterize Guaraní as a language with both full and partial reduplication. In the former pattern, a copy of the entire root is attached to the base (e.g., [ʃẽ-mbo-kɨhɨdʒè~kɨhɨdʒé] [B1SG-CAUS-scare~REDUP] 'scare repeatedly'), whereas partial reduplication typically (though not always) involves creating a suffixal copy of the last two syllables of the base (e.g., [o-puka-vì~kavɨ́] [A3-laugh-MIT~REDUP] 'smile repeatedly'). A special case involves reduplication of monosyllabic roots, where the root plus its adjacent affixal morpheme is copied by the reduplicant (e.g., [a-pó] [A1SG-jump], 'I jump', [a-pò~apó] 'I jump repeatedly']). This is due to the presence of a prosodic constraint on Guaraní reduplicative forms which requires all reduplicants to be minimally disyllabic.

In terms of its semantic function, reduplication is used in Guaraní mainly as the expression of such meaning categories as iterativity, continuity, multiplicity and distributivity, which are all iconic. Providing a unified analysis of these semantic functions of Guaraní reduplicative forms in terms of the concept of pluractionality will be the subject of future research. The iconicity of reduplication in Guaraní aligns it with other Tupí-Guaraní languages, in which the relation between reduplicative forms and their meanings is also highly iconic (Rose, 2005). On a larger cross-linguistic scale, the iconic nature of reduplication in Guaraní provides further support for the iconicity of reduplication as a language universal (Haiman, 1980; Lakoff & Johnson, 2003; Moravcsik, 1978). It must be stressed here that reduplication in Guaraní does not generally apply to verbs of possession derived from nouns (e.g., *ñane-mimby* [B1PL.I-flute] 'we (incl) have flutes'). This distinction between typical (Stative and Dynamic) verbs and denominal verbs of possession regarding their reduplicability provides evidence in favor of positing a distinction between verbs and nouns as two separate lexical categories in Guaraní.

Although the meaning properties of reduplication in Guaraní conform to existing

accounts of the semantic functions of reduplicative forms across languages, there are aspects of

its form properties which do not fit the well attested cross-linguistic patterns, posing some

challenges for the notion of foot in metrical phonology (Hayes, 1995). Perhaps the most striking

characteristic of reduplication in Guaraní is what we referred to in Chapter 3 as [i] deletion in the

base of reduplication. Consider the following examples (repeated from Chapter 3).

(1) Peru osapuka pukái korapýpe.

    perú   o-sapukà~pukái   korapɨ́=pe

    Pedro   A3-shout~REDUP   backyard=to

    'Pedro kept shouting in the backyard.' (24ckh019)

(2) Umi mitã'ikuéra ojahe jahéi hapicháre.

    ũmĩ́   mĩtã-ʔi-kʷéɾa   o-ʤahè~ʤahéi   h-apiʃá=ɾe

    those   child-DIM-PL A3-insult~REDUP   H-fellow=AT

    'Each of the children made fun of their fellow.' (Aug. 30, 2013)

Using reduplication as a diagnostic tool, we demonstrated in Chapter 3 that the V́i sequence in

words like [o-sapukái] and [o-ʤahéi] is tautosyllabic, with the high vowel at the right periphery

of the word acting as a glide. As Hayes (1995) points out, some languages employ vowel gliding

or deletion as a strategy to resolve hiatus, with the relevant mechanism being syllable merger.

Under Gregores and Suarez's (1967) account of syllable structure in Guaraní, in which each

vowel in a word underlyingly (or, in Gregores and Suarez's terms, phonologically) represents a

syllable, it would be possible to account for the occurrence of CV́i syllables (with [i] standing for

any high vowel of Guaraní) in the language as instances of hiatus resolution via syllable merger.

This occurs at the surface level when there is no marker of syllable division (referred to by

Gregores and Suarez (1967) as a "phoneme of juncture") to mark the syllable boundary between

the underlying word-final onsetless syllable consisting only of a nuclear high vowel and its preceding stressed syllable.

Whatever the motivation for the occurrence of such syllables in Guaraní, we can attempt to account for final [i] deletion (to be taken in a purely descriptive sense) in the base of the reduplicated forms of verbs like [o-sapukái] and [o-ʤahéi] in a number of ways. One possible analysis would be to consider reduplication in Guaraní as infixal, rather than suffixal, where the reduplicant is inserted before the final glide of the base (if present). In cases where the base does not have a final glide (e.g., [õ-ñẽ-mõ-mãnduʔá] 'remember', [i-piɾú] 'skinny'), the reduplicant appears to be a suffix ([õ-ñẽ-mõ-mãnduʔà~nduʔá], [i-piɾù~piɾú]). However, in cases where the base ends in a glide (e.g., [o-sapukái], [o-ʤohéi]), the infixal character of reduplication is revealed. This analysis, however, does not gain much support from the facts of the language. For one thing, there are reduplicative structures such as [o-puɾahèi~ɾahéi] 'keep singing' and [mõkõ̀ĩ~mõkṍĩ] 'in pairs' in which the reduplicant is clearly suffixed to a base with a final glide. Even forms like [o-sapukái] and [o-ʤahéi] themselves can reduplicate as [o-sapukài~sapukái] and [o-ʤahèi~ʤahéi]. Furthermore, there does not seem to be any obvious process of infixation in Guaraní morphology at all. Hence, an analysis of reduplication as infixation in Guaraní would be a weak case, to say the least. Based on a second perhaps more straightforward analysis, the final glide [i] in [o-sapukái], [o-ʤahéi], etc.,   is deleted from the base post-reduplication. Even though this analysis describes the situation as it appears, it does not provide us with any insight into the factor(s) motivating it. Therefore, were we to adopt such an account, we would have to content ourselves with a vague explanation telling us that there is some phonological process in Guaraní which scans the base of reduplicative forms and if it finds a final glide, it optionally deletes that glide from the base. It is hard to imagine why any language would ever need to

incorporate such a bizarre process into its phonological system. Yet another analysis would be to

suggest that the final glide in forms like [o-sapukái] and [o-ʤahéi] is optionally extrametrical

and thus is invisible to the reduplication operation. However, given that the foot template in

Guaraní is iambic (see Section 2.2), the extrametricality of [i] in word-final CV́i syllables would

involve a violation of the Iambic/Trochaic Law proposed by Hayes (1995, pp. 80) based on his

cross-linguistic study of metrical structure. In his monograph on metrical theory, Hayes (1995)

proposes a triadic foot inventory consisting of the following foot types: the syllabic trochee, the

moraic trochee and the iamb. Of these three foot templates, the syllabic trochee is disyllabic and

left-dominant, the moraic trochee is bimoraic and again left-dominant, and the iambic foot is

canonically disyllabic and right-dominant. The Iambic/Trochaic Law states that elements which

are naturally grouped together based on a contrast in their relative intensity are initially-

prominent, while those groupings which are perceived to have final prominence contain elements

which are distinguished by their relative duration. Given the Iambic/Trochaic Law, we expect

iambic feet, which are right-dominant, to have as their head a syllable with greater duration than

their left element, i.e., a heavy syllable. In order to meet this requirement, languages with iambic

feet typically have such processes as vowel lengthening or consonant gemination as part of their

segmental phonology to avoid what Hayes (1995) refers to as "even iambs", i.e., iambs with two

light syllables. Putting this in perspective, it would be quite odd for Guaraní to treat the final

glide in word-final CV́i syllables as extrametrical, thus rendering a heavy syllable which serves

as the head of an iamb light. Clearly, this would be an active violation of the Iambic/Trochaic

Law.

Another formal aspect of reduplication in Guaraní which needs to be accounted for is the

unreduplicability of a number of suffixes. As we saw in Chapter 3, some of these suffixal

morphemes are stressable (e.g., the subordinator *-ha*) and some are stressless (e.g., the future

tense suffix *-ta* and the perfect aspect suffix *-ma*). While it might seem plausible to analyze

stressless suffixes as extrametrical and thus invisible to reduplication, suggesting that there are

also some extrametrical stress-attracting suffixes in Guaraní would be quite far-fetched. In

addition, the fact that the stressless suffixal component of the negative circumfix *nd-.. .-i* can be

copied by reduplication (e.g., [nd-o-hò-i~ndohói] [NEG-A3-go-NEG~REDUP]) goes against an

extrametricality-based account. To make matters more complicated, there are also some

stressable suffixes whose reduplicability seems to depend on the stem to which they attach. This

is exemplified by the mitigative suffix *-vy* in (3) below (repeated from Chapter 3).

(3) María   opukavy kavy.
    maɾía   o-puka-vì~kaví
    Maria   A3-laugh-MIT~REDUP
    'Maria smiles over and over.' (38qkr020)

(4) a. Heindy hasẽ hasẽvy. (38fkh093)
       hẽĩndɨ   h-ãsẽ~hãsẽ-vɨ
       3.sister H-cry~REDUP-MIT

    b. *Heindy hasẽvy sẽvy. (38fkh094)
        hẽĩndɨ h-ãsẽ-vì~sẽví

       'His sister sniffled over and over again.'

Note also that positing a template of suffix slots cannot account for the reduplicability of some

suffixes and the non-reduplicability of others either. Based on such an analysis, the reduplicable

suffixes would be the ones that occur before such suffixes as *-ta* [future], *-ma*, [perfect aspect]

and *-ha* [subordinator]. However, the fact that the negative *-i* (which is reduplicable) can occur to

the right of *-ha* is problematic for such an analysis.

(5) Ai-mo'ã   nda-i-tavy-há-i.

　　A1SG-thinkNEG-B3-crazy-SUBORD-NEG

　　'I thought he wasn't crazy.' (27gkr093)

Also observe that -*i* follows the suffix -*ve* 'more' which behaves inconsistently with respect to

reduplication, as demonstrated by (7) and (8).

(6) Nd-o-ky-vé-i-ma.

　　NEG-A3-rain-more-NEG-PRF

　　'It is not raining anymore.' (1b7kr026)

In the following examples, while *i-ne-ve* [B3-stink-more] can be reduplicated either as *i-ne~ine-*

ve or *i-ne-ve~neve*, *i-ro-ve* [B3-bitter-more] only reduplicates as *i-ro~iro-ve* (based on only one

consultant's judgments).

(7) a. Ha'ekuéra   i-ne-ve~neve   ndehegui. (38qkr086)

　　　3PL   B3-stink-more~REDUP from.you

　　b. Ha'ekuéra i-ne~ine-ve ndehegui. (38qkr087)

　　　'They each stink more than you.'

(8) a. Ko'ã   pakova   i-ro~iro-ve   umíva=gui.

　　　these   banana   B3-bitter~REDUP-more   those.ones=from

　　b. *Ko'ã pakova i-ro-ve~rove umíva=gui.

　　　'Each of these bananas is bitterer than those ones.' (Aug. 30, 2013)

　　The last characteristic of Guaraní reduplicative forms we mention here which poses a

challenge for templatic accounts of reduplication involves verbs consisting of a monosyllabic

root plus a disyllabic agreement marker (e.g., [õɾẽ-nẽ́] [B1PL.E-stink]) 'We (EXCL) stink'). The reduplicated form of such verbs consists of a copy of the entire verb, not just its last two syllables ([õɾẽ-nẽ̀~õɾẽ-nẽ́], *[õɾẽ-nẽ̀~ɾẽnẽ́]). If we were to define the target of reduplication in Guaraní solely as an iambic foot template, we would fail to capture reduplicated structures of this kind.

The challenges we are faced with in analyzing Guaraní reduplicative structures within a purely phonological framework show that reduplication can be best characterized only when we take into account both the prosodic and morphological constraints governing it.

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