WAIMIRI ATROARI GRAMMAR:

SOME PHONOLOGICAL, MORPHOLOGICAL, AND SYNTACTIC ASPECTS

by

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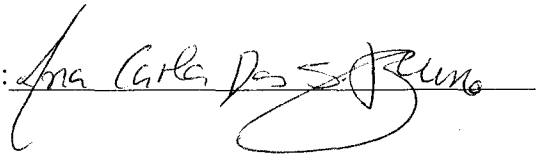
SIGNED: 

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DEDICATION

To the Waimiri Atroari people

and

To Aldevan, Kaina, and Wina

and

To my mother and sister

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ABSTRACT

The Waimiri Atroari people, who call themselves kinja 'people' and whose language belongs to the Carib family, live today in an area in the northern part of the State of Amazonas and in the southern part of the State of Roraima. Like many other languages of the Carib family, Waimiri Atroari is a chronically underdescribed language. There are few linguistics studies about Waimiri Atroari, most of them being phonological sketches (Hill and Hill 1985; and Lacerda 1991, 1996).

Taking this situation into consideration, this dissertation intends to describe some phonological, morphological, and syntactic aspects of the Waimiri Atroari grammar. First, in the introductory chapter I provide some information about their language and culture, and I discuss their experience with formal education. Second, I describe the segmental phonology and analyze the syllable structure and reduplication process under Optimality Theory. Next, I present the word classes and a description of their morphology. Then, I investigate the system of case marking. Finally, in syntax I analyze the phrase structure and the word order under the framework of X-bar theory. The appendices contain a set of verbal paradigms and a collection of texts.

When the data-base is incomplete, as it always is in real science, waiting for "enough" data means waiting forever. Although I still have to understand and explain many aspects of the Waimiri Atroari language, I did not want to wait forever to write this grammatical sketch.

CHAPTER 1—INTRODUCTION

1. Waimiri Atroari Language and Culture

1.1 The People

The Waimiri Atroari people, who call themselves *kinja* 'people' and whose language belongs to the Carib family, live today in an area in the northern part of the State of Amazonas and in the southern part of the State of Roraima (see Figure 1 below). They form 19 villages, located along the Camanaú/Curiaú, Alalaú, Jauaperi, and Rio Branquinho rivers. The total population is 970 individuals (PWA, Waimiri Atroari Program, April 2003).

1.2 Historical Background

The Waimiri Atroari people have suffered a long history of violent and disrespectful invasion in their territory, related to variation in prices of forest products in the international market, such as the hides of forest animals, wood, Brazilian nuts, and latex. According to Barbosa Rodrigues, the first contacts between the Waimiri Atroari (whom he called *Crichanás*) and non-indigenous Brazilians date from the 19th century in the lower Rio Negro River (Rodrigues 1885:10). These contacts were not welcomed by the Waimiri Atroari people. In the early 1900s, Alípio Bandeira—who worked for the Indian Protection Service—tried to establish new contacts with the Waimiri Atroari people, but he was not successful, either.

Until the latter half of the 20th century, invasions undertaken by local populations and those organized by local governments were sporadic. However, toward the end of

the 1960s, the Federal government began massive occupation of the Waimiri Atroari territory through the establishment of regional development projects. Figure 1 shows the land of the Waimiri Atroari people.

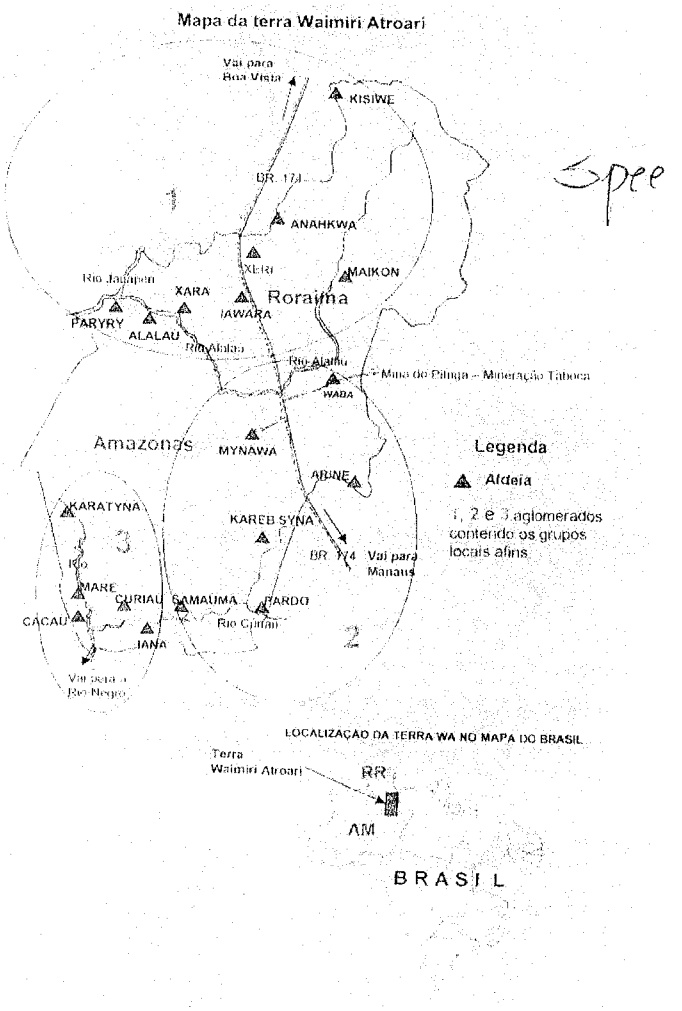

Figure 1—Waimiri Atroari Land[1] (do Vale 2002)

In the early 1970s, the BR-174 highway linking Manaus (Amazonas State) to Boa Vista (Roraima State) was pushed through the middle of the Waimiri Atroari territory

[1] In this map, each triangle is a village. This big line crossing circle 01 and circle 02 is the BR-174 road that links Manaus (Amazonas State) to Boa Vista (Roraima State). As mentioned in Section 1.3, each circle is analyzed as a *speech community* (Gumperz 1962)

(Bruno 1999). The construction of this road marked, for the Waimiri Atroari people, "the beginning of a period of escalating contact with the outside world." (Milleken and Miller 1992:07).

According to Porfírio Carvalho (*personal communication*, 1998), in 1974 the Waimiri Atroari population was 1,500. Because of the construction of the road and resulting innumerable health problems brought to the community, in 1986 the population was reduced to 374. Moreover, in 1974, a project to identify all mineral resources of Amazonia (Radam-Brasil) was established. Then, the Parapanema mine company, based on the results of this project, solicited permission to mine in the Pitinga River. The solicitation was approved with FUNAI's (National Foundation of the Indians—the Brazilian Bureau of Amerindian Affairs) endorsement. Legally, this was not possible, because the land it was located on was within the bounds of the Waimiri Atroari reservation. Since 1981, this mining company has extracted minerals in that region.

Another historic event central to the current situation of the Waimiri Atroari community is the construction of the Balbina hydroelectric plant. In the 1980s, one hydroelectric plant was built to supply the city of Manaus with power, flooding part of the Waimiri Atroari reservation. Consequently, two villages were relocated to different locales, causing political problems to the extracted groups (Silva 1993). Moreover, as a result of this construction, in 1987, a contract was established between FUNAI and the Eletronorte (the company responsible for providing electricity in the northern part of Brazil). This contract stated that the company would be responsible for providing education, health, and environmental consultation to the Waimiri Atroari villages for the

next 25 years, in return for being given permission to build a hydroelectric plant on the Waimiri Atroari reservation. As a result, the Programa Waimiri Atroari (The Waimiri Atroari Program) was created, and FUNAI was designated to administer the money provided by Eletronorte.

The Waimiri Atroari Program strives to minimize the direct and indirect impact of the changes in the ecosystem of the Waimiri Atroari reservation. It has as a principal goal to prepare the Waimiri Atroari people to become self-sufficient through helping them to develop the necessary skills to manage their economic and environmental resources and to make political decisions important for their cultural survival. Many Brazilian anthropologists do not agree with the political actions developed by the Waimiri Atroari Program. They classify the actions of the program as paternalistic and oppressive. Baines (1992, 1994, 1997, 1999), an anthropologist who did fieldwork with the Waimiri Atroari people from 1982 to 1985, classifies the indigenism developed by the program as "business indigenism- *indigenismo empresarial*". He claims that the program utilizes an ecological discourse of "environmental worries" and intensive marketing campaigns as a model of an "alternative indigenousness," capable of providing services to the indigenous communities and at the same time establishing large projects in indigenous territories.

Baines (1994:27) claims that in spite of the image of the Waimiri Atroari people constructed by the media, in fact "it makes up the asymmetric relations established by an indigenist administration that excludes the natives of the decisive process of planning and evaluation, but incorporates them in its politic marketing." I agree that the attitudes and

behaviors of some of the Waimiri Atroari today reflect the interethnic experiences explored by Baines (1991). However, the situation in the Waimiri Atroari area today is very different. Baines did fieldwork in this community when the area was administered by the FAWA (Waimiri Atroari Attraction Front 1970–1987). FAWA was constituted by the old group of FUNAI employees, who utilized the traditional policies which encouraged the dependence of indigenous people on State resources and patronage; this is a different historical and political situation than the current one. Since the time Baines was expelled from the area (1984), he has been unable to come back. Having done fieldwork more recently (1995–1998, 2000), I observed that the Waimiri Atroari people have been active in the decision-making process of planning and evaluating the program, and in choosing what they think is best for them.

1.3 Cultural and Linguistic Aspects

Among ethnographic studies regarding the Carib family, it is possible to distinguish three Carib "types:" 1) Northwest Amazon groups; 2) a second group located basically at the "Guiana area;" and 3) a third group found in the Upper Xingu Basin. Using the criteria for classification established in *Carib Speaking Indian: Culture, Society, and Language* (Basso 1977), the Waimiri Atroari people are best identified as members of the second Carib group.

They live in single round houses, forming a communal family household that constitutes a political group as well as a kin group (the whole village lives in a single round house). The men move in with wife's natal family. The villages are usually small, averaging about 20–40 *kinja*. For sustenance, they depend on bitter manioc, which is

utilized to make manioc flour with which to prepare large tortillas on a ceramic griddle. Unlike other peoples of this second Carib group, the Waimiri Atroari people do not prepare a manioc-fermented beverage; moreover, they practice shamanism without the use of hallucinogenic drugs. The shamans not only have the power to act as healers, but also they name children and have knowledge of the sacred and divine.

The Waimiri Atroari people still live essentially according to their traditional ways. They inhabit remote villages and subsist by slash and burn horticulture, hunting, fishing, and collecting forest fruits. In their gardens, they plant mainly bitter manioc (to make manioc flour and tortillas), banana, sugar cane, pineapple, and different species of sweet potato. The villages are located close to small and big rivers, each village has political and economic autonomy, and there is no centralized power. The distribution of work among men and women is distinct, but sometimes they can work together. Men hunt, prepare the gardens in order to plant together with women, and make basketry and artifacts for fishing and hunting, such as arrows and bows. The women take care of the domestic space, but they also collect fruits and can fish. They make hammocks and the arumã[2] bracelets.

Like the majority of Carib groups of that region, the Waimiri Atroari group has a strong tendency toward local group endogamy, uxorilocality, and small local groups. According to Silva (1995:212), they present a system of relational categories of the Dravidian type, based on the distinction between "consanguineal group" and "affinal ties", from genealogical level, age, sex, and lineage. He also explains that

[2] Bracelets make with a kind of native liana (vine) called arumã (*Ischnosiphon arouma,Marantaceae*).

> The ideal marriage for a man is with a *weriky* 'cousin' category that includes an ambilateral cross-cousin. It is possible for other kinds of marriage, such as of a man with his *pasky* 'sister's daughter', or his *imekyky* 'brother's daughter' ... The single men can have sexual access to their brother's wives... According to the Waimiri Atroari's perception of conception, a child will have as many fathers as possible depending on the number of sexual partners that his/her mother had in the time of conception. As a result, a person can have more than one *apapa* 'biological father.' Silva 1995:216

Linguistically, using Gildea's classification (1998), which is based on morphosyntactic properties of each verbal system, the Waimiri Atroari language is in the set I system (nominative or inverse/split-S). When compared to other Amazonian groups, the Waimiri Atroari language has not suffered dramatic changes. All members of the community (children, adults, and elders) speak the language. Generally, only the male leaders of the villages and the native teachers speak Portuguese, and occasionally some of the women understand, but full fluency in Portuguese is lacking.

As mentioned by do Vale (2002:17), today the Waimiri Atroari people constitute a unique ethnic group. They speak a language which presents some phonetic and lexical variation, as shown in Table 1.

Table 1—Some dialectal variation

	Waimiri (circles 2 and 3 in Figure 1)	**Atroari (circle 1 in Figure 1)**
Clay	wonji	wudji
Jaguar	tymeri	temere
Type of leaf	sopia ia	sypia ia
Sun	woi	wyie
I escaped, ran away	aa wytymaky	aa wytarybaky
I came back	aa warampia	aa warempia

In the Waimiri Atroari area (Figure 1 above), it is possible to identify three speech communities. A speech community is "a social group that shares a set of verbal signs" (Gumperz 1962). The first speech community can be observed in the region of Alalaú River; all the villages in this area share the same verbal signs in speaking the Atroari dialect. The second speech community is constituted by what I call the Samaúma group (the Mynawa, Karebi Syna, Pardo, and Arine villages), and the third is composed of the Curiaú, Cacau, and Mare. The second and third speech communities both speak the Waimiri dialect. Silva (1993:44) noted that among this *aglomerado* 'cluster', as he calls it, the linguistic unity among the groups is mentioned more often than the disparities. Interestingly, each speech community makes fun of "the way of speaking" of the others.

1.4 Linguistic and Anthropological Studies

Until recently, little linguistic work had been done to document this language family. Although today there is an increase in linguistic studies related to the Carib languages (Meira 1999, Gildea 1998, Campetela 1997, Pacheco 1997, Hall 1988, Hill and Hill 1985, Tavares 1993, Payne 1990, Derbyshire 1985, 1999, and Hoff 1986), these studies are restricted to linguistic aspects, such as phonology, morphology, and syntax, and do not address the interaction of language and culture.

Like the majority of languages in the Carib family, there are few linguistic studies of the Waimiri Atroari language, most of them being phonological sketches (Hill and Hill 1985, Lacerda 1991, Bruno 1995, 1999, 2000, and 2002). Taking this situation into consideration, this grammatical sketch provides a first attempt to describe different

aspects of the Waimiri Atroari language, including phonological, morphological and syntactic features.

Since Basso's edited collection (1977), few ethnographic studies have been done. Studies relating to the languages and cultures of the Carib family are limited (Basso 1985, 1987, 1995; Francheto 1986; Kloos 1971; Baines 1991; and Mattéi Muller 1991). Recently, it is possible to find reduced but decent anthropological descriptions relating to the Waimiri Atroari people (Baines 1999, 1997, 1994, 1993, 1992, 1991; Bandeira 1926; Barbosa Rodrigues 1885; Carvalho 1982; Monte 1992; Milleken et al 1992; Silva 1993, 1995; Do Vale 1994, 2002; and Espindola 1995). Baines's work explores the interethnic experience among the FUNAI employees and the Waimiri Atroari people; Silva's work discusses the kinship system, and Do Vale (2002) has a very interesting ethnographic description of the ceremonial system.

1.5 The Waimiri Atroari and Formal Education

Until recently, the Waimiri Atroari language was not written. In 1985, one village had contact with a national group of Catholic missionaries known as CIMI (Indigenous Missionary Council). During this time, a missionary couple—Egydio and Dorothy Schwade—established a phonological proposal and developed an alphabet, based on their linguistic studies. They taught about twenty village men to read. Later, the couple was refused access by FUNAI, but the village people wanted to continue to study.

Table 1.1—Schwade's orthography

Phoneme	Orthographic Symbol
/p/	p
/t/	t
/tʃ/	tx
/k/	k
/b/	b
/d/	d
/dʒ/	dj
/m/	m
/n/	n
/ɳ/	ñ
/s/	s
/ʃ/	x
/h/	h
/r/	r
/w/	w
/y/	y to represent the glide
/i/	i
/e/	e
/ɨ/	î
/a/	a
/u/	u
/o/	o

They did not register long vowels.

In 1986, another missionary couple from MEVA (Evangelical Mission of the Amazonian)—Joseph and Tamara Hill—who had worked and done linguistic research with the Wai-Wai people (another Carib group), tried to continue to work in the same village. They also did a preliminary description of the phonology and established another orthography that diverged from the Schwade's orthography in the following aspects (see Table 1.2 below). Later on, this couple was expelled as well.

Table 1.2—The difference between Schwade's and Hill's orthography

Schwade's orthography	Hill's orthography
/ɲ/ ñ	ñ
/y/ y to represent the glide	j
/ɨ/ î	y
They did not register long vowels	They registered long vowels as VV

In 1988, with the contract established between FUNAI and Eletronorte, the Waimiri Atroari people decided that any educational experience from now on would be realized for all the villages (no more restricting education to one village). In 1987, Márcio Silva, a researcher from Museu Nacional—Rio de Janeiro, started to do fieldwork in the Camanaú/Curiaú area. He wanted to collect data about the kinship system, and as a condition for his research the Waimiri Atroari asked him to teach them to read and write. Silva utilized Schwade's orthography in his classes. From 1988 to 1993, FUNAI hired non-native teachers to go to the villages to teach the Waimiri Atroari people their language, Portuguese, and mathematics.

In May 1988, João das Letras, responsible for the educational sub-program, analyzed the different orthographic systems and chose particular aspects of each of them. In 1989, the linguist Ruth Monserrat started to provide linguistic advice to the project. Under her supervision and with the help of Edith Lacerda[3] (the teacher) and Edilberto Fonseca (the coordinator of educational sub-program), the educational group (the non-native teacher together with the linguist) started to have meetings to discuss linguistic aspects to help them in the literacy project.

[3] Lacerda, having a natural talent, developed by herself some linguistic research describing many aspects of the Waimiri Atroari language. I learned a lot from her.

Table 1.3—Meetings to discuss the orthography and linguistic aspects

November 1989	**March 1990**	**November 1990**
Do not register long vowels.		
Represent the phoneme /y/, registered as /j/, by the letter /i/. As a result, *maja* become *maia* 'knife.'		
Eliminate the letter /w/ used after or before /u/. *Paruwe* become *Parue* 'proper name.'		The glottal marked before the vowel would be marked after the vowel. *mar'e* become *mare'* (sp. of bird).
Do not use closed syllables: instead of *am.pa* write *amypa* 'other.'	Syllable reduction would be selected only for some words; as a result, *amypa* would be *ampa.*	It is possible to have CV, VC, CCV, CVC, and CCVC.

The problem with this system was that the Waimiri Atroari did not attend the discussions. Although the non-native teachers discussed the issues with Waimiri Atroari students in the villages, in the meetings with the linguist no *kinja* were there. Moreover, Monserrat was very busy giving linguistic advice to different indigenous groups. Consequently, she did not develop any profound linguistic study of the language. This system generated a climate of uncertainty among the community in relation to the way of writing the language. Besides, the non-native teachers did not stay very long in the villages. Then, every time that a village got a new teacher, they needed time to learn the language and adapt to the village life style (no electricity, no running water, and two months in the jungle in order to get eight days of vacation in the city).[4]

[4] My first contact with the Waimiri Atroari people happened in 1991. At that time, I also was a non-native teacher. I worked with them until 1993. At this time, I did not have any intention of doing linguistic

In April 1992, the non-native teacher of Mynawa village became the new educational coordinator of the project. Together with the community, she decided to not change anything in the orthography until someone could provide a close and permanent linguistic study. In 1994, the Waimiri Atroari community decided to invest in forming native teachers inasmuch as the non-native teachers had problems with the Waimiri Atroari language and did not stay very long in the villages. At the end of 1994, I proposed to the community to do linguistic research with them. Tired of linguistic and anthropological research, they only accepted me because I had lived with them before.

In 1995, the educational sub-program and the community decided that some modifications to the orthography would be made. At that time, people from different villages used different orthographies; even in the same groups, people wrote sometimes with a different orthography than the one they were exposed to. The Waimiri Atroari teachers wanted to produce literacy material, but they were worried that these materials would not take into consideration dialectal differences or would not work at all because of the different ways that the language was being written.

Then the community, the educational group and I decided to rethink the orthography. I went to different villages and asked many questions, such as what they thought would change or not change in the orthography; and, from the different orthographies, what aspects we could continue to use. I did not want to make drastic changes because many *kinja* already knew how to write. Later on, the educational sub-

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research. However, I had the opportunity to work in a village that had the tradition of producing a lot of mythological stories and different kinds of texts, continuing the work established by the teacher, Carlos Augusto Queiroz, who had needed to leave the village because of health problems.

program organized a big meeting on the reservation where I and 35 Waimiri Atroari people selected by the community discussed and made the necessary changes, such as covering the dialectal differences, marking the long vowels because the non-native teachers could not hear them; the *kinja* described things were missing when writing some words. Non-native people did not hear the differences between *kymy* 'bacaba berry' and *kymyy* 'hand', for example, and the orthography needed to change to record this distinction.

I believe that any orthography should represent the sounds of the language in question, not only being phonologically well based, but also taking into consideration the speakers' beliefs and perspectives. An idea of what is going on in the language and how the sounds can be represented must be given by linguists, explaining the consequences, but only the speakers must decide. The idea that indigenous people 'are not able to understand linguistics' needs to be discouraged (see in the appendix material elaborated by the *kinja* teachers about phonology). Besides, language is not only an instrument of communication, language carries symbolic value that conditions social, political, and economic spheres.

Table 1.4—Differences between the old orthographies and the one utilized today

Schwade	Hill and Silva	João das Letras and Ruth Monserrat	Current Orthography
/ɲ/- [ñ] To represent the glide [y]	/ɲ/ - [ñ]	/ɲ/ [nj] To represent the glide [j]	/ɲ/ - [nj]
/ɨ/ - [î] Did not register long vowels.	/ɨ/ - [y] Did register long vowels.	/ɨ/ - [y] They began marking long vowels, but later on decided not to mark them because the non-native teachers could not hear them. The other problem was related to syllable structure: words that typically have a CV pattern were sometimes written with a CVC pattern. For example, [ma.ry.ba] and [te.ty.ky] became [mar.ba] and [tet.ky].	/ɨ/ - [y] Long vowels are registered. In this current orthography, we just made some adjustments that took into consideration the perceptions and requests of the *kinja*. The words with a CV pattern are still marked in that way, having slow speech as the referent. We did not change any symbols from the previous orthography.

In fact, I would have preferred to use [y] to represent the glide sound, but the community decided to continue denoting it as in Hill's orthography. Today, it is registered as [i]. If they used [j] to register the glide, it could make things more confusing because the letter [j] in Portuguese is used in a different way. Because the Waimiri Atroari schools are bilingual, I think we need to keep this in mind when elaborating orthographies.

Table 1.5—Current orthography, utilized in the literacy project

Phoneme	Orthographic Symbol
/p/	p
/t/	t
/tʃ/	tx
/k/	k
/b/	b
/d/	d
/dʒ/	dj
/m/	m
/n/	n
/ɲ/	nj
/s/	s
/ʃ/	x
/h/	h
/r/	r
/w/	w
/i/	to represent the glide
/i/	i
/e/	e
/ɨ/	y
/a/	a
/u/	u
/o/	o
Long vowels are marked as VV	aa, yy, ee, oo

The new role and figure of being a teacher brought some changes and problems to the routine of the community. One of the problems was the power struggle among the traditional leaders and the native teachers regarding changing the notion of leadership. The first changes in the concept of leadership were situated during the opening (construction) of the highway. According to Baines (1991), the leadership conception in the Waimiri Atroari culture was changed by FUNAI's intervention in the area. He explains that in order to establish contact with the community, FUNAI "created" a system

of *capitães* 'captains' (military view) for each village. The *capitães* were selected by their ability (in that time extremely limited) to speak Portuguese, lack of resistance to the construction of the road, and easy manipulability. To sustain this manipulative tactic, FUNAI "offered" some privileges to the *capitães*, such as food, clothes, radios, lanterns, and batteries, and allowed them to live with FUNAI employees.

As a consequence of this new role—'captains'—the traditional system of authority and leadership was modified. In order to sustain this change, not only the FUNAI employees, but also the new leaders—the captains—explained that the elders (the traditional leaders) died with the contact; therefore, they needed new leaders. However, Baines mentions that not all of the elders died; in reality, the "elders that survived were deprived of their authority by FUNAI's workers and the Waimiri Atroari captains" (Baines 1991:282).

The other problem is related to how the Waimiri Atroari teachers can reconcile both types of knowledge; the problem that they are having is that they do not yet know how to find the time for both forms of knowledge. Usually, they say that:

> It is hard to find time to hunt, fish, learn how to make basketry, learn traditional songs, and at the same time to prepare classes, study, and attend meetings and conferences. Group of Waimiri Atroari teachers. 1998

Today, there are two native teachers in each of the seventeen schools. The school classes average from five to fifteen students. Generally, the women have classes separate from the men, but there are a few exceptions, where men and women study together. Students range in age from eight to forty. Currently, the younger children are not

formally enrolled to attend on a regular basis (however, they are welcomed at the schools to do some activities). The curriculum includes ethnoscience and ethnomathematics (taking the Waimiri Atroari conceptions and knowledge of the world to study Science and Math), Geography, Waimiri Atroari language, and Portuguese.

Due to the fact that there is currently 100% use of the language, the Waimiri Atroari community has not developed a concern to sustain language use. On the other hand, the Waimiri Atroari teachers are very concerned about the elaboration of material for use in the school setting to assure use and retention of the language and culture. Therefore, in 1997, the educational program and I decided to improve the list of words organized by Lacerda and Queiroz (1991), and create an illustrated dictionary that could be used as literacy material.

1.6 Types of Data

This description is based on data collected through fieldwork with native speakers of the language. Waimiri Atroari consultants of four different villages and two speech communities ranging in age from fifteen to fifty years helped me to obtain specific information on phonological, morphological, and syntactic aspects of their language. Three consultants provided intensive consultation, such as Warakaxi—José Maria, Ewepe—Marcelo, and Damixiri—Renato. The elicitation was done in three stages. The first one occurred when I was a teacher in the Alalaú and Paryry villages in 1991. As I did not have the intention of conducting professional linguistic research, I just collected some verbal paradigms and mythological stories with Dauna (Shaman and storyteller of the Alalaú village). In the second stage (1995–1998), I collected more focused

morphological and syntactic structures in order to understand parts of speech, case marking, causatives, and word order. Natural texts in the form of stories and myths were tape recorded and then transcribed with the assistance of the Waimiri Atroari consultants. Discussion of the grammaticality of some materials was divided into categories; for example, (1) acceptable grammatically, (2) understandable, and judgments of different consultants from different villages were also checked.

The third stage was in 2000, when I concentrated my attention on reduplication and syllable structure. I also utilized this time to make some revisions to the dictionary material.

1.7 Organization of this dissertation

The present work is organized as follows. Chapter 1 discusses some historical and cultural aspects of the Waimiri Atroari people. It also provides a discussion of the Waimiri Atroari orthographic system. Chapter 2 presents a structural description of the segmental units in Waimiri Atroari and analyzes some aspects such as syllable structure and reduplication using Optimality Theory.

Chapter 3 introduces the morphological units, defining and describing the morphology of each lexical class. It also provides an analysis of case marking in this language. Chapter 4 describes the syntax of phrases, clauses, and simple and some complex sentences. It analyzes the possible types of word order in this language and provides a brief discussion of topicalization.

The description follows a notational convention:

brackets ([]) – 'surface or phonetic representation';

slashes (//) – 'phonemic representation';

colons (:) – vowel length;

dots (.) – syllable boundaries;

(=) – clitic boundaries

dashes (-) – morpheme boundaries

(?) – interrogative symbol in the glosses line means that I do not know the meaning;

(*) – incorrect or non-attested form

In the grammatical sketch, interlinear glosses follow a three-line system: original utterance in the first line, glosses and morphemic analysis in the second line, and a free translation in the third line.

CHAPTER 2 - PHONOLOGY

2. Phonology

This chapter is organized as follows. Sections 2.1 and 2.2 present a structural description of the segmental units in Waimiri Atroari. Section 2.3 analyzes the stress pattern in this language. Section 2.4 provides a description of the syllable structure. Section 2.5 explores some morphophonological processes such as vowel replacement, vowel deletion, vowel harmony, and reduplication. Finally, section 2.6 analyzes some aspects such as syllable structure and reduplication using Optimality Theory.

The Waimiri Atroari phonemic inventory includes seventeen consonant phonemes and twelve vowel phonemes, seven short and five long. The consonant phonemes are /p/, /b/, /t/, /d/, /k/, /ʔ/, /s/, /ʃ/, /h/, /tʃ/, /dʒ/, /m/, /n/, /ɲ/, /r/, /w/, /j/, and the vowel phonemes are /i/, /e/, /ɛ/, /a/, /ɨ/, /u/, /o/, /e:/, /a:/, /e:/, /ɨ:/, /o:/.

2.1 Segments

Table 2.0 and Table 2.2 show all 29 distinctive segments of Waimiri Atroari represented together with the orthographic symbols used in the literacy project (see discussion in section 1.5) and throughout this grammar sketch.

Table 2.0—Waimiri Atroari consonant distinctive segments

	Bilabial	Apico-Alveolar	Palatal	Dorso-Velar	Glottal
Occlusive	p b	t d	tʃ(tx) dʒ(dj)	k	ʔ(')
Fricative		s	ʃ(x)		h
Nasal	m	n	ɲ(nj)		
Liquid		r			
Approximant	w		j(i)		

2.1 Consonants

2.1.1 Stops

Phonemes /p/, /t/, /k/ are voiceless occlusives at bilabial, apico-alveolar, and dorso-velar points of articulation. They can occur initially and intervocalically. Phonemes /b/ and /d/ are voiced occlusives at bilabial and apico-alveolar points of articulation. They can only occur in the beginning of the word and intervocalically. Waimiri Atroari does not allow stops in coda position or at the end of the word.[5] Note that /p/ and /k/ appear in cluster /pr/, /kr/, discussed in 2.1.6.

(1) /p/

py.ru.wa	[pɨ.ru.wa] 'arrow'
pa.pa	[pa.pa] 'father'
pa.tu.wa	[pa.tu.wa] 'patauá berry'
wa.ra.pi.ɲji	[wa.ra.pi.ɲi] 'proper name'
py.ry.ry	[pɨ.rɨ.rɨ] 'frog'

(2) /t/

te.ty.ky	[te.tɨ.kɨ] 'Brazilian nut'
ty.ru.wa	[tɨ.ru.wa] 'ceramic pan'
wa.ty	[wa.tɨ] 'fire'
ma.ty.ty	[ma.tɨ.tɨ] 'kind of basket'
ta.ra.ra	[ta.ra.ra] 'thunder'

(3) /k/

ka.nu.wa	[ka.nu.wa] 'canoe'
sam.ka	[sam.ka] 'hammock'
xi.ri.ki.ki	[ʃi.ri.ki.ki] 'Sp of parakeet'
kaa.pa	[ka:.pa] 'plantation field'

(4) /b/

bi.ky	[bi.kɨ] 'son' (female speech)
ma.ba	[ma.ba] 'macaw'
ba.ky.ma	[ba.kɨ.ma] 'salt'
ka.ba.ha	[ka.ba.ha] 'Sp. of armadillo'

(5) /d/

ma.da.na	[ma.da.na] 'lier'
de.he.de.de	[de.he.de.he] 'cough'
my.dy	[mɨ.dɨ] 'house'
da.ɲa	[da.ɲa] 'cicada'

[5] The only exception is for the negation particle *kap*.

Sometimes /p/ occurs in free variation with the voiced stop /b/ and the nasal /m/. Like the phoneme /p/, the phoneme /b/ also occurs in variation with the nasal /m/. Although the examples below show this free variation, /p/, /b/, and /m/ are distinctive segments as shown in Table 2.1, which shows minimal or near minimal pairs.

(6) [p]~[b]

kampa~kamba 'Let's go'
akybyhy~akymyhy 'porridge'

(7) [p]~[m]

kampa~kama 'Let's go'
panana~manana 'bumblebee'

(8) [b]~[m]

babyka~bamyka 'wide'
benry~menry 'design, drawing'

The examples in (6) and (7) show that Waimiri Atroari does have nasal assimilation: for example, *impa* 'then, after.' However, it is also possible to find examples where nasal assimilation does not occur, such as *nytynpa* 'he/she went' and *sakenpa* 'angry'. The cases where nasal assimilation does not occur involve a morpheme boundary, for example ny-tyn-pa or saken-pa.

2.1.2 Palatals

The phonemes /tx/, and /dj/ are respectively voiceless and voiced phonemic occlusive affricates. In Waimiri Atroari, the sequence of these palatalized segments is perceived as a single unit. They can occur initially and intervocalically.

(9) /tx/

txa.my.ry	[tʃa.mɨ.rɨ] 'elder, old'
txi.dji	[tʃi.dʒi] 'type of basket'
i.txi	[i.tʃi] 'forest'

(10) /dj/

dja.ky.ny	[dʒa.kɨ.nɨ] 'proper name'
wu.dji	[wu.dʒi] 'clay'
ka.dji.wi	[ka.dʒi.wi] 'worm'

Although /dj/ occurs more frequently before /i/ than /d/, this does not mean that /d/+/i/ always results in the palatalization of /d/. See the examples in (11)–(13) where /d/ remains before /i/.

(11) di.mi.na 'proper name'
(12) dia [di.ja] 'species of tree'
(13) di.re.he 'scale'

2.1.3 Fricatives

The phonemes /s/, /x/, and /h/ are voiceless fricatives at apico-alveolar, alveopalatal, and glottal points of articulation, respectively. They can occur in the beginning and in the middle of the word. In this group, /s/ and /h/ can appear in word-medial coda position, never at the end of the word.

(14) /s/

se.he	[se.he] 'tall'
py.kwa.se	[pi.kwa.se] 'to shoot arrows'
ias.ka	[jas.ka] 'relatives'

(15) /x/

xi.ba	[ʃi.ba] 'fish'
a.wa.xi	[a.wa.ʃi] 'sugar cane'
xeri	[ʃe.ri] 'skate fish'

(16) /h/

hi.ri	[hi.ri] 'Cajun fruit'
tah.ko.me	[tah.ko.me] 'elder man'
tyhnaka	[tɨh.na.ka] 'over, above, on'
wa.ha	[wa.ha] 'many, much'

In some words, it is possible to find free variation among [x]~[h], [s]~[h], and [s]~[x], such as *baxinja~bahinja* 'child, small,' *anahkwa~anaskwa* 'native fruit,' and *syhy~xyhy* 'body hair'.

Interestingly, Waimiri Atroari presents phonological peculiarities uncommon in the Carib family, the most striking of these being the occurrence of a consonantal system

which includes five segments produced with friction (three fricatives, /x/, /h/, and /s/, and two affricates, /tx/ and /dj/).[6] The existence of both the glottal fricative /h/ and the glottal stop /'/ is a rare phenomenon in the family. According to Gildea (1995), these consonants originated from a historical process of syllabic reduction: in some languages, this process results in a stop; in other languages, the result is a fricative. In Waimiri Atroari, though, both outcomes occur.

2.1.4 Nasals

The phonemes /m/, /n/ and /nj/ are nasals produced at bilabial, apico-alveolar, palatal points of articulation, respectively. They can occur in the beginning and middle of the word. The phonemes /m/ and /n/ can occur in the coda position. However, they do not appear at the end of the word. The only exceptions are found with the second position

[6] **Phonological inventory of other Carib languages**

	Waiwai	**Tiriyó**	**Hixkaryana**	**Waimiri/A**	**Ikpeng**
Conso-nants	p(ɸ) t k m n ɲ s ʃ h tʃ r ɾ w y	p t k m n s h r w y	p t k b d m n ɲ ɸ(f) s ʃ h ʤ(dy) tʃ r ɾ w y	p t k ʔ b d m n ɲ s ʃ h dʒ tʃ r w y	p t k b g m n ɳ tʃ l r w y
Vowels	i ɨ u e o a	i ɨ u e ə o a	ɨ u e o(ɔ) a	i ɨ(:) u e(:) o(:) ɛ(:) a(:)	i ɨ u e o a

particle *ram* and the word *takrehen* 'delay, linger.'[7] Although the phoneme /nj/ usually appears following and preceding /i/, it is also found in other environments.

(17) /m/

a.ba.ma	[a.ba.ma] 'blind'
ma.ma	[ma.ma] 'mother'
sam.ka	[sam.ka] 'hammock'

(18) /n/

na.na	[na.na] 'pineapple'
ia.na.na	[ja.na.na]'mythological pers'
ny.tyn.pa	[nɨ.tɨn.pa] 'she/he went'

(19) /nj/

nja.wa	[ɲa.wa] 'rain'
xi.nja	[ʃi.ɲa] 'flute'
wo'.nji	[woʔ.ɲi] 'clay'

2.1.5 Glottal

The occlusive glottal /'/ occurs between vowels and between a vowel and a consonant. When a glottal appears in an intervocalic environment, the two vowels are always identical. It can appear in the middle of the word, and in the end of the word as the coda of a final syllable.

(20) /V'V/

ta.be'e	[ta.bɛʔɛ] 'capybara'
a'a	[aʔa] '1+3 PRO'

(21) /V'C/

no'.sa	[noʔ.sa] 'she/he sleeps'
wo'.nji	[woʔ.ɲi] 'clay'

(22) /CV'/

i.re' [i.reʔ] 'how'

(23) /CCV'/

a.kra' [a.kraʔ] 'Sp. of fish'

2.1.6 Liquid

The phoneme /r/ is the only liquid segment in this language. It is a flap with some lateral release. In Waimiri Atroari, with the exception of the second particle position *ram*,

[7] In the text 'kaapy tahkome karykepa' in the appendix, it is possible to see that the underlying representation of *takrehen* is *takrehene;* therefore, this coda at the end of the word is not common.

there are no words beginning with /r/. Moreover, /r/ can form clusters /kr/ and /pr/ in CCV syllables.

(24)

wa.ra.ra	[wa.ra.ra] 'turtle'	te.me.re	[te.me.re] 'jaguar'
py.ry.ry	[pɨ.rɨ.rɨ] 'frog'	pa.na.ry	[pa.na.rɨ] 'long time ago'
ma.kry.kry	[ma.krɨ.krɨ] 'pernilong'	kra.txi.ni	[kra.tʃi.ni] 'proper name
we.ri	[we.ri] 'woman'	me.pry	[me.prɨ] 'tapir'

2.1.7 Approximant

Phonemes /w/ and /y/ are a bilabial glide and a palatal glide, respectively. Hill (1985) calls them ambivalent segments (consonantal or vocalic). In this grammatical sketch, /w/ and /j/[8] are interpreted as a consonant in initial position of the syllable, but in the nucleus the same segments are interpreted as the vowels /u/ and /i/.

(25) /w/

kwa.ta	[kwa.ta] 'spider monkey'
ka.wa	[ka.wa] 'menstruation'
wo.ky	[wo.kɨ] 'banana'

(26) /j/

ia.na.na [ja.na.na] 'mythological person'
ma.ba.ia [ma.ba.ja] 'papaya'
iee [jee] 'tooth'

2.1.8 Contrast

This section provides examples that show contrast among the consonant phonemes in minimal and analogous set.

[8] Today, in the orthography used in the literacy project, the community does not use [y] to represent the glide. For the glide, they use [j] as established by Hill and Hill (1986). Now /i/ is used both in onset and nuclear position, such as *hi.ri* 'cajun fruit' and *ma.ba.ia* [ma.ba.ya] 'papaya.' In order to address the community request and not do radical changes, we used the symbol [y] for the /ɨ/.

Table 2.1—Some minimal and near-minimal pairs focussing on consonants

/p/ /b/	peri beri	door feather crown
/p/ /m/	papa mama	father mother
/b/ /m/	bixi mixi	peel, skin a kind of fruit from a palm
/b/ /w/	bahinja wahinja	small, children proper name
/p/ /w/	pyty wyty	wife meat
/t/ /d/	waty sady	fire crab
/d/ /r/	sadada tarara	shrimp thunder
/x/ /s/	xeri seri	skate (species of fish) proper name
/tx/ /dj/	itxi txidji	jungle kind of basket
/m/ /n/	mama nana	mother pineapple
/n/ /nj/	sana sanja	termite manioc flour
/nj/ /j/	njawa jawa	rain come here!

2.2 Vowels

Table 2.2—Waimiri Atroari vowel distinctive segments

	Front	**Central**	**Back**
High	i	ɨ(y) ɨ:(yy)	u
Mid	e e:(ee)		o:(oo)
Low	ɛ(e)	a a: (aa)	

2.2.1 High Vowels

From this group of high vowels, only the /i/ high front vowel and the /ɨ/ high central unrounded vowel can occur in the beginning of the word as a V syllable. On the other hand, only the high central unrounded /ɨ/ can be lengthened. The high round vowel /u/ has a very restricted distribution. It only occurs preceding or following bilabials.

(27) /i/

i.txi	[i.tʃi] 'forest'
hi.ri	[hi.ri] 'cajun fruit'
wi.we	[wi.wi] 'wood'
i.na.xi.xi	[i.na.ʃi.ʃi] 'bat'

(28) /ɨ/

ky.my	[kɨmɨ] 'bacaba berry'
py.ry.ry	[pɨ.rɨ.rɨ] 'frog'
sy.na	[sɨ.na] 'water'
y.ry.se	[ɨ.rɨ.se] 'to do'

(29) /u/

su.we.ri	[su.we.ri] 'deer' (animal)
ty.ru.wa	[tɨ.ru.wa] 'ceramic pan'
wu.se	[wu.se] 'to kill'
wu.re	[wu.re] 'fan'
hu.myn.ta.py.pia	[hu.mɨn.ta.pɨ.pi.ja] 'We made him bleed'
hu.pa.kah.py.pia	[hu.pa.kah.pɨ.pi.ja] 'We made him wake up'

2.1.5.2 Mid Vowels

In this group, both vowels can be lengthened. The middle, front unround vowel /e/ ranges from closed to open: /ɛ/ occurs in closed syllables, and is glottalized or lengthened in an open syllable followed by a consonant. On the other hand, the middle back rounded vowel /o/ does not allow for this possibility.

(30) /e/

me.re.py	[me.re.pɨ] 'palm fruit'
we.ri	[we.ri] 'woman'

(31) /ɛ/

iake	[ya.kɛ] 'alligator'
ma.re'e	[ma.rɛʔɛ] 'guam'(bird)

yee	[ye:] 'tooth'	ke.pa	[kɛ.pa] 'she/he said'
be.he	[be.he] 'ceremonial slash'	pa.ru.we	[pa.ru.wɛ] 'proper name'

(32) /o/ and /o:/

tah.ko.me	[tah.ko.me] 'elder man, antique man'
wo.ky	[wo.kɨ] 'banana'
poo.po	[po:po] 'moth'

2.2.3 Low vowels

In Waimiri Atroari, /a /is a low, central, open unrounded segment.

(33) /a/ and /a:/

a.ma.na	[a.ma.na] 'Amazonian dolphin'
a'a	[aʔa] '1+3PRO'
kaa.pa	[ka:pa] 'plantation garden'
kwa.da	[kwa.da] 'bad, ugly'

2.2.4 Vowel length

In Waimiri Atroari, vowel length occurs only in open syllables. There are no sequences of non-identical vowels. As demonstrated below in (34), long vowels are considered phonemes contrasting with short vowels; they are found among nouns, verbs, possessives, and object prefixes marking 1st and 2nd person.

(34)

i.myy	[i.mɨɨ] 'his/her hand'	woo.ky	[wo:.kɨ] 'climb!'
kymy	[kɨ.mɨ] 'bacaba berry'	wo.ky	[wo.kɨ] 'banana'
aa.ma.ma	[a:ma.ma] 'my mother'	aa.bi.ky	[a:.bi.kɨ] 'my son'(female)
a.ma.ma	[a.ma.ma] 'your mother	a.bi.ky	[a.bi.kɨ] 'your son'(female)

2.2.5 Contrast

This section provides examples that show contrast among the vowel phonemes in a minimal analogous set.

Table 2.3— Some minimal and near-minimal pairs focussing on vowels

/o/ /u/	woky wuky	'banana' 'species of bird'
/u/ /i/	wuky wi'ky	'specie of bird' 'a fruit'
/o/ /y/	noosa nysa	'she/he climbs' 'she/he goes'
/o/ /o:/	woky wooky	'banana' 'climb!'
/y/ /y:/	kymy kymyy	'bacaba berry' 'hand'
/y/ /e/	wyty wety	'meat' 'feces'
/y/ /a/	iky ikaa	'species of ant' 'history'
/a/ /a:/	kapy kaapy	'anus' 'sky'
/e/ /ɛ/	iee [yee] ie [yɛ]	'tooth' 'no!'
/e:/ /o:/	peepe poopo	'paper, butterfly' 'moth'

2.3 Stress

In Waimiri Atroari, stress is not a contrastive feature. In bisyllabic words, stress falls on the final position syllable. Words with more than two syllables may possibly have primary and secondary stress. The length of the vowel influences the stress pattern. Syllables with long vowels and glottalized vowels are stressed.

(1) kaá.pa 'garden' (2) ka.pá 'she/he talked'

(3) my.dý 'house' (4) wu.ré 'fan'

(5) ta.bé'e 'capybara' (6) ty.rý.ny 'any small bird'

There are a lot of questions that I was not able to answer in relation to the stress system in Waimiri Atroari. I need to do additional research.

2.4 Syllable Structure in Waimiri Atroari

In Waimiri Atroari, each syllable has a nucleus constituted by a vocalic phoneme. The syllable can also include a consonant element in onset position and another in final position as a coda. Onsetless syllables (V, VV, VC) only occur at the beginning of the word. Any consonant may appear in syllable-initial position, but only nasals /m/ /n/, fricatives /s/, and glottals /'/ /h/ may appear in coda position. When CC.C occurs, the second C can only be either the liquid /r/ or the approximant /w/.

Table 2.4—The distribution of the phonemes in the syllables

	Onset		Coda	
	Left edge of the word	intervocalically	Left edge and middle of word	Right edge of the word
/p/	+	+	-	-
/b/	+	+	-	-
/t/	+	+	-	-
/d/	+	+	-	-
/k/	+	+	-	-
/'/			+	+
/h/	+	+	+	-
/s/	+	+	+	-
/x/	+	+	-	-
/tx/	+	+	-	-
/dj/	+	+	-	-
/m/	+	+	+	-
/n/	+	+	+	-
/nj/	+	+	-	-
/r/	-	+	-	-
/w/	+	+	-	-
/y/	+	+		-

In Waimiri Atroari, eight different syllable patterns are observed: V, VV, VC, CV, CVV, CVC, CCV, and CCVC.

(35) CV syllables occur word-initially, word-medially, and word-finally.

wa.ra.ra 'turtle' cv. cv.cv	ma.ty.ty. 'kind of basketry' cv.cv.cv	sy. na 'water' cv.cv
ma.ba.ia 'papaya' cv.cv.cv	ma.ba 'macaw' cv.cv	ta.ra.ra 'thunder' cv.cv.cv
py.ru. wa 'arrow' cv.cv.cv	ka.nu.wa 'canoe' cv.cv.cv	te.ty.ky'Brazilian nut' cv.cv.cv

V, VV, and VC syllables occur only at the leftmost edge of the word. In the V syllables, all the vowels can fill this slot, except the high, back unrounded /u/. On the other hand, VV syllables only appear as the prefix that marks 1st possessive and first object.

(36) /V/

a.ma.na 'Amazonian dolphin' v.cv.cv	i.txi 'forest, jungle' v.cv	i.myy 'somebody's hand' v.cvv
e.ty.pa 'pain, sickness' v.cv.cv	e.py.ry.ry 'flower' v.cv.cv.cv	a.ma.kra 'species of fish' v.cv.ccv

(37) /VV/

aa.my.dy 'my house' vv.cv.cv	aa.sam.ka 'my hammock' vv.cvc.cv	aa.py.ty 'my wife' vv.cv.cv

(38) /VC/

im.ka 'if' vc.cv	im.pa 'then, after' vc.cv	am.pa 'other, another' vc.cv

CVC, CCV, and CVV syllables, like CV syllables, can occur in different environments. CVC and CCV syllables can occur initially, medially, and finally; however, CVV syllables do not occur in medial position.

(39) /CVC/

tah.ko.me 'elders'	ny.tyn.pa 'he/she went'	no'.sa 'she/he sleeps'
cvc.cv.cv	cv.cvc.cv	cvc.cv
sam.ka 'hammock'	ias.ka 'relatives'	pas.ky 'niece'
cvc.cv	cvc.cv	cvc.cv
i.re' 'how'	ram 'second position particle'	kap 'negation particle'
v.cvc	cvc	cvc

(40) /CCV/

kwa.da 'ugly, bad'	sa.kra 'white'	ma.kry.kry 'mosquito'
ccv.cv	cv.ccv	cv.ccv.ccv

(41) /CVV/

kaa.pa 'field'	ky.myy 'our hands'	hee.ia [he:ya] 'I drink'
cvv.cv	cv.cvv	cvv.cv

CCVC syllables occur only in medial position, as a result of morphophonological conditions. In Waimiri Atroari, there is a morpheme *hkypa~-hpa* 'after something' that appears at the end of the verb. Then, when syllabifying the /h/, it will fill the coda position.

(42) /CCVC/

ny.bi.xi.kwah.pa 'after being injured'	ki.ri.kwah.ky.pa 'after being burned'
cv.cv.cv.ccvc.cv	cv.cv.ccvc.cv.cv

wy.ka.prym.pa 'wood that serves as support for the house'
cv.cv.ccvc.cv

2.5 Morphophonological Processes

2.5.1 Vowel Replacement

2.5.1.1 In Waimiri Atroari, word-final vowels /e/, /y/, and /i/ are replaced by /a/ when immediately followed by the second position particle.

(43)

weri	ram	[wer**a**	ram	nysa	itxi taka]
woman	2PART	woman-2PART	go		jungle AL
		'The woman goes to the jungle"			

wykyry	ram	[wykyr**a** ram]
man	2PART	

2.5.1.2 In interrogative phrases, the final vowel of the last word is usually replaced by a glottalized /e'/.

(44)

temere	m-itxiky-piany.	[temere	m-itxiky-pian=e']
jaguar	2A-shoot arrows-REC.P	jaguar	2A-shoot arrows-REC.P-INT
"You shot arrows at the jaguar"		"Did you shoot the jaguar?"	

2.5.2 Vowel Deletion

In texts and also in normal speech, between two morphological words, the word-final vowels of the first word delete, and almost always after [h], one of the consonants that is allowed in the coda position.

(45)

[maraha taka]→[marah taka] 'to the old field'

[waha paky]→[wahpaky] 'many'

[waha pary]→[wahpary] 'many'

[behe ke]→[behke] 'with slash'

Moreover, when adding the suffixes valuative *–e'me* and the devaluative *–eme* the last vowel of the word is deleted.

wykyry 'man'→ wykyr-eme
weri 'woman'→ wer-eme
bahinja 'child'→ bahinj-eme

2.5.3 Vowel harmony

2.5.3.1 When the phoneme /y/ precedes Ci, /y/ is replaced by /i/.

(46)

ny-txi-piany [ni-txi-piany] 'she/he went'
3-go-REC.PAST

2.5.3.2 Vowel harmony also occurs between the verb stem and the suffix marking tense/aspect

-synehk- disappear -eka- 'defecate'

wy-synehk**a**-p**a**	'I disappeared'	w-ek**y**-p**i**a
wy-synehk**y**-pian**y**	'I disappeared'	
wy-synehk**a**-t**a**pe	'I will disappear'	

2.5.4 Reduplication

In Waimiri Atroari, reduplication is applied to verbs, generally for the semantic meaning of repetition (to do many times) or continuation (to keep doing). Waimiri Atroari has a case of partial reduplication: the reduplicant copies part of a segment of the verb stem. However, I observed that reduplication is conditioned by the number of moras. The reduplicant has to be bimoraic.

Before describing the process of reduplication in Waimiri Atroari, it is important to give the possible verb stem shape in this language, inasmuch as the reduplicant copies part of the verb stem.

(47)

	Verb Stem Shape	Example
a) V	-y-	'go'
b) VV	-ee-	'drink'
c) VC	-ym-	'fall, drop'
d) VCV	-ini-	'see'
e) VCVCV	-irima-	'rest'

f) VCVCVCV	-emenyky-	'forget'
g) CV	-ry-	'give'
h) CCVCV	-niety-	'write'
i) CVCCV	-wenta-	'throw up'
j) CVCVCV	-iakyby-	'make porridge'
k) CVCVCCV	-synehky-	'disappear'

When the process of reduplication in Waimiri Atroari occurs, the process of reduplication applies to the left edge of the verb stem.

2.6 Theoretical Discussion

2.6.1 Syllable Structure

Under the OT approach, Waimiri Atroari violates different syllabic constraints (Prince & Smolensky 1993). For example, the patterns V, VC, and VV violate the onset constraint by which syllables prefer to begin with consonants. However, these patterns only occur at the left edge of the word. Although in this language the only VV syllable is found in the prefix that marks 1st possessive or 1st object, I will consider it to be a syllable because this pattern undergoes the same constraints established for VC and V syllables. Another interesting aspect related to this pattern is the sequence of VV and V syllables; for example, when *i.myy* ' somebody's hand' gets the possessive marker, it will be syllabified *aa.i.myy* 'my hand.' The two syllables do not violate left-edge alignment. Moreover, as Kager (1999:91) mentions, the syllable functions in the demarcation of morpheme edges.

On the other hand, although Waimiri Atroari allows syllables without onsets in the leftmost syllable of the word, this is not true for the reduplicant, which is unmarked relative to the language as a whole. Waimiri Atroari has a typical case of emergence of the unmarked structure (McCarthy & Prince 1994) when selecting the shape of the

reduplicant (RED); as a result RED must have an onset, thus it must be unmarked (Bruno 2000).

Moreover, we can observe that the CCV and CCVC syllables also violate another constraint related to onset: *Complex Onset. Above in the syllable structure section, I explained that CCVC syllables occur only in word-medial position. One of the reasons for this must be related to morphological conditions. In Waimiri Atroari there is a morpheme *-hkypa~hpa* 'after something,' which appears at the end of the verb. As a result, when syllabifying, the /h/ will be the coda, contributing to the structure of the syllable. On the other hand, the patterns VC, CVC, and CCVC violate the constraint, which states that codas are not allowed. In Waimiri Atroari, codas are allowed; however, they can only be nasal, fricative, or glottal and cannot occur at the end of the word, as was explained above in the section on the phonological inventory.

According to the observations established above, these constraints were selected to account for the data set in section 2.4: Align onsetless syllable left, *Complex Onset, Coda condition (Nasal/Fricative/Glottal), *Coda/Align/Right, DEP-IO, MAX-IO to cover Parse and Fill as suggested by Kager (1999), and MAX-BR to cover the emergence of the unmarked syllable in the reduplicant case. I decided to use the align-onset left instead of just onset because Kager (1999:110) has a very interesting discussion about the "naïve notion that syllables must have onset except word-initially." He argues that redundancy can be avoided by using the alignment constraint. Below I provide the definition of each constraint.

- Align onsetless SYL/Left – Syllables without onset must be aligned to the left edge of the word;

- *Complex Onset – Onset are simple;
- Coda Condition (Nasal/Fricative/Glottal) – Codas can only be nasals, fricative, or glottal;
- *Coda/Align/Right – Codas cannot occur at the rightmost edge of the word;
- DEP I-O – Every element in the output has a correspondent in the input;
- MAX I-O – Every element in the input has a correspondent in the output;
- MAX B-R – Every element in the base must have a correspondent in the reduplicant.

2.6.1.1 Tableaux Section

In this section, I provide some tableaux to illustrate the generalizations and constraints established above.

Tableau 1

Candidate /amana/ 'Amazonian dolphin'	**MAX I-O**	**DEP I-O**	**Align Onsetless/Syl/Left**	***Coda/Align/ Right**
a) am.a. na			*!	
b)'a.ma.na		*!		
c) a.man	*!			*
☺d) a.ma.na				

Waimiri Atroari does not allow insertion or deletion of segments; consequently, candidates (b) and (c) violate DEP I-O and MAX I-O, respectively. Candidate (a) does not violate any faithfulness constraints; however, it does violate the constraint align onsetless/Syl/Left. Moreover, candidate (a) violates a cross-linguistic observation in which syllabifications which create onsets are favored over syllabifications which create codas. Therefore, candidate (d) is the optimal candidate.

Tableau 2

Candidate /makryry/ 'mosquito'	**MAX I-O**	**DEP I-O**	**Align Onsetless/Syl/Left**	***Complex onset**
a) ma.ky.ry.kry		*!		*
☺b) ma.kry.kry				**
c) ma.kry.y.kry		*!	*!	**

As Waimiri Atroari allows syllables with complex onsets, this constraint will always be violated. Candidates (a) and (c) violate the constraint DEP I-O; however, candidate (c) is the worst candidate because it violates the align onsetless/Syl/Left constraint, as well. As a result, candidate (b) is the winner because it only violates *complex onset.

Tableau 3

Candidate /amakra/ 'species of fish'	**MAX I-O**	**DEP I-O**	**Align Onsetless/Syl/Left**	***Complex onset**
a) am.a. kra			*!	*
☺b) a.ma.kra				*
c) a.ma ky.ra		*!		

As demonstrated in Tableau 1, in Tableau 3 candidate (a) cannot be the optimal candidate because it not only violates the alignment constraint, it also contradicts the generalization in which onset syllabication is preferred over coda syllabification. Candidate (c) is the worst candidate because it violates the faithfulness constraint, DEP IO. Therefore, candidate (b) is the winner.

Tableau 4

Candidate /nybixikwahpa/ 'after injured'	**MAX I-O**	**DEP I-O**	**Coda Condition (Nasal/ Fricative/ Glottal)**	**Align Onsetless/Syl/ Left**	***Complex onset**
a) nyb.i.xi.kwah.pa			*!	*	*
b) nyb.xi.kwah.pa	*!		*!		*
☺c) ny.bi.xi.kwah.pa					*

In Tableau 4, the worst candidate is candidate (b) because it violates the faithfulness constraint, MAX I-O, and the coda condition, as well. Candidate (a) does not violate the undominated constraints, but it does violate the coda condition and the align onsetless/Syl/left constraint. Consequently, candidate (c) is the winner.

Tableau 5

Candidate /no'sa/ 'He/she sleeps'	**MAX I-O**	**DEP I-O**	**Coda Condition (Nasal/ Fricative/Glottal)**	**Align Onsetless/Syl/Left**
a) no'.o.sa		*!		*
b) no.sa	*!			
☺c) no'.sa				

In Tableau 5, all candidates satisfy the coda condition constraint. Candidates (a) and (b) cannot be the optimal candidates because they violate the faithfulness constraints MAX IO and DEP IO. However, candidate (a) is the worst candidate because it violates the alignment constraint. Therefore, candidate (c) is the winner.

Tableau 6

Candidate /RED-n-aryma-pa/ 'they come back many times'	**MAX I-O**	**DEP I-O**	**Coda Condition Nas/glottal/ Fricative**	**Align Onsetless Syl/Left**	**MAX BR**
a) a.ry.-na.ry.ma.pa					*!
b) ar. y.-na.ry.ma.pa			*	*	*
c) ma.ry.-na.ry.ma.pa		*!			*
☺d) na.ry-na.ry.ma.pa					*

Because in Waimiri Atroari, the leftmost edge of the word can have an onsetless syllable, we would assume that the reduplicant shape in Tableau 6 could have an onsetless structure, inasmuch as it was aligned to the left edge. However, in this language, RED behaves differently: it must have an onset. To account for the emergence of this unmarked syllable, I ranked the MAX-BR constraint below the markedness constraint, as suggested by McCarthy and Prince (1994). Candidate (c) has an onset but an extraneous segment is epenthesized, violating DEP-IO. Candidate (d) obeys the constraint MAX-BR and does not violate the undominated faithfulness constraints, winning the competition.

Tableau 7

Candidate /RED-w-oo-sa 'I climb many times'	**MAX I-O**	**DEP I-O**	**Coda Condition Nas/glottal/ Fricative**	**Align Onsetless Syl/Left**	**MAX BR**
a) oo-wo.o.sa				*!	*
b) ow-woo.sa			*!		*
c) kwoo-woo.sa		*!			
☺d) woo-woo.sa					

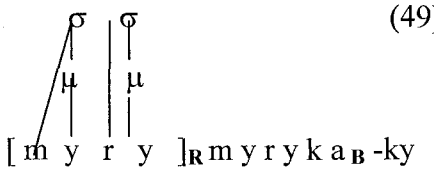
In tableau 7, candidate (a) is out of the competition because it violates the alignment constraint and the MAX-BR constraint, established to account for the reduplicant case. Candidate (b) cannot compete either because it violates the markedness constraint, coda condition. Candidate (d) violates one of the undominated constraints, DEP-IO. As a result, candidate (d) is the optimal candidate because it does not violate the faithfulness constraints, and obeys the emergence of the unmarked structure, where the reduplicant must have an onset.

In this language, well-formedness is not a central issue inasmuch as we cannot delete (deletion is not permitted) or insert (epenthesis is not allowed either) segments to avoid an ill-formed syllable. Therefore, I assume that faithfulness constraints prevent any attempt to create 'perfect syllables.' Therefore, MAX-IO and DEP-IO are ranked above markedness constraints. However, this is not true in the case of the reduplicant structure (being unmarked relative to the language as a whole) inasmuch as it requires an onset.

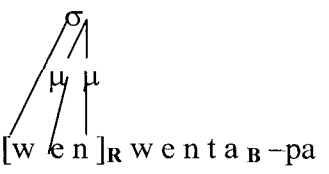
2.6.2 Reduplication

Reduplication in this language is a prefixing process. In Waimiri Atroari, the reduplicant must be bimoraic. It copies the first two moras of the left edge of the verb stem and includes the prefix (marking person) if the verb stem starts with a vowel. This inclusion of the prefix is not relevant for the bimoraic pattern inasmuch as the simple consonantal onsets are prosodically irrelevant. In no case was the temporal suffix taken into account. Therefore, I consider the base only the verb stem as demonstrated in examples (48) and (49) below.

(48)



(49)



Unlike Tiriyó (see examples 50 and 51), another Cariban language described by Meira (1999:98), which lengthens the vowel to substitute for the coda, Waimiri Atroari does not fail to include the coda of the first syllable in the reduplicated segment.

(50) **w-en**pa-e **wee**-wenpae 'I am teaching'
(51) **n-ah**ta-n **naa**-nahtan 'It is budding'

The coda is counted as the second mora; therefore, we must assume that the number of moras determines the shape of the reduplicant. This modification has not only made the analysis more elegant, but it has also unified the pattern.

The reduplication process in Waimiri Atroari avoids an onsetless RED segment. Therefore, when the verb stem begins with a vowel, the prefix marking person has to count as an onset. For example, in the verb stem *-aryma-*, if we have an input as *n- aryma -pa*, it is not possible to reduplicate it as **ary-narymapa* 'They come back many times or

repeatedly.' The prefix must become part of the reduplicant; as a result, the reduplication occurs as *nary-narymapa*.

(52)

Problem: Onsetless RED	Solution: Prefix as part of RED
*ary-narymapa	nary-narymapa

However, this example creates two problems. The first one is related to the alignment of the reduplicant. In Waimiri Atroari, RED has to be aligned to the left edge of the verb stem *n-**aryma**-pa*; however, in this case RED was aligned before the prefix *n-* that marks person in this language, so as a result we have ***nary(RED)**-n-**aryma (Stem)**-pa*. The second problem is related to the need for an onset. Why does the prefix need to serve as the onset? Mester (1988:202) observed that in Chumash, a Southern California language, if the stem starts with a vowel, the reduplicant would include any consonant immediately preceding the stem because the RED would mainly have the invariant CVC shape, which he called overapplication of onset formation in reduplicant structure. However, this is not the case in Waimiri Atroari because the only condition required for the reduplicant is that it must be bimoraic.

As a result, the only coherent explanation for this case must be based on the emergence of the unmarked approach (McCarthy & Prince 1994). This approach claims that unmarked elements (syllables, affixes, and structures) are cross-linguistically preferred more over marked elements (Archangeli 2000; Kager 1999). Although Waimiri Atroari allows onsetless syllables, I must assume that the structure of the reduplicant is unmarked relative to the language as a whole, so it must have an onset. However, this

only happens in the cases of onsetless stems because this does not work for such marked syllables as CVC and CVV.

According to McCarthy and Prince (1997), reduplication is a matter of identity: "the reduplicant copies the base." However, they claim that perfect identity cannot always be attained. Under this assumption, it is necessary to utilize the notion of correspondence, which is a relation between two structures, such as base reduplicant (B-R) or input and output (I-O). Correspondence theory assumes that given two strings S_1 and S_2, correspondence is a relation $\Re$ from the elements of S_1 to those of S_2. Consequently, it is the existence of a correspondence relation that makes an appropriate environment for reduplication.

In my first attempt (Bruno 2000) to analyze the phenomenon of reduplication in Waimiri Atroari, I claimed that the weight of the syllable determined the shape of the reduplicant. As a result, Waimiri Atroari would have two patterns of reduplication (one for light syllables and the other for complex syllables):

(53) When the first two syllables are light, the reduplicant copies the two initial syllables of the verb stem CVCV (disyllabic reduplicant) and prefixes this material to the base.

a) /iakyby-ia/ **iaky**-iakyby-ia 'Make porridge many times.'
cv.cv.cv-cv **cv.cv**
b) /myryka-ky/ **myry**-myryka-ky 'Mix well many times.'
cv.cv.cv-cv **cv.cv**
c) /n-aryme-pa/ **nary**-naryme-pa 'They came back many times.'
cv.cv.cv-cv **cv.cv**

(54) When the first syllable is heavy, it copies the initial heavy syllable sequence of the verb stem (CVC CVV, VV, and CCV) and prefixes this material to the base.

a) /nu-wenta-pa/ nu-**wen**-wenta-pa 'They threw up many times.'
cv-cvc.cv-cv **cvc**

b) /ny-mynta-pa/ ny-**myn**-mynta-pa 'They keep bleeding.'
cv-cvc.cv-cv **cvc**

c) /jaa-pa/ **iaa**-iaa-pa 'Took many times.'
cvv-cv cvv

d) /w-oo-ky/ **woo**-woo-ky 'Climb, go up repeatedly.'
cvv-cv cvv

e) /njeti-ki/ **nie**-niety-ky 'They keep writing or write many times.'
ccv.cv-cv **ccv**

However, the problem with this analysis was that I needed to classify the CCV syllable traditionally considered as a light syllable as heavy because it was behaving according to the heavy pattern. According to Hayes (1989, 1995), the distinction between light and heavy syllables is based on moraic structure. He claims that a heavy syllable contains two moras; however, a light syllable contains only one mora. On the other hand, Hayes (1989:224) explains that moraic theory posits language-specific prosodic structures, which vary according to a language's criterion of syllable weight. As a result, the moraic structure of languages can vary (McCarthy & Prince 1986). In the phonological inventory of Waimiri Atroari, I classify the palatal glide phoneme /j/ as an approximant consonant. Consequently, in the examples (53a) **iaky**-iakyby-ia 'Make porridge many times' and (54c) **iaa**-iaa-pa 'Took many times,' if the phoneme /j/ is not taken as a consonant, I would have a trimoraic RED. Therefore, to solve this problem I have decided to factor the complex onset into the mora calculation. However, as this is the only example that I have at this moment, I consider this aspect a remaining issue to be

studied. Thus, disregarding my previous syllable-weight analysis, I decided to analyze the reduplication phenomenon based on the number of moras.[9]

In analyzing Waimiri Atroari reduplication under this notion of moras, in the domain of base-reduplicant identity, the completeness of mapping is partial. The reduplicant is a prefixing process and it normally preserves the linear order of elements of the base, and the copied segments in the base and reduplicant are identical in features. Based on these assumptions, some correspondence constraints and well-formedness constraints were selected for explaining the reduplication phenomenon in Waimiri Atroari under the correspondence approach.

(55) Well-formedness constraints

(1) RED=Bimoraic – The reduplicant has to be bimoraic.

(2) ONSET/RED – Reduplicants must have an onset.

(3) Align RED L, Stem, L – The reduplicant has to be aligned with the left edge of the stem.

(56) Correspondence constraints

(a) Linearity – S1 is consistent with the precedence structure of S2 and vice-versa.

(b) DEP B-R – Every element in the reduplicant has a correspondent in the base.

(c) MAX B-R – Every element of the base has a correspondent in the reduplicant.

(d) IDENT B-R – Reduplicant correspondent of a base [αF] segment is also [αF].

As demonstrated in the analysis, a special property of this language is related to the emergence of the unmarked: 1) the onset is required for the reduplicant, but not for the language as a whole.

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[5] Originally, Keiichiro Suzuki and Tania Granadillo suggested explaining my data based on the notion of the foot; however, after reviewing my fieldwork notes and my first analysis, I decided to use moras.

2.6.2.1 Tableaux Section

In this section, I give some tableaux to illustrate the generalizations and constraints established above.

Tableau 8

Input:/RED+ia$_2$k$_3$y$_4$b$_5$y$_6$ $_B$ –ia Make porridge-asp 'Make porridge many times'	**RED=BI MORAIC**	**Linearity**	**IDENT B-R (F)**	**DEP B-R**	**MAX B-R**
a. **i$_1$a$_{2R}$**-i$_1$a$_2$k$_3$y$_4$b$_5$y$_6$ $_B$ -ia	*!				****
b. **i$_1$a$_2$k$_3$e$_4$ $_R$**-i$_1$a$_2$k$_3$y$_4$b$_5$y$_6$ $_B$ -ia			*!		**
c.**i$_1$a$_2$k$_3$b$_5$y$_4$ $_R$**-i$_1$a$_2$k$_3$y$_4$b$_5$y$_6$ $_B$ -ia	*!	*			*
d. **i$_1$a$_2$k$_3$k$_4$y$_5$ $_R$**-i$_1$a$_2$k$_3$y$_4$b$_5$y $_B$ -ia	*!		**	*	****
☺e. **i$_1$a$_2$k$_3$y$_4$ $_R$**-i$_1$a$_2$k$_3$y$_4$b$_5$y$_6$ $_B$ -ia					****

In tableau 8, the worst candidates are candidates (a), (c), and (d) because they violate the undominated constraint RED=Bimoraic in the Waimiri Atroari reduplication process. Candidate (c) is ruled out because it not only violates the undominated RED=Bimoraic constraint, it also violates the correspondence constraint Linearity. Although candidate (b) could possibly be a well-formed candidate because it does not violate the RED=Bimoraic constraint, it is worse than candidate (e) because it violates the constraint IDENT B-R (F). Therefore, the optimal candidate is candidate (e) because it only violates the constraint MAX B-R. Inasmuch as Waimiri Atroari has partial reduplication, the constraint MAX B-R will always be violated. As result, the ranking of constraints must follow the hierarchy given below:

(57) RED=Bimoraic>>Linearity, IDENT B-R, DEP B-R>>MAX B-R.

Tableau 9

Input: RED+myryka-ky mix-IMP 'Mix well many times'	**RED=BI MORAIC**	**IDENT B-R(F)**	**DEP B-R**	**MAX B-R**
a. **myrka**-myryka$_B$ –ky	*!			***
b. **myre**-myryka$_B$ –ky		*!		**
☺c.**myry**-myryka$_B$ –ky				**
d. **myryy**-myryka$_B$ –ky	*!		*!	*

In Tableau 9, as in Tableau 8, the optimal candidate must be the candidate that does not violate the RED=Bimoraic constraint; therefore, candidate (c) wins. Candidate (b) could be the winning candidate; however, it violates the IDENT B-R constraint and as observed in Tableau 8, the change of features between the reduplicant and the base is not allowed in the reduplication process. Candidate (a) is bad because it violates the undominated constraint. Candidate (d) not only violates RED=Bimoraic, it also violates the DEP B-R constraint. Consequently, the ranking of constraints is: RED=Bimoraic>>IDENT B-R, DEP B-R>>MAX B-R.

Tableau 10

Input: RED+iaa-pa Take-tense 'Take many times'	**RED=BI MORAIC**	**IDENT B-R(F)**	**DEP B-R**	**MAX B-R**
a. **iaan**-iaa$_B$ –pa	*!		*	
b. **iae**-iaa$_B$ –pa		*!		
*c.**iaa**-iaa$_B$ –pa				

In Tableau 10, the whole verb stem is copied; therefore, MAX B-R is not violated for any of the three candidates. Candidate (a) is the worst candidate because it violates not only the Bimoraic constraint, but also the DEP B-R constraint. Candidate (b) could

have been considered as an optimal candidate; however, it violates the IDENT B-R constraint. Therefore, the optimal candidate is candidate (c).

Tableau 11

Input:/RED-nu-wenta$_B$ –pa 3S-throw up-tense 'They threw up many times'	**RED=BI Moraic**	**Align, RED,L Stem,L**	**IDENT B-R(F)**	**DEP B-R**	**MAX B-R**
a. nu-**wenta'**-wenta$_B$ –pa	*!			*	
b. nu-**win**-wenta$_B$ –pa			*!		**
c. nu-**weny**-wenta$_B$ –pa				*	*
☺d. nu-**wen**-wenta$_B$ –pa					**
e. **wen**-nu-wenta$_B$ –pa		**!			**

In Tableau 11, candidate (a) is the worst candidate because it violates not only the well-formedness constraint RED=Bimoraic, but also the B-R constraint DEP B-R. Candidates (b) and (c) do not violate the undominated constraint, but they do violate two important B-R constraints, IDENT B-R, and DEP B-R. Candidate (e) does not violate the undominated constraint; however, it does violate the Align RED, L, Stem, L constraint. Therefore, the optimal candidate is candidate (d). The ranking is:

RED=Bimoraic>> Align RED,L, Stem,L >>IDENT B-R, DEP B-R>>MAX B-R.

Tableau 12

Input: RED+ny-tahkwa $_B$ -ky 3S-jump- 'Repeatedly, he jumped'	**RED=BI MORAIC**	**Align RED,L Stem,L**	**IDENT B-R(F)**	**DEP B-R**	**MAX B-R**
a. ny-**tahkwa**-tahkwa $_B$ -ky	*!				
☺b. ny-**tah**-tahkwa $_B$ –ky					***
c. ny-**tan**-tahkwa $_B$ –ky			*!		***
d. ny-**taah**-tahkwa $_B$ –ky	*!			*	**
e. **taah**-ny- tahkwa $_B$ –ky	*!	**		*	**

Although candidate (a) in Tableau 12 has fewer violations than candidates (c), (d), and (e), it cannot be an optimal candidate because it does violate the Bimoraic condition established for the RED structure. Candidate (c) does not violate Red=Bimoraic, but it does violate IDENT B-R (F). Candidates (d) and (e) are completely out because they not only violate the undominated constraint, they also violate the DEP B-R constraint. However, in this case candidate (e) is the worst candidate because it violates the alignment constraint, as well. Candidate (b) is the optimal candidate because it does not violate the RED=Bimoraic condition. As a result, the ranking established is: RED=Bimoraic>>Align RED, L, Stem, L>>IDENT B-R, DEP B-R>>MAX B-R.

Tableau 13

Input: RED+ny-kynky $_B$ -pia 3S-break-tense "repeatedly, it break"	**RED=BI MORAIC**	**Align RED,L Stem,L**	**IDENT B-R(F)**	**DEP B-R**	**MAX B-R**
a. ny-**kynky**-kynky $_B$ -pia	*!				
☺b. ny-**kyn**-kynky $_B$ -pia					**
c. ny-**ken**-kynky $_B$ -pia			*!		**
d. **kyn**-ny- kynky $_B$ -pia		**!			**

Although candidate (d) does not violate the bimoraic condition in Tableau 13, it cannot be the optimal candidate because it violates the alignment constraint in which the reduplicant has to be aligned with the left edge of the verb stem. Candidate (a) violates the undominated constraint and candidate (c) violates the IDENT B-R constraint. As a result, candidate (b) is the optimal candidate because it only violates MAX B-R.

Tableau 14

Input: RED+n-aryme $_B$-pa 3S-come back-tense 'They came back many times'	**RED/ ONS**	**RED= BIMO RAIC**	**Align, RED, L, Stem, L**	**IDENT B-R**	**DEP B-R**	**MAX B-R**
a. **ary**-naryme $_B$ -pa	*!		*			**
b. **na**-naryme $_B$ -pa		*!	*			****
c. **nyry'**-naryme $_B$ -pa		*!	*	*	*	*
☺d. **nary**-naryme $_B$ -pa			*			**

In Tableau 14, it was necessary to include other well-formedness constraints, in addition to the RED/ONSET constraint. Although the syllable structure in Waimiri Atroari allows syllables without onsets, the structure of the reduplicant must be

unmarked: it has to have an onset. As a result, when the verb stem starts with a vowel, the prefix is copied, as well. Consequently, candidate (a) is not an optimal candidate because it violates the well-formedness constraint (Kager, 1999) and the emergence of the unmarked form required for the RED. Therefore, candidate (d) is the optimal candidate. Candidate (b) could be an optimal candidate, but it violates RED=Bimoraic. Candidate (c) is the worst candidate because it violates three important constraints. In this tableau, the violation of the alignment constraint seems to be irrelevant inasmuch as the RED/ONSET constraint cannot be violated.

Tableau 15

Input: RED+w-oo $_B$ -se pref-climb-suff 'climb repeatedly'	**RED/ ONSET**	**RED= BIMO RAIC**	**Align RED,L Stem,L**	**IDENT B-R**	**MAX B-R**
a. **oo**-w-oo $_B$ –se	*!		*		
b. **woo'**-w-oo $_B$ - se		*!	*		
c. **oa**-w-oo $_B$ -se	*!		*	*	*
☺d. **woo**-w-oo$_B$ -se			*		**

In Tableau 14 as in Tableau 15, the RED/ONSET requirement has to be undominated; consequently candidates (a) and (c) are completely out of the competition because they do not obey the requirement. Candidate (b) cannot be the optimal candidate because it violates the RED=Bimoraic constraint. Although candidate (d) violates the alignment constraint, it is the optimal candidate because it does not violate the RED/ONSET and the RED=Bimoraic constraints.

In Waimiri Atroari, the number of moras seems to define the shape of the reduplicant. As a result, the reduplicant is prosodically determined: it must be bimoraic. The template is not just segmental (or skeletal as assumed by Marantz 1982, Mester 1988), but it is a prosodic entity as demonstrated in the Waimiri Atraori case. This analysis shows that the well-formedness constraints are above the Base-Reduplicant constraints, following this ranking: well-formedness contraints (RED/ONSET>> RED=Bimoraic>>Align RED, L, Stem, L)>>Base-Reduplicant constraints (IDENT B-R, DEP B-R>>MAX B-R). The superiority of the well-formedness constraints reinforces the analysis that Waimiri Atroari has a typical case of emergence of the unmarked structure when selecting the shape of the reduplicant; consequently, RED must have an onset.

According to the data collected thus far, reduplication examples with V and CVCVC verb stem have not yet been found. However, it can be predicted that in a verb with V stem shape, the reduplicant would copy the prefix to avoid the onset constraint and lengthen the vowel to satisfy the bimoraic condition (as explained for Tiriyó in section 2.5.2). For example, *n-y-sa,* 'he goes' would reduplicate as ***nyy-ny-sa,*** obeying the bimoraic condition. On the other hand, in the case of a CVCVC verb stem, the coda of the second syllable would be deleted to avoid violating the RED-bimoraic constraint. For example, *ny-synehky-pia,* 'he disappeared' would reduplicate as *ny-**syne**-synehky-pia.* In this case, one more violation would account for MAX B-R, without breaking the established ranking between the well-formedness and the base-reduplicant constraints.

CHAPTER 3 – MORPHOLOGY AND LEXICON

3 Morphology and Lexicon

Languages differ in their inventories of parts of speech. Determination of the parts of speech for a given language is based on a consideration of several factors, such as semantic, morphological, and syntactic criteria. According to Meira (2003), few studies of the Carib languages discuss and define criteria for word class (Hoff 1968 on Carib; Derbyshire 1985, 1979 on Hixikaryana; and Meira 1999 on Tiriyó).

Therefore, this chapter is organized as follows: Section 3.1 provides a discussion of the criteria that were used to define the parts of speech in Waimiri Atroari and to describe each lexical class. Section 3.2 analyzes case marking in this language.

3.1 Waimiri Atroari Parts of Speech

Waimiri Atroari has a complex and rich morphology typical of the Carib family. It presents both prefixes and suffixes. The prefixes mark person and the suffixes mark tense-aspect-mood, causativization, and a variety of meaning-changing derivations. On morphological and syntactic grounds, Waimiri Atroari stems can be divided into six lexical classes: (1) nouns including pronouns; (2) adjectives; (3) verbs; (4) adverbs; (5) postpositions; and (6) particles.

As already noted for other Carib languages, in Waimiri Atroari the nouns and the verbs are unproblematic and are easy to identify (see Table 3.1 below). However, the remaining classes, such as adjectives, adverbs, and postpositions, are much more difficult to characterize.

Table 3.1—Noun and Verb Characteristics

Nouns	Verbs
• Can take inflectional affixes marking person (possession); • Can take derivational affixes such as verbalizers and adverbalizers; • Occur as the head of a simple Noun Phrase; • Occur together with a transitive verb to form a VP; • Can occupy core argument position in a clause, such as A, S, O.	• Can take a large set of inflectional affixes, such as prefixes marking person (A, S, O), and suffixes marking tense, aspect, mood; • Can take a set of specific derivational affixes used to form nouns (*-typy*) and adverbs (*-esa, -pesa*);

3.1.1 Nouns

The classic definition of nouns argues that nouns are said to represent 'persons, places, and things;' that is, nouns give names to, or identify, objects. In Waimiri Atroari, the nouns take inflectional affixes to indicate possession. Nouns also take derivational affixes like the verbalizer *–ta,* the absentive *–my*, the devaluative *–eme,* and the valuative *–e'me* (this will be discussed below). The nouns in this language do not inflect for gender, number, or degree. In certain cases, gender differentiation is realized by means of different words for men and women, through male and female speech (principally on kinship terms).

Table 3.2—Lexical differences in men and women's speech

	Female speaking	**Male speaking**
'son'	biky	myryky
'niece' sister's daughter	imekyky	pasky

Nouns occupy core argument positions in a clause, such as A, S, and O. They occur as the head of a simple noun phrase. Together with transitive verbs, nouns form verb phrases (see discussion in chapter 4). The noun can be formed by one root or by two roots by means of a compounding process.

(1)

emyry	ba	kyse	dykry
penis	seed/egg	leg	joint
'testicles'		'knee'	

Table 3.3—Some examples of Waimiri Atroari nouns

wyty 'meat, food'	weri 'women'	wyie 'sun'	xiba 'fish'
sanja 'manioc flour'	wykyry 'men'	nenuwe 'moon'	kwata 'spider monkey'
woky 'banana'	bahinja 'child'	tarara 'thunder'	kyrywy 'snake'
syna 'water'	txamyry 'elder'	kaapy 'sky, heaven'	warara 'turtle'

3.1.1.1 Possession

In Waimiri Atroari, there is alienable possession and inalienable possession. Certain nouns, such as body parts and kinship terms, must have a possessor. There are some nouns which are never possessed and so never take person markers (See Table 3.4 below), such as nature elements (sun, moon, star). Interestingly, some nouns that could be possessed, for example, dog, bird, banana, or fish, are possessed with a generic expression for pet *ieky* and food *wyty*. For example, *aa-ieky* can mean 'my dog'. I also can say *aa-ieky naminja* 'my pet dog'. Possessor-possessed order is obligatory, and the possessed item, not the possessor, is morphologically marked. In Waimiri Atroari, a

relational morpheme *i-* occurs on the possessed item to link two contiguous elements and form a phrase. (See discussion in the section 3.1.1.1.2 - Relational morpheme).

Table 3.4—Possessive Markers

my	aa=
your	a= … -ty, a=
his/her,their	kyy-
our (1+2)	ky- … -ty
our (1+3)	a'-
Reflexive	ty- (3rd person)

Table 3.5—Possessor-possessed paradigms

samka 'hammock'	**mydy'house'**	**kaapa 'plantation garden'**
aa=samka 'my hammock'	aa=mydy 'my house'	aa=kaapa 'my garden'
a=samka-ty 'your hammock'	a=mydy-ty 'your house'	a=kaapa-ty 'your
kyy-samka 'his hammock'	kyy-mydy 'his/her house	kyy-kapa 'his garden'
ky-samka-ty 'our hammock	ky-mydy-ty 'our house'	ky-kaapa-ty 'our garden'
a'=samka 'our hammock'	a'=mydy 'our house	a'=kaapa 'our garden
ty-samka 'his own hammock'	ty-mydy 'his own house'	ty-kaapa 'his own garden'
pana 'ears'	**eba 'eyes'**	**nata 'noose'**
aa=pana 'my ear'	aa=i-eba 'my eyes'	aa=i-nata 'my noose'
a=pana-ty 'your ear'	a=i-eba-ty 'your eyes'	a=i-nata 'your noose'
kyy-pana 'his/her ear'	kyy-ieba 'his/her eyes'	kyy-nata 'his/her 'noose'
a'=pana 'our ears'	a'=i-eba 'our eyes'	a'=nata 'our noose'
ty-pana 'his own ear'		ty-nata 'his own noose'
biky 'son'	**mama 'mother'**	**iaska 'relatives'**
aa=biky 'my son'	aa=mama 'my mother'	aa=iaska 'my relatives'
a=biky 'your son'	a=mama 'your mother'	a=iaska 'your relatives'
kyy=biky 'her son'	kyy=mama'his, her mother	kyy=iaska 'his/her relatives'
a'=biky 'our son'	a'=mama 'our mother'	a'-=iaska 'our relatives'

Some examples sentences with possessive prefixes follow:

(2) aa-=eky ram ietypy-pa na.
1POS-pet 2PART sick-EMPH COP
'My pet is sick.'

(3) kyy=pyta ram abemyh-pa.
3POS-mouth 2PART swelling-EMPH
'His/her mouth is swelling.'

(4) aa-=awo txi-pia itxi taka wyty ipo-se.
1POS-father-in-law go-IM.P jungle AL meat look for-in order to
'My father-in-law went to look for meat in the jungle'

(5) aa=se 'my feet'
a-se-ty 'your feet'
kyy=se-ty 'his/her feet'
ky-se-ty 'our feet' (1+2)
a'=se-ty 'our feet' (1+3)

(6) mykyky ty-se kinj-e
3PRO 3REFLX-feet wash-T/A
'He is washing his own foot.'

(7) Dauna ram aa=se karyky-pia.
Dauna 2PART 1POS-feet step on-IM.P
'Dauna stepped on my foot.'

(8) Dauna kyy=se karyky-pia
Dauna 3POS-feet step on-IM.P
'Dauna stepped on his feet.'

(9) Kynetxiri ram tabe'e i-se pyky-piany pyruwa ke.
Kynetxiri 2PART capybara REL-feet shoot-REC.P arrow INSTR
'Kynetxiri shot an arrow at the capybara's foot.'

(10) Kaina ram txi-pia n-aram-piany ty-mydy taka.
Kaina 2PART go-IM.P 3S-come back-REC.P 3REFLX-house AL
'Kaina came back to her own house.'

3.1.1.1.2 Relational Morphemes

In Waimiri Atroari, a number of vowel-initial noun and verb stems take a 'linking prefix' *i-* when immediately preceded by their determiners (that is, the possessor, with nouns, and the object, with transitive verbs). Besides its occurrence with transitive verb stems, such as *akyna* 'to sweep' (11), this prefix generally occurs with obligatorily possessed nouns (body-part and kinship terms, etc.), such as *eba* 'eye' (12):

(11) bahinjan-itxi-pia mydy i-akyna-se
child 3-go-IM.P house REL-sweep-in.order.to
'The child went to sweep the house.'

(12) a. Ewepe i-eba
Ewepe REL-eye
'Ewepe's eye'

b. a=i-eba
2=REL-eye
'your eye'

On the other hand, consonant-initial stems, such as *pana* 'ear' and *xiky* 'to cut' (13), do not present any linking prefix under these circumstances:

(13) Kynetxiri ram Irie pana xiky-pia maia ke
Kynetxiri 2PART Irie ear cut-IM.P knife INSTR
'Kynetxiri cut Irie's ear with a knife.'

Similar morphological devices are also found in other Carib languages, such as Hixkaryana (14). Although Derbyshire (1985:200) describes the *i-* prefix of Hixkaryana as a 3rd person marker, his analysis is probably not totally accurate, since, as in Waimiri Atroari, the prefix *i-* can also co-occur with 2nd and 1st plural inclusive possessors: *o-y-owani* 'your chest', *amna y-owani* 'our (EXCL) chests.'

Hixkaryana (Derbyshire 1985:5, reinterpreted)

(14) a. *Haname y-awo-ru*
Haname REL-uncle-POS
'Haname's uncle'

b. *∅-awo-ru*
3-uncle-POS
'his/her uncle'

Following a well-established tradition in South American linguistics, I term *i-* a *relational prefix*. Although rarely described as such for Carib languages (where they have been traditionally analyzed as 3rd person markers), relational prefixes are very common in languages of the Tupí and Macro-Jê stocks, a fact that has been pointed out as evidence for the genetic relationship between Carib and those two language groupings (Rodrigues 1994).

Besides providing further evidence for the existence of relational prefixes in the Carib family, the consequences of such an analysis muddies the question of how to distinguish pronominal prefixes from clitics in Waimiri Atroari (and maybe other Carib languages as well). The hypothesis to be investigated in future work is that both noun and verb stems in Waimiri Atroari present only one slot for prefixation. This slot can be occupied either by a personal prefix or by the relational prefix *i-*. Since personal prefixes and the relational prefix cannot co-occur, the presence or absence of a relational prefix would provide a straightforward criterion to determine whether a given pronominal morpheme preceding a noun or a verb stem is a prefix or a clitic. This distinction would explain the differences in morphological behavior between the 1st person plural inclusive morpheme *k(y)-* (15a, 16a) and the 3rd person morpheme *kyy=* (15b, 16b), for example.

(15) a. *k-eba*
1+2-eye
'our eyes'

b. *kyy=i-eba*
3=REL-eye
'his/her eyes'

(16) a. *ky-pana*
1+2-ear
'our ears'

b. *kyy=pana*
3=ear
'his/her ear'

This analysis is also strongly corroborated by syntactic evidence. Apparently, only the elements here analyzed as clitics seem to have argument status when attached to a verb, while 'true' prefixes seem to be mere agreement markers.

3.1.1.2 Derivational Morphemes

The nouns also occur with 3 different classes of suffixes: the verbalizers *-ta*, a suffix that indicates absentive *-my*, and a group of suffixes that I called valuative *-e'me* and devaluative *-eme* suffixes.

(17) Verbalizer *–ta*

Nouns like *wena* 'vomit' and *myny* 'blood' appear suffixed with *-ta* form verbs; for example, *wen-ta* 'to vomit,' and *myn-ta* 'to bleed.'

wen-ta-pa	'I vomit'	wy-myn-ta-pa	'I bleed'
my-wen-ta-pa	'you vomit'	my-myn-ta-pa	'you bleed'

(18) Absentive *–my*

In Waimiri Atroari, some nouns can take a suffix that indicates absence, deprivation, and lack.

ety-my 'nameless/without name'
iee-my 'without teeth
iyhia-my 'without hair'
eba-my 'without eyes/blind'
kiawa-my 'without menstruation'
njydy-my 'without house'
iaska-my 'without relatives'
ameky-my 'without daughter'
myny-my 'without blood'
emy-my 'without penis'

(a) pyruwa ram nata-my.
arrow 2PART point-without
'The arrow is without an arrowhead.'

Interestingly, I tried to put this suffix in words like *xiwia* 'beautiful' to see if we could have *xiwia-my* 'without beauty' or *tykomia* 'cold' then *tykomia-my* 'without cold', and *etypa* 'sick', then *etypa-my* 'without sickness'. But they are not allowed. This could be because those words can take the suffix *-pa* 'emphatic' that only adjectives can take.

(19) Valuative *-e'me* and Devaluative *-eme*

In Waimiri Atroari, nouns (animate or inanimate), pronouns, and adjectives can take these two different morphemes. The devaluative *-eme* can indicate that a person or an animal is dead or sick, and that an object is no good anymore, old, or no longer usable. On the other hand, the valuative *-e'me,* when used for persons and animals, indicates that they are alive; when used with objects, it indicates that they are still good to use.

These morphemes can occur with subjects of intransitive and transitive verbs, example (22), and objects of transitive verbs (23). I haven't seen a situation in which both of them can occur in the same sentence. This may be because only one is necessary inasmuch as they are not required to disambiguate the sentence. Moreover, *-e'me* and *-eme* are not obligatory, and the valuative occurs less often than the devaluative.

(20) aa ram naminja ya k-**eme** iika h-ini-pia.
1pro 2PART dog AGT.PART 3PRO-DEV bite 1S-see-IM.P
'I saw the dog bite him.'

(21) wykyr-**eme** wu-piany ram tymere.
man-DEV kill-REC.P 2PARt jaguar
'The jaguar killed the man.'

(22) wykyr-**eme** ny-damem-pa.
man-DEV 3S-die-REM.P
'The man died.'

(23) Pana Mateus imeses-**eme** wu-piany wiwe ke.
yesterday Mateus bat-DEV kill-REC.P wood INSTR
'Yesterday Mateus killed the bat with the wood.'

(25) byby ram tykoxinja-p-**eme** njaminj-**eme**.
This 2PART dirty-EMPH-DEV dog-DEV
'This dirty dog.'

(26) aa ram mepr-**eme** i-webyry hy-kyty-pia.
1PRO 2RAM tapir-DEV REL-belly 1A-cut IM.P
'I cut the tapir's belly.'

(27) aa wo'nj-**e'me** h-aminjaky-piany a=wenpa-typa tre'me tyruwa kapry pyky.[10]
1PRO clay-VAL 1S-permit/let-REC.P 2O-learn-? PART pan make how
'I permitted you to dabble in the clay to learn how to make a ceramic pan.'

(28) aa-pap-**e'me** sehe.
1POS-father-VAL tall
'My father is tall.' (He is alive)

[10] In this sentence, the valuative morpheme is marked in the word for clay, to indicate that this is a good clay to make a ceramic pan.

(29) a'-itxiri ram tah-**e'me** na.
1+3POS-land 2part big-VAL COP
'Our land/territory is big.'

(30) apia iakaha tah-**e'me** n=e'
what drawing big-VAL COP-INT
'What is the big drawing?'

3.1.1.3 Pronouns

In this grammatical sketch, pronouns are treated as a subclass of nouns. The characteristics used to describe them are the existence of animacy and deictic distinction. In Waimiri Atroari, pronouns can occur in subject and object position, and like nouns, they can also take the valuative and devaluative morphemes. The Waimiri Atroari pronominal system includes demonstratives, interrogatives, and personal pronouns.

Waimiri Atroari has the typical Carib system for pronouns: first person (1), second person (2), first person dual inclusive (1+2), first person exclusive (1+3), and the third person pronouns, including the demonstratives (proximal, medial, and distal). The third-person pronouns in Waimiri Atroari are sensitive to aspects such as visibility and proximity. The terms proximal, medial, and distal are used to label the demonstrative categories representing the degree of proximity (closeness) to the reference point, which is often the speaker's location.

Table 3.6—Waimiri Atroari Pronominal System

1st I	awy, aa, kara~kra
2nd you	amyry~amyra,
1+2 we incl	kyky
1+3 we excl	a'a
3rd	
anaphoric (he, she, they, it)	mykyky, mykyka'a, ka, iry
proximal	(h)anji, kanji, anjinji, byby, by
medial	myry
distal	mo'o, mymo', myky

3.1.1.4 The Non-Third Person Pronouns

Personal pronouns identify people and things on the basis of their relationship to the discourse in which they are referred to, such as their conversational role. For example, the pronouns *awy, kara, aa* 'I' are used by anyone who takes the role of speaker in a discourse. Note that the first-person pronoun has three different forms. The form *kara* 'I', with its alternate *kra*, occurs when somebody is answering a question or emphasizing that he did the action, or that he wants something. It is the only pronoun that can occur in OSV order, separating the verb phrase (see discussion on word order in chapter 4). The forms *aa* and *awy* 'I' are used without any specific distinction (see below).

(31) kaapa i-akytx-iany **kra** aa=i-aska many.
Garden REL-cut-T/A 1PRO 1POS-REL-relatives and/too/with
'I was preparing the plantation garden with my relatives.'

(32) wyty ipo-se **kra** w-y-sa.
meat look for-in order to 1PRO 1S-go-T/A
'I am going to look for meat.'

(33) mepry pyny **kara** h-yn-iany.
Tapir meat 1PRO 1A-eat-T/A
'I was eating tapir meat.'

(34) araky **kra** wy-tyty-pia.
Today 1PRO 1S-come-IM.P
'I came today.'

(35) saken-pa **kara** w-ia.
Angry-EMPH 1PRO 1-COP
'I am angry.'

(36) wasypy-pa **kra** w-ia.
Hungry-Emph 1PRO 1-COP
'I am hungry.'

Note that examples (31) to (36) are answering a question.

(37) aminjaky **awy** w-y-sapa wiwe by-se.
Tomorrow 1PRO 1S-go-T/A wood cut-in order to
'Tomorrow I will go to cut wood.'

(38) **awy** wa' h-ipinj-e.
1PRO rope 1S-pull-T/A
'I am pulling the rope.'

(39) **awy** kyrywy h-ini-pia.
1PRO snake 1S-see-IM.P
'I saw the snake.'

(40) **awy** wy-tam-pia.
1PRO 1S-cry-IM.P
'I cried.'

Observe that the free independent pronouns *aa* '1 pro' and *a'a* '1+3 pro' are identical to the person prefixes for possessed nominals. The 1+3 possessive mark loses the vowel after the glottal (see Table 3.4 above).

(41) **aa** ram w-aram-piany aa=mydy taka.
1PRO 2PART 1S-come back-REC.P 1POS-house AL
'I came back to my house.'

(42) **aa** ram naminja x-ipotx-ia wiwi ke.
1PRO 2PART dog 1A-kill-T/A stick INSTR
'I killed the dog with the wooden stick.'

(43) **aa** xiba hy-myryk-e kyky-pesa.
1PRO fish 1A-fish-T/A night-at time
'I fish at nighttime.'

(44) **aa** w-y-sa kaapa taka awaxi kyty-se.
1PRO 1S-go-T/A garden AL sugar cane cut-in order to
'I am going to the plantation garden to cut sugar cane.'

As illustrated in Table 3.6 above, the other non-third-person pronouns do not have different forms from the first person singular. The pronoun *amyry (a)* 'you' is used to refer to anyone who is being spoken to in a discourse. First-person plural in Waimiri Atroari makes a distinction between inclusive and exclusive. First-person plural inclusive *kyky* includes the person addressed, meaning something like 'we—you and I'. The first person plural exclusive *a'a* excludes the person or persons addressed, meaning 'we, that is, I and others, but not you.' The examples below illustrate sentences with second-person, 1+2, and 1+3 pronouns.

(45) **amyra mykyka** m-ary-py-pia **mykyka** ini-se.
2PRO 3PRO 2A-order-CAUS-IM.P 3PRO see-in order to
'You ordered him to see him.'

(46) **amyry** m-om-pia syna kaka
2PRO 2S-dive-IM.P water LOC
'You dove into the water.'

(47) araky ram **kyky** h-y-sa xiba myryka-se
today 2PART 1+2PRO 1+2S-go-T/A fish fish-in order to
'Today we go fishing.'

(48) **kyky** hu-wa-pa.
1+2PRO 1+2S-dance-REM.P
'We danced.'

(49) **a'a** n-ikin-pia syna ke paxa taka.
1+3PRO 1+3S-wash-IM.P water INSTR bowl LOC
'We washed with water in the bowl.'

(50) **a'a** n-itxi-piany kaapa taka.
1+3PRO 1+3S-go-REC.P garden AL
'We went to the plantation garden.'

3.1.1.5 Third-Person Pronouns

In Waimiri Atroari, as for other languages in the Carib family, the third-person pronouns are sensitive to features such of proximity, visibility, and animacy. The anaphoric class has three kinds of third-person pronouns: *mykyky* 'he, she, it, they, who are close, proximal attending the conversation;' *mykyka'a, ka* 'he, she, it, they, who are not close, but whom we can see, distal;' and *iry* 'he, she, they, it, who are not close or observing the conversation, obviative.' In mythological histories, *iry* is clearly more utilized (see examples below).

(51) **mykyky** ty-se kinj-e
3PRO 3REFLX-foot wash-T/A
'He is washing his own foot.'

(52) **mykyky** topy i-mapysa
3PRO stone REL-throw-T/A
'He is throwing stones.'

(53) **mykyka'a** ram arema.
3PRO 2PART singer
'He is a singer' also translated as 'That *kinja* is a singer.'

(54) **mykyka'a** ram n-yma-pa.
3PRO 2PART 3S-fall-REM.P
'He fell.'

(55) **ka** ram aa=ini-pia.
3PRO 2PART 1O-see-IM.P
'He saw me.'

(56) **ka** ram ka ini-huwa na.
3PRO 2PART 3PRO see-NEG COP
'He does not see him.'

(57) **iry** n-itxi-pia mixi i-amek-se.
3PRO 3S-go-IM.P buriti fruit REL-take-in order to
'She went to take buriti fruit.'

(58) **iry** n-aryma-pa te'xy n-eeni-pa.
3PRO 3S-come back-REM.P DESID 3S-stay-REM.P
'He did not want to come back.'

Both *mykyky* and *ka* can occur in the subject and object position, but in my data *ka* seems to be preferred when occupying an object position. On the other hand, I did not find many examples with *iry* occurring in the object position.

The demonstrative or deictic forms are marked for proximity and animacy. In the proximal group, the *(h)anji, kanji, anjinji* forms mean 'this, these,' but in some situations, they can be translated as 'here.' In this group, only *byby, by* is used for animate objects. It means 'this,' but in some examples it means 'he/she' (see examples below).

(59) **anja** ram akyrypa i-akyda-typa.
This 2PART trash REL-clean-used to
'This is used to clean trash' also can be translated as 'This is a broom.'

(60) **anji** ram waiepa.
This 2PART jamaxi (kind of basketry utilized to carry wood and food)
'This is a jamaxi.'

(61) apia **hanji**?
What this
'What is this?'

(62) aa=samka ram **kanji**.
1POS=hammock 2PART this
'This is my hammock.'

(63) aa=iaska i-akaha **kanji**
1pos=relatives rel-pictures this
'This is a picture of my relatives.'

(64) pip-ky **anjinji** i-etaty
look for-IMP here/this REL-name
'Look here for the names!'

(65) **byby** ram aa=myryka.
This 2PART 1POS=son
'This is my son.'

(66) bypa i-eka **by** karyka-e' ?
whose REL-pet this chicken-INT
'Whose is this chicken?'

(67) **byby** maryba ka-tape.
3PRO song sing-REM.F
'He will sing.'

The medial form *myry* also means 'this,' but like the proximal forms *anji, kanji* it can only be used with inanimate objects.

(68) wyty ka **myry**.
meat EVID this
'This is meat.'

Examples (65), (66), and (67) illustrate examples with animate entities; therefore, the pronoun *byby/by* is selected. Unlike other Carib languages, which have an elaborate system to describe animacy, Waimiri Atroari seems to lack it.

In the distal group, the forms *mo'o* and *mymo'* mean 'that, those, there.' They are used with inanimate objects. The other distal form, *myky,* also means 'that,' but it only occurs in examples with animate objects.

(69) **mymo'** marehe ram abremyhsa.
that sieve 2PART round
'That sieve is round.'

(70) **mymo'** ram aa=samka.
that 2PART 1POS=hammock
'That is my hammock.'

(71) bypa kanuwa **mo-e'**?
whose canoe that-INT
'Whose is that canoe?'

(72) **myky** ram tabe'a.
that 2PART capybara
'That is a capybara.'

(73) **myky** ram mare'a.
that 2PART jacú (Sp. of bird)
'That is a jacú.'

An interesting aspect related to the form *mo'o* is that when translated as 'there,' it seems that in Waimiri Atroari there are two kinds of 'there.' The first is a 'there' that gives an idea of a permanent state or remaining there; in this context the morpheme *ipy* is utilized. The second 'there' has a temporary notion; in this case the form *mo'o* is used (see examples (76) and(77),

(74) ka **ipy** xiba naky karara syna ka naka.
EVID there fish COP karara water/river EVID COP
'There, in the Karara River, there are many fish.'

(75) Mawa kynynora kyty-pa iakypa n-yma-pa itxi iary
mythological entity Sp. of leaf cut-REM.P then 3S-fall-REM.P jungle tree

tyhnaka araky **ipy** na.
on today there COP
'Mawa cut the kynynora leaf, then he fell on the tree and (remained) there until today.'

(76) **mo'o** ka samka.
There EVID hammock
'There, it is the hammock.'

(77) a'a txi-piany **mo'o** ase mydy taka.
1+3PRO go-REC.P there new house AL
'We went there to the new village.'

3.1.2 Verbs

Verbs are words which signify actions, events, or temporary states in relation to beings and things in the world. They are the core, the binding element in most sentences in any language. Verbs can serve as head of verb phrase, predicates of clauses, and they code events in text. In this section, I discuss primarily the word-structure (morphology) of verbs. I discuss the various grammatical affixes (prefixes and suffixes) that can be attached to the verbal word.

The structure of the verb in Waimiri Atroari is basically prefix-stem-suffix. Of all lexical classes, the verb is the richest in morphological possibilities. It can take a large set of different grammatical markers indicating person, tense-aspect-mood, negation, and causativization, as well as a specific derivational suffix used to form nouns *-typy*.

Table 3.7—Structure of Waimiri Atroari verbs

Case marking			ROOT	Verbalizer Nominalizer	Causative Negation Imperative Desiderative	TAM	
Clitic		Prefix				tense aspect-mood suffixes	Interrogative clitic
see	aa= 1O		-ini- see		-py -CAU	-pia IM.P	
		h- 1A	-ini- see		-py -CAUS	-pia IM.P	
		m- 2A	-ini- see			-pi IM.P	-e' INT
vomit	aa= 1O		-wen- vomit	-ta VERBL	-py CAUS	-pia IM.P	
		hu- 1A	-wen- vomit	-ta VERBL	-py CAUS	-pia IM.P	

Table 3.8 below illustrates the morphological possibilities with some examples of the verbs 'vomit' and 'see.'

Table 3.8—Illustration of verbal morphology

Vomit	See
1. –wen-ta vomit-VERBL	1. -ini- see
2. hu-wen-ta-pa 1S-vomit-VERBL-REM.P 'I vomited'	2. h-ini-pia 1A-see-IM.P 'I saw'
3. wen-ta-ha vomit-VERBL-NEG 'not vomit'	3. ni-huwa see-NEG 'not see'
4. wen-ta-ky vomit-VERBL-IMP 'Vomit!'	4. ni-ky see-IMP 'Look!'
5. hu-wen-tah-py-pia 1A-vomit-VERBL-CAUS-IM.P 'I made him vomit.'	5. h-ini-py-pia 1A-see-CAUS-IM.P 'I made him see.'
6. aa=wen-tah-py-pia 1O-vomit-VERBL-CAUS-IM.P 'He made me vomit.'	6. aa=ini-py-pia 1O-see-CAUS-IM.P 'He made me see.'

Verb stems in this language can have different shapes, including V, VV, VC, VCV, CV, CVC, and CVCVCCV. Tense/aspect markers distinguish non-past, remote, recent, and imminent past, and future; and a modal suffix marks the manner of the action.

3.9 Illustration of Tense-Aspect Suffixes

Past	Non-Past	Future
REM.P -pa	-i -e, -sa	IMM.F -te ~ -txe
REC.P -piany	-pysa 'interative'	REM.F -tape ~ -txape
IM.P -pia	-sapa	
Non-specified -ky		

There are three subclasses of verbs in Waimiri Atroari: transitive, intransitive, and copular. The transitive verbs are traditionally defined as the group of verbs which subcategorize for a direct object. Transitive verb stems can take both A and O prefixes (see Table 3.10 below). The intransitive verbs are often referred to as the group of verbs which do not subcategorize for a direct object. Here, I use the term more narrowly, to mean verbs that have only a subject, not an object. Intransitive verbs can only take one set of person markers. Intransitive verbs change valence when taking causative suffixes; as a result, they become transitive verbs taking direct objects. Transitive verb stems make implicit reference to two participants, A and O, while intransitive verbs denote only one participant, S.

Table 3.10—Person-marking clitics and prefixes

	Subjects		**Objects**	**Possessives**
	Intransitive	**Transitive**		
1st sing.	w-/wy-/wu-	h-/hy-/hu-	aa=	aa=
2nd	m-/my-/mu-	m-/my-/mu-	a=,k-/ky-/ku-	a=
3rd	n-/ny-/nu-	n-/ny-/nu-		kyy=/ty=(reflx)
1+2 (incl.)	h-/hy-/hu-	h-/hy-/hu-	k-/ky-/ku	k-/ky-
1+3 (excl)	n-/ny-/nu-	n-/ny-/nu-	a'=	a'=

The forms w-, m-, n-, and h- occurs with verbal stems beginning with vowels. *wy-, my-, ny, hy-* are used with verbal stems beginning with consonants. The forms, *wu-, mu-, nu, and hu-* only appear with verbal stems beginning with bilabials.[11] Paradigms of transitive and intransitive verb forms with the prefixes marking person follow (more paradigms are provided in the appendix C).

[11] *wy-, my-, ny-*, and *hy-*__C
w-, m-, n-,and *h-*__V
*wu-,mu-, nu-, hu-*___bilabials

Table 3.11—Person-marking examples

Transitive		**Intransitive**	
hy-myryky-piany	'I fished'	**wy**-rymy-tape	'I will die'
my-myryky-piany	'you fished'	**my**-rymy-tape	'you will die'
ny-myryky-piany	'she/he fished'	**ny**-rymy-tape	'she/he will die'
hy-myryky-piany	'we fished'	**hy**-rymy-tape	'we wiil die'
ny-myryky-piany	'we fished'	**ny**-rymy-tape	'we will die'
h-ee-ia	'I drink'	**w**-yma-pa	'I fell'
m-ee-ia	'you drink'	**m**-yma-pa	'you fell'
n-ee-ia	'she/he drinks'	**n**-yma-pa	'she/he fell'
h-ee-ia	'we drink'	**h**-yma-pa	'we fell'
n-ee-a	'we drink'	**n**-yma-pa	'we fell'
h-ape'-pia	'I embraced'	**w**-ineh-tape	'I will dream'
m-ape'-pia	'you embraced'	**m**-ineh-tape	'you will dream'
n-ape'-pia	'she/he embraced'	**n**-ineh-tape	'she/he will dream'
h-ape'-pia	'we embraced'	**h**-ineh-tape	'we will dream'
n-ape'-pia	'we embraced'	**n**-ineh-tape	'we will die'

3.1.2.1 Tense/Aspect suffixes

The most important and indispensable elements attached to the verbal stem are the tense-aspect suffixes. They always appear finally in the verb construction. They serve to indicate a wide range of functions and meanings around the time value of the action/event/state described by the sentence.

In general, 'present time' is considered immediate, while an event long ago is considered remote. However, in Waimiri Atroari, it is possible to make events in the past seem more immediate or recent; therefore, in this language there are suffixes that indicate remote past *-pa*, recent past *–piany* (events that could be occurred in the same day,but also in the day before), immediate past *–pia* (an event that just happened), and a non-

specified past *-ky*. The suffix *-pa* is most commonly used in narratives and in stories about remote events in the past, things that are finished and done with.

Formally, the future means talking about an event/action/state that has not yet begun, but is said to begin sometime in the future. The Waimiri Atroari language divides the future into imminent *–te/-txe* and remote *–tape/-txape*. In this grammatical sketch, the suffixes *-e, -ia, -sa, -sapa, -pysa* (this last suffix indicates iterative) are classified as tense/aspect markers that denote a non-past notion. The difference among them is not clear. It requires futher research. Waimiri Atroari has other suffixes that denote aspects, but they will be not discussed in this grammatical sketch. Paradigms of intransitive and transitive verb forms with the tense/aspect markers follow.

(78) remote past *-pa*

wy-synehka-**pa**	m-ini-**pa**
1S-disappear-REM.P	2A-see-rem.p
'I disappeared.'	'You saw it.'

(79) recent past *-piany*

wy-synehky-**piany**	m-ini-**piany**
1S-disappear-REC.P	2A-see-REC.P
'I disappeared.'	'You saw it.'

(80) immediate past **-pia**

wy-synehky-pia	m-ini-**pia**
1S-disappear-IM.P	2A-see-IM.P
'I disappeared.'	'You saw it.'

(81) non-past *(-e, -ia, -sa)*

(a)	aa	ram	wy-mynt-**e**	apieme iaky	aa=wokyty-**pia**
	1PRO	2PART	1S-bleed-T/A	because	1O-cut-IM.P
	'I am bleeding because I cut myself.'				

(b) aa w-y-**sa** kaapa taka awaxi kyty-se
1PRO 1S-go-T/A garden AL sugar cane cut-in order to
'I am going to the garden plantation to cut sugar cane.'

(c) arawata ram ie'ry i-ee-**ia**
Sp. of monkey 2PART fruit REL-drink-T/A
'The guariba monkey is drinking the fruit.'

Apparently, there are no distinction among them, examples (a), (b), and (c) above shows that an action is happening.

(82) future (*-te~-txe/-tape~-txape*)

(a) aa ram wy-synehka-**tape**
1PRO 2PART 1S-disappear-REM.F
'I will disappear.'

(b) k-eme ram ny-ryma-**tape** txamyry-pesa
3PRO-DEV 2PART 3S-die-REM.F elder-in time
'He will die in old age.'

(c) aa h-eni-**te**
1pro 1A-see-IMM.F
'I will see it.'

3.1.2.2 Mood

Speech aspects in human languages may be used for many purposes, but the three main ones seem to be: to give information (declarative sentences), to ask for information (interrogative sentences), and to command action (imperative sentences). In this section, I discuss the imperative suffix and the negative suffix.

3.1.2.2.1 Imperatives

The purpose of the imperative sentence/clause form is for the speaker to get the hearer to act. This can be done in several ways, such as subtle and indirect, and direct. Here, I discuss just the direct form. There are three types of imperative suffixes in

Waimiri Atroari: *-ky, -hne, -kwapy*. The suffixes *-hne* and *-kwapy* have a more restricted distribution; they occur principally with the verbs speak, hear, and look. However, they are found with other verbs, as in (84) below.

(83) ni-**ky**
See-IMP
'Look!'

ni-**kwapy**
see-IMP
'Look!'

(84) wen-ta-**hne**
Vomit-VERBL-IMP
'vomit!'

(85) ka-**ky**
speak-IMP
'Speak!'

ka-**kwapy**
speak-IMP
'speak!'

ka-**hne**
speak-IMP
'Speak!'

(86) kyta-**ky**
yell-IMP
'Yell!'

(87) ee-**ky**
drink-IMP
'Drink!'

(88) kyrywy ni-**ky**
snake see-IMP
'Look at the snake!'

(89) suwa ram ky-pia matuwe ia ana kar-eme ika-**ky**
Suwa 2PART talk-IM.P Matuwe AGT.P Ana kar-DEV bite-IMP
'Suwa ordered Matuwe to bite Ana Kare'me.'

(90) taha iakaha ehry-**ky**
big drawing paint-IMP
'Paint the big drawing!'

In the negative imperative form, the form used to command people not to do something, which involves the negative suffix, the verb remains in its bare form, but now the imperative is marked by the particle *kwe'ky*.

(91) ni-huwa **kwe'ky**
see-NEG IMP
'Do not look!'

(92) wen-ta-ha **kwe'ky**
vomit-VERBL-NEG IMP
'Do not vomit!'

(93) kyta-ha **kwe'ky**
yell-NEG IMP
'Do not yell!'

3.1.2.2.2 The Negation Suffix

In Waimiri Atroari, two negation suffixes occur with the verb form: *-huwa*, and *-ha* (V-stem/_a). They are always positioned after the verb root.

(94) awy we-piany dauna se kaka-**ha**
1PRO 1COP-REC.P Dauna leg scratch-NEG
'I did not scratch Dauna's leg.'

(95) warypa kynka-**ha** kwe'ky
bow break-NEG IMP
'Don't break the bow!'

(96) aa ram karyka iny-**huwa** we'xi w-ia
1PRO 2PART chicken eat-NEG DESID 1-COP
'I do not want to eat chicken.'

(97) aa ram wy-tyrym-piany tymeri aa-iape-**huwa**
1PRO 2PART 1S-scape-REC.P jaguar 1O-take-NEG
'I escaped so the jaguar wouldn't get me.'

3.1.2.3 The Interrogative Clitic

As shown in table 3.7 in the template for verbs, the interrogative clitic is attached to the tense/aspect suffix slot. Therefore, I decided to discuss it in this section.

Questions are a request for information, when the speaker misses some information, and thinks that the hearer knows it. There are two general types of

information questions: (a) yes/no questions in which the speaker wants the hearer to say whether it is true (yes) or false (no); and (b) Wh- questions in which the speaker knows most of the information, but is missing one element—as a result, the speaker asks the hearer to identify that missing element, for example the subject, direct or indirect object, time, place, or reason.

3.1.2.3.1 Interrogative Forms

Interrogative forms are used when asking questions regarding who, what, whose, how, where. In Waimiri Atroari there are two forms *bypa* 'who, whose' and *apia* 'what'. The first form is used with animate entities and the second form is used with inanimate entities.

(98) **bypa** ha k=**e'**
who ? 3PRO-INT
'Who is he/she?'

(99) **bypa** ha b=e' Dauna=**e'**
who ? this-INT Dauna-INT
'Who is Dauna?'

(100) **bypa** ieka by naminj=**e'**
whose pet this dog-INT
'Whose is this dog?'

(101) **apia** ha iria ka typohinj=**e'**
what ? make 3PRO like/delicious-INT
'What does she like to make?'

(102) **apia** ha m-ipipix=**e'**
what ? 2A-look for-INT
'What are you looking for?'

(103) **Ira'** a=iakyna n=**e'**
how 2POS-brother COP-INT
'How is your brother?'

(104) **epe** ky marym-eme my-myryky-pia=**e'**
Where this piranha-DEV 2A-fish-IM.P-INT
'Where did you fish piranha?'

(105) **apie'me iake** saken-pa m-i=**e'**
why angry-EMPH 2-COP-INT
'Why are you angry?'

In Waimiri Atroari, even with a Wh- word occurring in the first position, we have the interrogative clitic *=e'* in the last word of the sentence. However, sometimes the interrogative clitic does not appear. In the examples below, I illustrate where the interrogative clitic occurs and what it attaches to.

Cases Where the Interrogative Clitic Does Not Appear

(106) m-ii-pia' kyry-heme
2A-kill-IMP cobra-DEV
'Did you kill the snake?'

(107) kyry-huwa tahsa iry
cobra-? big 3PRO
'Was the snake big?'

(108) wahpa a-iwapo-txany
much 2S-dance-T/A
'Did you dance a lot?'

(109) waha ka ipy marymah na
many ? there piranha COP
'Are there many piranha?'

The cases where the interrogative clitic sometimes does not appear seem to be related to questions of the Yes/No type. However, that optionality does not occur with Wh- questions.

Interrogative clitics attach to verbs

(110) Temeh-eme m-itxiky-pian=**e'**
Jaguar-DEV 2A-shoot-REC.P-INT
'Did you shoot the jaguar with an arrow?'

(111) Epe ka my-pyny-p=**e'**
where ? 2A-take-REM.P-INT
'Where did you take it?'

(112) Epe ky marym-eme my-myryky-pian=**e'**
where ? pirana-DEV 2A-fish-REC.P-INT
'Where did you fish pirana?'

(113) Apie'me iake' ipyna xiba myryka m-y-sa-p=**e'**
why there fish fish 2A-go-REM.P-INT
'Why did you go there to fish?'

(114) Ira kak=**e'**
what talk-INT
'What is he saying?'

(115) Apia iakypa myda taka m-aryma-tap=**e'**
when house AL 2S-come back-REM.F-INT
'When will you come back home?'

(116) Apiapy ka kwat-eme wu-pian=**e'**
where 3PRO monkey-DEV kill-REC.P-INT
'Where did he kill the black spider monkey?'

(117) Ira iake kyry-heme my-ry-pi=**e'**
what snake-DEV 2A-do-IM.P-INT
'What did you do with the snake?'

(118) Apia ha m-ipipix=**e'**
what ? 2A-look for-INT
'What are you looking for?'

(119) Epe iake my-taky-pi=**e'**
where 2A-lose-IM.P-INT
'Where did you lose it?'

(120) Apie'me iake k-eme i-myy-py ny-mynyt=**e'**
why 3PRO-DEV REL-hand-? 3S-bleed-INT
'Why is his hand bleeding?'

(121) M-yty-pi=**e'**
2S-understand-IM.P-INT
'Did you understand?'

To assure that this is a clitic, not just a verb suffix, I demonstrate that it can occurs with all the word classes in this language. In verbs, the last vowel of the suffix that marks tense/aspect is replaced by the interrogative clitic: for example, *-piany* (recent past) becomes *-pian=**e'***, *-pa* (remote past) becomes *-p=**e'***, *-pia* (immediate past) becomes *-pi=**e'***, and *-e* (t/a) becomes *=**e'*** (glottalized).

Interrogative clitic with nouns and pronouns

(122) Bypa ieka by karyka=**e'**
whose pet this chicken-INT
'Whose is this chicken?'

In the example (122) above, you can note that when the interrogative suffix is added to the word *karyka* 'chicken,' the last vowel of the word is not deleted.

(123) Bypa ieka by naminj=**e'**
whose pet this dog-INT
'Whose is this dog?'

(124) Apia iaky iake katy iky-piany naminja=**e'**
when pet ? bite-REC.P dog-INT
'When did the dog bite the child?'

On the other hand, examples (123) and (124) show the two possibilities. In (123), the last vowel of the word *naminja* 'dog' is deleted, but in (124), the interrogative suffix is attached to the word.

(125) Bypa ieka by waiama=**e'**
whose pet this tortoise-INT
'Whose is this tortoise?'

(126) Bypa ha be' Dauna=**e'**
who ? this Dauna-INT
'Who is Dauna?'

(127) Bypa ha b=**e'**
who ? this-INT
'Who is this?'

(128) Bypa ha k=**e'**
who ? 3PRO-INT
'Who is he?'

Interrogative clitic with adverbs

(129) Bypa ha itxa ta m-inipe-txane pana=**e'**
what ? jungle LOC 2A-ver-T/A yesterday-INT
'What did you see in the jungle yesterday?'

Interrogative clitic with adjectives

(130) Bypa mydy-hy tahs=**e'**
whose house-? big-INT
'Whose big house is this?'

(131) Apia wiwe bahinj=**e'**
what wood stick small-INT
'What is the small wood stick?'

Interrogative clitic with locatives

(132) Bypa ha mymo'o tahsa samka tyhn=**e'**
who ? that big hammock LOC-INT
'Who is in that big hammock?'

Interrogative clitic with the copula

(133) Epe ky wer-e'me n=**e'**
where ? woman-VAL cop-INT
'Where are the women?'

(134) Epe ky wykyre-he'me n=**e'**
where ? man-VAL COP-INT
'Where are the men?'

(135) Sakenpa m-ia
Angry 2-COP
'Are you angry?'

(136) Sakenpa m-i=**e'**
angry 2-COP-INT
'Are you angry?'

(137) Wasypa m-i=**e'**
hungry 2-COP-INT
'Are you hungry?'

(138) Wasypa m-ia
Hungry 2-COP
'Are you hungry?'

Examples (135) to (138) show the flexibility of the interrogative suffix with Yes/No questions. As you can see above in examples (110) to (121), the clitic occurs in the verb. However, it can occur in the last word of the sentence, such as nouns and pronouns (examples 122-128), adverbs (example 129), adjectives (130 and 131), locatives (example 132), and copulas (examples 133-138). Phonologically, sometimes the last vowel of the verb or noun is replaced by the clitic =**e'** (examples 110-121) and 124); on the other hand, note that sometimes there is no replacement of the last vowel. In that case, the clitic =**e'** is added at the end of word (examples 124-126) and 129. The second case does not occur with verbs.

Interrogative clitic with disjunctive sentences

(139) ny-kwatympotxa kyn=**e'** ny-proky-pia kyn
3S-run DISJ.PART-INT 3S-run down-IM.P DISJ.PART
'Did he run or "kick one's heels"?'

(140) maryba takypa kyn txi-pi=**e'** ny-proky-pia kyn
Party ? DISJ.PART go-IM.P-INT 3S-stay-IM.P DISJ.PART
'Did he go to the party or did he stay?'

(141) ny-damem-piany kyn=**e'** nyry kyn=**e'**
3S-die-REC.P DISJ.PART-INT alive DISJ.PART-INT
'Did he die or is he alive?'

Observe that in this kind of sentence, the interrogative clitic could occur in different situations. For example, in (139), it occurred in the first particle that marks disjunction, but in the example (140), it occurred in the verb; however in the last example (141), the interrogative clitic occurred not only in the first particle, but also it appeared in the last disjunctive particle. This shows that the interrogative clitic always appears as the last element of the sentence. Previously, I had considered the interrogative clitic to be a suffix. However, two factors, distribution (it can occur in different parts of speech) and location (specific place/rightmost word in the sentence) made me change the classification. Utilizing Anderson's view (1992), the interrogative clitic in Waimiri Atroari seems to behave as a 'special clitic', which is located with a phrase that constitutes its scope, and it may appear at least initially, finally, or post-finally. In the case of the Waimiri Atroari language, the interrogative clitic occurs in the final position. Anderson says that clitics appear to be somewhat freer than affixes. They are much less sensitive to the properties of words (Anderson 1992).

3.1.2.4 Causative Forms

In Waimiri Atroari, I observed two kinds of causative construction. For example, there is one in which causativization is morphologically marked with the suffix *-py*, generally with the 'made' reading, having the semantic meaning 'make somebody do something' or 'cause something without resistance.' The other kind has the 'let' reading, where the morpheme *-py* does not occur.

3.1.2.4.1 Construction with the 'made' reading

In this type of construction, Waimiri Atroari allows two possible structures: one structure in which the causative morpheme appears on the lexicalized made/cause verb, as observed in examples (142) to (145); and the other structure in which this lexicalized verb does not appear, as demonstrated in examples (146) to (156) below.

(142) Aa Kaina h-ary-**py**-pia kyrywu ini-se.
1PRO Kaina 1S-tell-CAUS-IM.P snake see-in order to
'I told/dictated to Kaina to see the snake.'

(143) Aa Mypyny h-ary-**py**- pia mepiri ini-se itxi tanyme
1PRO Mypyny1S-tell-CAUS-IM.P tapir see-in order to jungle AL
'I told/dictated to Mypyny to see the tapir that came from the jungle.'

(144) Paruwe aa-iry-**py**-pia woky yry-ky Marta inaka.
Paruwe 1O-tell-CAUS-IM.P banana give-IMP Marta DAT
'Paruwe told/dictated to me to give the banana to Marta.'

(145) Amyra mykyka m-ary-**py**-pia mykyka ini-se.
2PRO 3PRO 2S-told/dictated-IM.P 3PRO see-in order to
'You told him to see him.'

(146) Amyra ram ka mu-wen-tah-**py**-piya
2PRO 2PART 3PRO 2A-threw up-VERBL-CAUS-IM.P
'You made him throw up.'

(147) ka ram a-wen-tah-**py**-pia.
3PRO 2PART 2O-threw up-VERBL-CAUS-IM.P
'She/he made you throw up.'

(148) kyka ram ka hu-myny-tah-**py**-pia.
1+2PRO 2PART 3PRO 1+2A-bleed-VERBL-CAUS-IM.P
'We made him bleed.'

(149) Ka k-yeepitxah-**py**-pia.
3PRO 1+2O-laugh-CAUS-IM.P
'She/he made us laugh.'

(150) Ka ram a-irima-**py**-piany
3PRO 2PART 2O-rest-CAUS-REC.P
'He made you rest.'

(151) Ka ram aa=kytah-**py**-pia
3PRO 2PART 1O-shout-CAUS-IM.P
'He made me shout.'

(152) Ka ram aa=ima-**py**-pia syna kaka.
3PRO 2PART 1O-jump-CAUS-IM.P water LOC
'He made me jump in the water.'

(153) Kyka Joanico hy-ma-**py**-piya syna kaka.
1+2PRO Joanico 1+2A-jump-CAUS-IM.P water LOC
'We made Joanico jump in the water.'

(154) Aa ram ka hu-pakah-**py**-pa.
1PRO 2PART 3PRO 1S-wake up-CAUS-REM.P
'I made him wake up.'

(155) Aa ram Kaina ia kyrywu h-ini-**py**-pia.
1PRO 2PART Kaina AGT.PART snake 1A-see-CAUS-IM.P
'I made Kaina see the snake.'

(156) mykyky jacira n-ahpa-**py**-pia.
3PRO Jacira 3A-laugh-caus-IM.P
'He made Jacira laugh.'

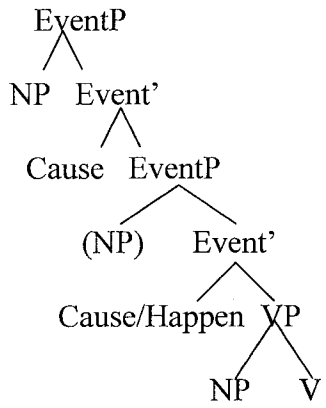
In the cases described above, we can note that when an intransitive verb, such as shout, rest, wake up, laugh, jump, throw up, and bleed, takes the causative, it changes its *valence*, behaving as a transitive verb with the following structure: V[Intr +Caus [A O]]. Moreover, it was shown in example (155) that optionally when we have a CAUSEE, it is followed by the agentivity particle *ya* (Meira 1999, Tavares 1995).

Interestingly, in (142) *Aa Kaina haripipiya[PRO kiriwu inise],* we can observe a kind of control structure: *Kaina* can control the subject PRO of the complement. As a

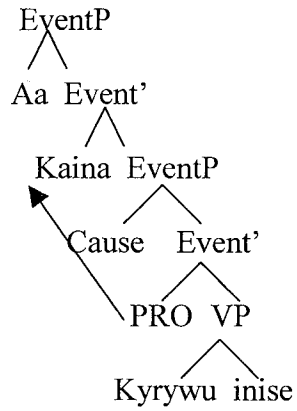
result, the old subject *Kaina* becomes an indirect object. However, as in Japanese, in Waimiri Atroari the causers (as initiators of the events) are generated in the SPEC of the event Phrase (Harley 1995). To illustrate this assumption, I decided to use the tree Event Phrase suggested by Harley (1995).

(157)

a)



b)



In this structure, *Aa* is the CAUSER, having the highest position in the tree, or being generated in the first Event Phrase; *Kaina* is the CAUSEE; the lexicalized cause/made verb was put in the second Event Phrase; and finally the VP *kiriwu inise* is what the causee has to do.

3.1.2.4.2 The Construction with the 'let' reading

One of the differences between the 'make' and 'let' causative is that in the 'let' causative construction people are not forced to do something; as a result, this does not imply an order and an accomplishment. Therefore, in these cases we can observe a particle *tre'me* that is used when we permit or order somebody to do something, but we do not know if the person will do it. Levin (2000) argues that "causative and accomplishment are independent notions." Consequently, in (158), it is not necessarily

true that the person will learn how to make a ceramic pan or if in (159), the person will leave to hunt.

(158) Aa wo'nj-e'me h-aminjaky-piany a-wenpa-typah tre'me tyruwa kapry pyky.
1PRO clay-VAL 1A-permit/let-REC.P 2O-learn-? PART pan make how
'I permitted you to/let you dabble in the clay to learn how to make a ceramic pan.'

(159) Aa ka m-injaky-piany wyty ipy-na tre'me.
1PRO ka 2O-permit/let-REC.P meat look for-? PART
'I permitted you to/let you leave to hunt.'

The other difference between the two types of constructions is that in the 'let' reading construction, we do not have the causative morpheme *-pi*. On the other hand, I cannot assume that the particle *tre'me* is particular to the 'let' reading causative because we can have it as in the example below:

(160) Aa k-aa-piany maryba taka a-iwapy-try pyky a-wenpa-typa tre'me.
1PRO 2O-take-REC.P party/song AL 2O-sing-? how 2O-learn-? PART
'I took you to the party for you to learn how to sing.'

In this sentence, as in the sentences in (158) and (159), it is not necessarily true that the person will learn to sing.

3.1.2.5 Miscellaneous Suffixes

3.1.2.5.1 Desiderative suffix

In Waimiri Atroari, constructions that denote desire are marked with the suffixes *-xy* ~ *-sy*, as in the examples below.

(161) aa ram wen-ta-**sy** w-ia
1PRO 2PART vomit-VERBL-DESID 1-COP
'I want to vomit.'

(162) syna iee-**sy** m-ia
water drink-DESID 2-COP
'Do you want to drink water?'

(163) syna iee-**sy** kra w-ia
water drink-DESID 1PRO 1-COP
'I want to drink water.'

(164) ka ram tymere wu-**sy** na
3PRO 2PART jaguar kill-DESID COP
'He wants to kill the jaguar.'

(165) k-e'me aa ia tymera wu-**sy** na
3PRO-VAL 1PRO AGT.PART jaguar kill-DESID COP
'He wants me to kill the jaguar.'

3.1.2.5.2 Instrumental nominalizer

In this language, there is a suffix *-typy* that can be attached to transitive or intransitive verb stems, resulting in a noun. This noun denotes an instrument used for the event described by the verb stem. For example:

(166) wykyry akyrypy i-akyny-**typy** i-wak-e
man trash REL-sweep-INSTR.N REL-hold-T/A
'The man is holding the broom.'

(167) awaxi daxkia-**typy** ram aa=i-akyny minja
sugar cane squeeze-INSTR.N 2PART 1POS-REL-brother thing/property
'The machine that squeezes sugar cane is my brother's.'

(168) k-ara mo pyky wenpa-**typy**
1+2POS-language sound how study-INST.N
'Phonology,' also translated as 'what is used to study sounds of our language.'

3.1.3 Adjectives

Adjectives are, most commonly, words that designate properties, qualities, or states that are relatively stable over time. In the Waimiri Atroari language, adjectives are free morphemes formed by only one root. They usually precede the noun. They are the only word class that can take the suffix *-pa* 'emphatic.'

(169) a) xiwia b) xiwia-pa (170) a) kwada b) kwada-pa

beautiful	beautiful-EMPH	ugly	ugly-EMPH
	'really beautiful'		'very ugly'

(171) aa=i-akyna ram tamkwa tyska iyhia.
1POS-REL-brother 2PART short straight hair
'My brother is short and has straight hair.'

(172) tapyryma iyhia.
black hair
'The hair is black.'

(173) ak-eme na tykoxinja-pa
pestle-DEV COP dirty-EMPH
'The pestle is dirty.'

(174) aa=papa ram sehsa tydapra
1POS-father 2PART tall fat
'My father is tall and fat.'

Adjectives in this language can occur in subject and object position, as arguments.

(175) sehsa ram temere wu-pia
tall 2PART jaguar kill-IM.P
'The tall killed the jaguar.'

(176) temera ram sehs-eme wu-pia
jaguar 2PART tall-DEV kill-IM.P
'The jaguar killed the tall .'

The lexical category 'adjective' in Waimiri Atroari is not as clear as it is in English or Portuguese. As is evident in the list below, in Waimiri Atroari some adjectives can behave as a noun or have a nominal meaning.

3.1.3.1 List of Adjectives

Abemyhpa	puffy
Aberymyhy~abemyhy	round
Anykyxi	thin
Ase	new
Awinihe~awinini, awinjehe, awenjahky	one, alone
Ba'xiri~be'xiri	small
Bahinja~baxinja	small, little, child

Bakyma	sour, salt
Byryryma	twisted
Djapyma	straight, correct
Etypa	hot
Inama	weak
Kareme, karany	good, beautiful
Kyby	short for animals and plants
Kybyma	bitter
Kykyryhpa	burned
Mady~madyma	cripple
Maiwu~maiy	fat, thick
Masara	lazy, apprentice
Mixopy	long, lengthy
Nerimy	brave, courageous
Nyryny	alive
Panapy	hardworking
Panaxi	headstrong
Pine	short
Pitymy	single
Sakra	white
Sakyna	angry
Saweny~sewuna	light
Sehe	tall
Ta'kwa	short for person
Taha	big, large, leader
Tamxa	soft, lazy
Tapany~typany~tipyna	hard
Tapyryma	black, dark
Temyna	dry
Texiba	sad
Teximy	bad, not good taste
Tirika	strong, potent
Trewine~trewuna	agile, fast
Tuwaka,	happy, content
Tuwera	ripe
Txamyry	old, elder
Txanpa	pregnant
Txika	sharp
Txipikia	ashamed
Txitymy	single
Tybyska	smooth
Tykomia	cold
Tykoxinja	dirty
Typyra	stink, bad smell

Waina	thin for person
Woxypia	heavy
Xiwia	good, beautiful, yellow, red

The following sentence examples illustrate the difference in meaning for the words that can be classified as adjectives and nouns:

(177) bahinja~[12]baxinja small, little, child

(a) Tuwadja wehma ram **bahinj-eme** Damixiri wehp-eme kapy-ma.
Tuwadja arrow 2PART small-DEV Damixiri arrow-DEV not alike
'Tuwadja's arrow is smaller than Damixiri's arrow.'

(b) Dauna **bahinja** xiba myryky-piany araky.
Dauna few fish fish-REC.P today
'Dauna caught few fish today.'

(c) **bahinja** n-itxi-pia mydy i-akyna-se.
children 3S-go-IM.P house rel-sweep-IN ORDER TO
'The children went to sweep the house.'

(178) taha big, large, leader

(a) Paryry kaapa ram **taha** Xeri Kaapa wata'.
Paryry field/garden 2PART big Xeri field/garden as...as/like
'Paryry's field is as big as Xeri's field.'

(b) pana a'a n-itxi-piany **taha** kanuwa ta warara bi pipe-se
Yesterday 1+3PRO 1+3S-go-REC.P big canoe LOC turtle egg look for-in
'Yesterday, we went in the big canoe to look for turtle eggs.'

(c) Wame Kwene **taha** n-idjaka-pa Pyraty wu-pa
Wame warrior leader 3A-kill-REM.P Pyraty kill-REM.P

Piawuna many Kiawuna many
Piawuna and Kiawuna and
'Wame, the warrior leader, killed Pyraty, Piawuna, and Kiwauna too.'

[12] This symbol '~' is indication of free variation; we can find both forms. It is not necessarily related to dialectal difference.

(179) awinini~awinihe~awinjehe — one, alone

(a) **awinihe** petxi ka-ky ampa ia.
one wild pig talk-PAST other to
'One petxi talked to the other.'

(b) **awinih-pa** ka kinja txi-pia itxi taka.
alone-EMPH EVID person go-IM.P jungle AL
'The *kinja* went to the jungle alone.'

(180) xiwia — good, beautiful, yellow, red

(a) myda ram **xiwia**.
house 2PART beautiful
'The house is beautiful.'

(b) kyrywy **xiwia** ram **mixopa**.
snake red 2PARt lengthy
'The long red snake.'

(181) txamyry — old, elder

(a) aa=mydy be'me asko ia ky amohbeh ram **txamyrym-pa**.
1POS-house DEV ubim leaves ? made of 2PART old-EMPH
'My house made of *ubim* leaves is old.'

(b) ky **txamyra** ram **ebam-pa.**
this elder 2PART blind-EMPH
'This elder is blind.'

Moreover, the words *bahinja* and *txamyry* can take the suffix *-pesa* ~ *-esa* that means 'in time.' Two examples are *bahinja-pesa* 'in time of child-childhood' and *txamyry-pesa* 'in time of elders, old age' (see examples 182 and 183 below). However, the words *taha*, *awinini*, and *xiwia* cannot take this suffix. Therefore, I cannot say **xiwia-pesa* 'in time of beauty' or **awini*-pesa 'in time of loneliness'.

(182) ianana myryky mepri soh-kwe-pa bahinj-esa
Ianana son tapir fur-remove-REM.P child-in time
'Ianana's son in childhood removed tapir's hair.'

(183) k-eme ram ny-ryma-tape txamyry-pesa
3PRO-DEV 2PART 3S-die-REM.F elder-in time
'He will die in old age.'

In addition, I would like to discuss the semantic features of other adjectives provided in the list, for example, the word *tamxa* 'soft, lazy'. Originally, this word only meant soft. However, it seems that because of non-native influence, this word has acquired a new meaning, 'lazy'. Today, the Waimiri Atroari use the word *tamxa* to indicate a person who is not hardworking and is lazy. Not only does it mean a quality of material, but it is now also a characteristic of a person. Finally, the other word in the list that has a very curious semantic feature is the word *xiwia*. This word can mean good, beautiful, yellow, or red (warm colors). Interestingly, the Waimiri Atroari people love anything yellow and red. Therefore, it makes sense that *xiwia* also means beautiful.

3.1.4 Adverbs

Traditionally, adverbs are defined as a class of words which modify verbs, adjectives, and clauses, typically expressing notions of time, location, manner, degree, and circumstances. Adverbs do not inflect for person or tense/aspect. They cannot be the possessor nor the possessed in possessive constructions. They cannot occupy subject or object positions. Another characteristic that makes adverbs different from other word classes is its mobility in the clause. Syntactically, adverbs function as adjuncts in any type of clause.

Waimiri Atroari has many words fitting into this category. For example, time adverbs are most commonly independent words referring to the time when the events/ actions occurred: *araky* 'today, now,' *pana* 'yesterday, long ago,' *aminjaky* 'tomorrow,'

kyky 'at night,' and *kokyny* 'early.' Location adverbs illustrate where the action/event takes place: *mie* 'far away,' *kypy* 'near, close,' *ipyna* 'there,' *iky* 'under.' A few adverbs, such *kokyny* 'early' and *waha* 'many,' can take the emphatic suffix *-pa* that occurs in adjectives. For example, it is possible to say *kokyny-pa* 'very early.' The following examples illustrate some sentences with adverbs.

(184) wera ram minja pitx-e **araky**
woman 2PART manioc peel-T/A now/today
'The women are peeling the manioc now.'

(185) aa w-y-sapa **mamyhkypa** arakypahky ipyna
1PRO 1S-go-T/A tomorrow again there
'I will go there tomorrow again.'

(186) danja n-aryn-e **waha** itxi ta
cicada 3S-talk-T/A many/a lot jungle LOC
'The cicada makes a lot of noise in the jungle.'

(187) a'a n-itxi-piany **mie** wyty i-po-se
1+3PRO 1+3S-go-REC.P far away meat REL-look for-in order to
'Far away, we went to hunt.'

(188) tahkome **wapy** n-oo-sapa kamakaxi taka xirikiki
elder many 3S-climb-T/A Sp.of tree AL parekeet

baka-paiky
kill-T/A
'Many elders climbed in the kamakaxi trees in order to kill the parakeets.'

(189) topy **iky** ta ikere'e i-akaha ehry-ky
stone under LOC alligator REL-drawing paint-IMP
'Paint the alligator that is under the stone!'

3.1.5 Postpositions

Traditionally, postpositions are claimed to occur after NPs to form postpositional phrases. They also appear as part of PPs as adjuncts in non-copular clauses. Unlike other languages of the family, such as Tiriyo, Macuxi, and Carib, in Waimiri Atroari, except

for the dative, the words classified as postpositions do not take person-marking prefixes. Therefore, in this grammatical sketch I call the postpositions that do not take the person-marking morphology of postpositional particles: Instrumental, Locative, Ablative, and Allative.

(190) Instrumental – This posposition is used to relate an instrument to an event.

(a) kynetxiri ram irie pana xiky-pia maia **ke**
Kynetxiri 2PART Irie ear cut-IM.P knife INSTR
'Kynetxiri cut Irie's ear with a knife.'

(b) pana mateus imeses-eme wu-piany wiwe **ke**
yesterday Mateus bat-DEV kill-REC.P wood INSTR
'Yesterday, Mateus killed a bat with a wooden stick.'

(c) impa warakypa i-apremy peri i-kysa-pa wiwe **ke**
then lucky REL-owner door REL-measure-REM.P wood INSTR
'Then the lucky person measured the size of the door of Ianana's house with a piece of wood.'

(d) a'a mepri wu-piany makuwa **ke**
1+3PRO tapir kill-REC.P rifle INSTR
'We killed the tapir with a rifle.'

(e) iakypa a'a n-ikin-pia syna **ke** paxa taka
after that 1+3PRO 1+3S-wash-IM.P water INSTR bowl AL
'After that we washed it with water and put it in the bowl.'

(191) Locatives – The main use of this postposition is to indicate where the action/event is taking place or to indicate the position (inside, on, above) of the event.

(a) itxa **ta** ram waha akenbehe na
jungle LOC 2PART many armadillo COP
'In the jungle, there are many armadillos.'

(b) wera ram kaapa **ta** na
women2PART garden LOC COP
'The women are in the garden.'

(c) bahinja akra' myryk-e myda **ka**
children acará fish fish-T/A small river LOC
'The children fish acará in the small river.'

(d) ka aa-ima-py-pia syna **kaka**
3PRO 1O-jump-CAUS-IM.P water LOC
'They were made to jump in the water.'

(e) impa a'a n-ike'ia-pa meie impa-ry axinjaty **tyhnaka**
then 1+3PRO 1+3A-toast-REM.P bread then-? stone gridle on
'Then we toasted the manioc flat bread on the stone gridle.'

(f) kyky-pesa a'a n-arma-pa samka **tyhnaka**
night-at time 1+3PRO 1+3S-come back-REM.P hammock on
'At night, we returned to the hammocks.'

Observe that all the locatives begin with the phonemes /k/ or /t/. The locative *ta* seems to be used only on surfaces or places that do not have water. On the other hand, the locatives *ka* and *kaka* in my data-base only occur with situations that involve water.

(192) Directionals – The directional postpositions indicate the motion toward their objects or indicate the goal. Here, I divided them into two types: the allative *taka* and the ablative *tany*.

(a) weri n-itxi-pia itxi **taka** ie'ry i-apykwa-se
woman 1+3S-go-IM.P jungle AL fruit REL-collect-in order to
'The womem went to the jungle to collect fruits.'

(b) impa ianana ny-bia-pa ty-mydy **taka**
then ianana 3S-come-REM.P 3REFLX-house AL
'Then Ianana came into his own house.'

(c) maryba **taka** kara w-itxi-pia
party AL 1PRO 1S-go-IM.P
'I went to the party.'

(d) apia iake xeri **tany** m-o-pi-e'?
when xeri ABL 2S-come-IM.P-IMP
'When did you come from the xeri village?'

(e) kyky ram h-irima-tape maryba **tany**
1+2PRO 2PART 1+2S-rest-REM.FUT party ABL

t-aryma-hkypa
3REFLX-come back-after that
'We will rest after we return from the party.'

(f) iawara mydy **tany** ka ky
iawara village ABL 3PRO ?
'He is from Iawara's village.'

Note that the directional postpositions also begin with /t/.

(193) Dative – This postposition is used to indicate the indirect object or the beneficiary. As mentioned at the beginning of this section, the dative postposition is the only one that takes the same affixes that mark case and possession in Waimiri Atroari (see more detailed discussion in section 3.2 Case marking).

(a) byba ram xiba i-ry-pia aa=**inaka**
3PRO 2PART fish REL-give-IM.P 1-DAT
'He gave fish to me.'

(b) byba xiba i-ry-pia a=**inaka**
3PRO fish REL-give-IM.P 2-DAT
'he gave fish to you.'

3.1.6 Particles

Particles in Waimiri Atroari can be identified by their lack of any morphological possibilities, either inflectional or derivational. Syntactically and semantically, in Waimiri Atroari the particles can be divided into various subclasses. For example, the second-position particle *ram* is defined by its position after the first syntactic constituent. Subordinate particles such as *impa* 'then,' *imka* 'when, if,'and the lexical negative particle constitutes by themselves utterance , for example, *ie*, *iahe* 'no,' *wan* 'no,' *kap,*

kapy 'neg,' *ie'xeme* 'all.' The agentivity particle that marks the most agentive person in the event is discussed below in the case marking section.

In this section, I illustrate examples of the evidential particle *ka*, the second-position particle *ram*, the negation particle *kap, kapy*, and the conjunction particle *many* 'and, too, with.'

3.1.6.1 The evidential *ka*

This particle is used to demonstrate and express that the participants of the event/actions have evidence for what they saying. They do not have any doubt about the statements. See examples below:

(194) kwata **ka** n-yty-e kw-e na
spider monkey EVID 3S-yell-T/A say-T/ACOP
'The spider monkey is yelling, I am saying.'

(195) iakere **ka** by
alligator EVID this
'This is an alligator.'

(196) a=imeka-ty **ka** bixuwe-me by-pia
2POS-daughter-pos EVID bowl-DEV break-IM.P
'Your daughter broke the bowl.'

(197) iry **ka** aa=kaka-ky
3PRO EVID 1O-scratch-PAST
'He scratched me.'

Like the *ram* particle, this particle only occurs after the first constituent of the utterance. These are characteristics observed by Hoff (1985) for evidentials in the Carib language.

3.1.6.2 The *ram* particle

In Waimiri Atroari, the particle *ram* can be utilized to identify constituents. Here, in this grammatical sketch, I will not discuss this function; rather, I will illustrate its occurrence. As you can see in the examples below, *ram* can appear after NP, VP, and PP structures.

(198) damixiri mydy **ram** xiwia
damixiri house 2PART beautiful
'Damixiri's house is beautiiful.'

(199) anjinji samka **ram** tahsa mixopa karana
this hammock 2PART big lengthy good
'This hammock is big, long, and good.'

(200) wykyr-eme wu-piany **ram** tymere
man-DEV kill-REC.P 2PART jaguar
'The jaguar killed the man.'

(201) itxa ta **ram** waha akenbehe na
jungle LOC 2PART many armadillo COP
'In the forest there are many armadillos.'

3.1.6.3 Negation particle

In this section, I discuss non-verbal negation. These are negation sentences that are not marked in the verb, but rather marked by particles. In Waimiri Atroari, *kap* ~ *kapy* ~ *kapa* and *wan* are the particles that indicate negation. These particles are usually used to negate existence.

(202) aiana ram wyty **kapa**
sp.bird 2PART meat/food NEG
'Anu-preto is not food.'

(203) wyty **wan** naminja
meat NEG dog
'Don't eat the food, dog!'

(204) iakypa ny-tyn-pa kinja many **kapy** te'xy n-eeni-pa
then 3S-go-REM.P people with NEG DESID 3S-stay-REM.P
'Then she went off, she did not want to stay with the people.'

(205) kaapa ta ram minja **wan** na
garden LOC 2PART manioc NEG COP
'There isn't manioc in the garden'

(206) kanuwa ta ram **wan** epikiri na
canoe LOC 2PART NEG oar COP
'In the canoe there is not an oar.'

3.1.6.4 The conjunction particle *many*

This particle is used to indicate inclusion, corresponding to English 'and' Portuguese 'too, also, and.' It also has a comitative meaning (with).

(207) pinapa tete tahkome pyna mepri ny-tyta-pa pakia **many**
close ? elder place tapir 3S-come-REM.P wild pig and
'The tapir and the wild pig came close to the elder's place.'

(208) aa=mama ram typohinji xiba myryky **many** tyruwa ka-sa
1POS-mother 2PART like fish fish too ceramic pan make-T/A
'My mother likes to fish and to make ceramic pans.'

(209) kaapa i-akytx-iany kra aa=i-aska **many**
garden rel-cut-t/a 1pro 1pos-relative with
'I was preparing the plantation garden with my relatives.'

(210) impa nysakome iaxinjaty-rypy i-kynk-epa mepry se-py
then eldery woman stone gridle-? REL-break-T/A tapir foot-?

tyruwa **many**
ceramic pan too
'The tapir's foot touched the stone griddle and broke, the ceramic pan too

3.2 Case Marking in Waimiri Atroari

This section describes and analyzes case marking in Waimiri Atroari. This analysis explores whether Waimiri Atroari has the typical inverse split-S system

demonstrated by Gildea (1998) for 19 languages in this linguistic family, or whether Waimiri Atroari presents a typical nominative/accusative system. Moreover, it discusses whether in this language the feature of ergativity occurs.

The organization of this section is as follows. Section 3.2.1 gives some background on the Waimiri Atroari case marking system. Section 3.2.2 provides a description of the data and a discussion of Gildea's classification (1998) about morphosyntactic properties of the verbal system from a group of languages in the Cariban family. Moreover, this section provides some examples of the ditransitive construction. In section 3.2.3, a discussion about the agentivity particle *ia* is provided in order to verify if it can be utilized as an ergative. Final remarks are developed in section 3.2.4.

3.2.1 Background

I am using Blake's definition of case (2000:12) in which case in its most central manifestation is a system of marking dependent nouns for the type of relationship that they bear to their head. However, it is not the only grammatical mechanism for marking head-modifier relation. One important type of alternative is the principle of marking the head rather than any dependent. As it is analyzed, this is the case of Waimiri Atroari. By this I mean that in this language, nouns do not get any affixes that can be identified as case marking (nominative/accusative or ergative/absolutive).

For Waimiri Atroari transitive verbs, both A and O marking prefixes occur (see Table 1 in Chapter 1). Their distribution is conditioned by a person hierarchy that ranks non-third persons (first person '1,' second person '2,' and first person dual '1+2') as higher than third persons (speaker/hearer>non-speaker/hearer). Basically, whenever a

participant (either A or O) is non-third person, it is marked on the verb with the corresponding A or O prefix. If both participants are third persons, it is possible to get an n-prefix or a zero-prefix (see discussion below). The higher person will be marked overtly on the verb (1, 2, 1+2, 1+3>3).

When first person, second person, and first person plural inclusive act on the third person, the subject prefixes will be chosen, agreeing with the first or second person.

1A3O Aa ram ka **h**-ini-pia.
1PRO 2PART 3PRO **1A**-see-IM.P
'I saw him.'

2A3O Amyra ram ka **m**-ini-pia.
2PRO 2PART 3PRO **2A**-see-IM.P
'You saw him.'

2A3O Amyra ram aa-papa ia tymere wo **m**-ini-pa.
2PRO 2PART 1POS-father AGT.PART jaguar kill **2A**-see-REM.P
'You saw my father kill the jaguar.'

However, when third person acts on first and second person, the object prefixes will be selected, still agreeing with the first and second person.

3A1O Ka ram **aa**=ini-piya.
3PRO 2PART **1O**-see-IM.P
'He saw me.'

3A2O Ka ram **a**-ini-piya.
3pro 2part **2O**-see-imd.past
'He saw you.'

3.2.2 Gildea's classification of morphosyntatic properties of the verbal system

According to Gildea (1998), the Cariban family presents seven different independent clause verbal systems, such as Set I (inverse/split–S), Full Set II (ergative),

Partial Set II (ergative), Progressive (nominative), De-ergative (nominative), t-V-ce (ergative), and t-V-ce-mi (nominative). He says that

> "the seven systems are identified by means of six distinct, but interrelated, morphosyntactic properties: forms and patterns of verbal personal prefixes and suffixes, verbal tense-aspect-modality (TAM) suffixes, nominal case-marking patterns, word order restrictions, existence and agreement patterns of auxiliaries, and forms and morphological placement of the collective number markers." (Gildea 1998:15).

Gildea claims that the nominative languages have retained the original system and that ergativity is an innovation, resulting from the reanalysis of old nominalizations as main verbs.

Taking Gildea's classification, Waimiri Atroari is classified in the 'Set I System (nominative or inverse/split-S)'. According to him this set shares some characteristics, such as personal prefix set and the collective number suffixes; word order is generally nominative, in that the OV unit is clear; there are no auxiliaries and A and O nominals are not case-marked. Gildea (1998:59) says that in all Set I systems for which we have evidence, the A may occur either preceding or following the OV unit. As with Carib of Surinam (Hoff 1978), in Waimiri Atroari (Bruno 2001) the more neutral order (in terms of both frequency and markedness) is preverbal: AOV. Moreover, personal prefixes in the Set I system identify the subject of an intransitive verb (S) and both the subject (A) and (O) of a transitive verb. In addition, this set has the inverse prefixes (all those in which 3A acts on SAP-Speech Act Participants '1,' '2,' and '1+2' O) that are identical to

the subset of the intransitive subject prefixes that he calls So; the direct prefixes (those in which SAP acts on 3O) are most similar to the Sa subset of the intransitive prefixes.

Although I agree with Gildea's classification in many aspects and I can see that Waimiri Atroari has some of the characteristics of the Set I system, I still have to verify more accurately whether Waimiri Atroari follows this inverse split–S pattern. Van Valin (1990), using the Role and Reference Grammar (RRG) framework, proposed a semantic analysis for the intransitive verb classes of Italian and Georgian, according to which 'activity' intransitive verbs belong to the Sa category while 'non-activity' ones are in the So category. Meira (1995) observed that the intransitive verb case marking in some Cariban languages seems to follow Van Valin's assumption, dividing the verb class into ones that denote activities versus those which do not denote activities.

Particularly, I need to look with more detail into this possibility for Waimiri Atroari. The data that I have do not clarify the distinction between intransitive verbs that take different first-person singular prefixes depending on semantic content (activity versus non-activity). As can be seen from the examples in table 3.12, the distinction between verbs denoting activities versus non-activities does not seem to work for Waimiri Atroari. For example, the first person in the paradigm with the verb 'shout' takes the prefix from the object set. Here, we have two problems: this is supposed to take an A prefix instead of an O set because it is classified in the Sa set; the other problem is related to the fact that we expected that the second person in this paradigm would take the prefix from the O set, as well. Therefore, before I claim that Waimiri Atroari has the same Inverse Split-S system demonstrated by Gildea (1998) for the Set I, I need to collect more

paradigms with intransitive verbs. On the other hand, according to Dixon (1979:83), there are languages of the Split-S-marking where the two intransitive subclasses do not have as good a semantic basis, such as Mandan and Guarani. This could be an explanation for the situation in Waimiri Atroari. In this language, the tense/aspect device seems to not influence the inverse system in the examples below.

Table 3.12—Activities versus non-activities

Activities - Sa	Non-activities - So
Go '-y-'	Bleed[13] '-myn-ta'
w-y-sa 'I go'	**wu**-myn-ta-pa 'I bled'
m-y-sa 'you go'	**mu**-myn-ta-pa 'you bled'
n-y-sa 'she/he goes'	**nu**-myn-ta-pa 'she/he bled'
h-y-sa 'we go (1+2)'	**hu**-myn-ta-pa 'we bled (1+2)'
n-y-sa 'we go (1+3)	**nu**-myn-ta-pa 'we bled (1+3)
Shout '-kyta-'	Know '-py-'
aa=kyta-ky 'I shouted'	**hy**-py-sa 'I know'
my-kyta-ky 'you shouted'	**my**-py-sa 'you know'
ny-kyta-ky 'she/he shouted'	**ny**-py-sa 'she/he knows'
hy-kyta-ky 'we shouted' (1+2)	**hy**-py-sa 'we know' (1+2)
ny-kyta-ky 'we shouted' (1+3)	**ny**-py-sa 'we know (1+3)
Jump '-tahkwa-'	Die '-rymy-'
wy-tahkwa-ky 'I jumped'	**wy**-rymy-tape 'I will die'
my-thakwa-ky 'you jumped.'	**my**-rymy-tape 'you will die'
ny-tahkwa-ky 'she/he jumped'	**ny**-rymy-tape 'she/he will die'
hy-tahkwa-ky 'we jumped (1+2)'	**hy**-rymy-tape 'we will die' (1+2)
ny-tahkwa-ky 'we jumped (1+3)	**ny**-rymy-tape 'we will die' (1+3)
Descend '-ooty-'	Dream '-inin-'
w-ooty-piany 'I descended'	**w**-ininy-pa 'I dreamed'
m-ooty-piany 'you descended'	**m**-ininy-pa 'you dreamed'
n-ooty-piany 'she/he descended'	**n**-ininy-pa 'she/he dreamed'
h-ooty-piany 'we descended'(1+2)	**h**-ininy-pa 'we dreamed' (1+2)
n-ooty-piany 'we descended'(1+3)	**n**-ininy-pa we dreamed' (1+3)

There are two sets of first person singular subject prefixes: *w-/wy-/wu-* and *h-/hy-/hu-*. The first set is used with strictly intransitive verbs such as *rymy* 'die', *y* 'go', *tahkwa*

[13] The word for blood is *myny*; in order to get the verb 'bleed,' we add the verbalizer *-ta*.

'jump', and *mynta* 'bleed'. The second set is used with transitive verbs with personal objects such as *ini* 'see' and *aape'* 'push', and transitive verbs with impersonal objects such as *py* 'know', *ee* 'drink', and *wenta* 'vomit'. (The Classification of certain verbs such as *mynta* 'bleed' (intransitive) and *wenta* 'vomit' (transitive) is not explained.) This distinction is not made for any other person and number combination.

In addition, at least one intransitive verb *kyta* 'shout' takes the first person singular object clitic prefix *aa=*, for which I also have no explanation.

The examples below illustrate more clearly the hierarchy discussed above and demonstrate how case is marked. It is observed that usually head-marking languages mark the subject's grammatical relation on the verb, but they can mark the object as well in some languages. This happens in Waimiri Atroari when the objects are first and second person.

Table 3.13—Verb -ini- 'see'

1A3O	Aa ram ka **h**-ini-pia. 1PRO 2PART 3PRO 1A-see-IM.P 'I saw him.'
2A3O	Amyra ram ka **m**-ini-pia. 2PRO 2PART 3PRO 2A-see-IM.P 'You saw him.'
3A3O	Mykyka ram ka **Ø**-ini-pia. 3PRO 2PART 3PRO Ø-see-IM.P 'She/he saw him/her.'
1+2A3O	Kyka ram ka **h**-ini-pia. 1+2PRO 2PART 3PRO 1+2A-see-IM.P 'We saw him.'
3A1O	Ka ram **aa**=ini-pia. 3PRO 2PART 1O-see-IM.P 'She/he saw me.'
3A2O	Ka ram **a**=ini-pia. 3PRO 2PART 2O-see-IM.P 'She/he saw you.'
3A1+3O	Ka ram **a'**=ini-pia. 3PRO 2PART 1+3O-see-IM.P 'She/he saw us.'
3A1+2O	Iry **k**-ini-pe-sy na. 3PRO 1+2O-see-?-DESID COP 'She/he wants to see us.'
1A2O	Aa ram **k**-ini-pia. 1pro 2part 2o-see-im.p 'I saw you.'
2A1O	Amyra ram **aa**=ini-pia 2PRO 2PART 1O-see-IM.P or Amyra **aa**=**k**-ini-pia 2PRO 1O-2A-see-IM.P 'You saw me.'

We can observe that the full pronouns of first, second, plural inclusive and exclusive do not occur when they behave as objects. Preferentially, the free speaker/hearer pronouns are subjects only. This demonstrates that the first-person plural inclusive and exclusive are also above the third person in the hierarchy.

When in Waimiri Atroari a third subject acts on a third object (3S3O), it is not totally clear whether the zero marks NOM or ACC; therefore, in the table of prefixes, I hesitated to put a zero there. Usually, it is observed cross-linguistically that if the case-marking paradigm includes a zero, it will normally be the NOM, but zero ACC is also attested. In addition, if A aligns with S, then it will have to be O that is marked. Waimiri Atroari seems to behave like that.

3.2.2.1 The Ditransitive Construction

According to Wunderlich and Lakamper (2001:378), morphological case appears in two variants: as structural or semantic case.

> Structural case (such as accusative, ergative, dative, genitive, and sometimes also partitive) reflects the ranking of arguments, while semantic case (such as, for example, instrumental, comitative, locative, directional) encodes a semantic relation between DP and the governing head. Structural case is typical of complements ...Structural case forms a closed system, with dative as the most highly marked case, accusative (genitive) and ergative as less marked.

They observed that is possible that semantic case and structural case compete with each other, principally "if the number of arguments to be realized exceeds the number of distinct structural cases. This happens with ditransitive verbs if the language has only one object case available, and with causativized ditransitives in general because no languages have three different structural object cases" (2001:379). As we can see in example (211), part of their assumption seems to be confirmed, but here what is marked is the ACC.

(211) Paruwe aa=iry-py-pia woky iry-ky Marta inaka.
Paruwe1O-tell-CAUS-IM.P banana give-IMP Marta DAT
'Paruwe told/dictated to me to give the banana to Marta.'

(212) amyra ram woky my-ry-pia Kaina inaka.
2PRO 2PART banana 2A-give-IM.P Kaina DAT
'You gave the banana to Kaina.'

(213) ka katyba i-aa-pa t-akyna inaka
3PRO calendar REL-take-REM.P 3REFLX-brother DAT

t-aska i-epa-se.
3REFLX-relatives REL-invite-in order to
'He took the ceremonial calendar to his brother to invite his relatives.'

On the other hand, example (211) is problematic because the two arguments of the verb 'tell' are not both NPs. It shows one NP and one clausal argument, and clause does not show case. Unfortunately, I could not find more examples of ditransitive verbs to see what happens in this case. Example (213) is interesting because as we are dealing with 3A and 3O, it seems that it does not get any marking.

In Waimiri Atroari ditransitive constructions, as demonstrated in Table 3.16 below, I confront a problem: that of assuming that the recipient must become the direct object as in Lummi (Jelinek 1983). When the indirect object is a first, second, or first plural exclusive, it is the dative that receives the prefixes instead of the verb. The verb in this situation is marked with the relational prefix. In Waimiri Atroari, the dative is the only postposition that gets the prefixes that mark person. This indicates a separate predicate status for the DAT marker.[14]

[14] Suggestion given by Dr. Dooley and Dr. Hill (2003).

Table 3.14—Verb -ry- 'give'

1A3O	Aa ram xiba **hy**-ry-pia ka inaka. 1PRO 2PART fish 1A-give-IM.P 3PRO DAT 'I gave fish to him/her.'
2A3O	Amyra ram xiba **my**-ry-pia mykyka inaka. 2PRO 2PART fish 2A-give-IM.P 3PRO DAT 'You gave fish for him.' or Amyra ram ka inaka xiba **my**-ry-pia. 2PRO 2PART 3PRO DAT fish 2S-give-IM.P *Observe that the dative can occur in the end of the sentence, but also in other environments.
3A3O	Mykyka xiba i-ry-pia mykyka inaka. 3PRO fish REL-give-IM.P 3PRO DAT 'She/he gave fish for him'
1+2A3O	Kyka ram ka inaka xiba **hy**-ry-pia. 1+2PRO 2PART 3PRO DAT fish 1+2A-give-IM.P 'We gave fish for him.' or Kyka xiba **hy**-ry-pia mykyka inaka. 1+2PRO fish 1+2A-give-IM.P 3PRO DAT
3A1O	Byba xiba i-ry-pia **aa**-inaka. 3PRO FISH REL-give-IM.P 1-DAT 'She/he gave fish to me.' or Ka ram **aa**-inaka xiba i-ry-pia. 3PRO 2PART 1-DAT fish REL-give-IM.P
3A2O	Ka ram **a**-inaka xiba i-ry-pia. 3PRO 2PART 2-DAT fish REL-give-IM.P 'She/he gave fish to you.' or Byba xiba i-ry-pia **a**-inaka. 3PRO fish REL-give-IM.P 2-DAT
3A1+3O	Ka ram **a'**-inaka xiba i-ry-pia. 3PRO 2PART 1+3-DAT fish REL-give-IM.P 'She/he gave fish for us.'
1A2O	Aa ram xiba **a**-inaka **hy**-ry-pia. 1PRO 2PART fish 2-DAT 1A-give-IM.P 'I gave fish for you.'
2A1O	Amyra ram **aa**-inaka xiba **my**-ry-pia. 2PRO 2PART 1-DAT fish 2A-give-IM.P 'You gave fish for me.'

Interestingly in Table 3.16, we can note that in the last two examples, 1A2O and 2A1O, the dative is marked with the object marker, but the verbs are marked with the subject marker. Although we have observed these new cases, we can see that the hierarchy still works. Moreover, the examples in Table 3.16 demonstrate that some nominal expressions such as *xiba* 'fish' and the person who receives the fish do not need to have a fixed order. The dative also does not have a fixed order; this made me rethink the idea that the dative could be a core argument. Other aspects observed are that Waimiri Atroari requires an external argument acting as subject; we cannot omit any of the subjects given in the examples above.

Jelinek (1984), in her article 'Empty categories, case, and configurationality,' explains that there is a distinction between pronominal clitics and nominal expressions where independent pronouns are included. According to her, nominal expressions can be considered adjuncts with non-argumental function, in this sense nominal expressions, as adjuncts do not need to have fixed order. I wonder whether this is true for Waimiri Atroari inasmuch as we can note in the examples that the subject has a fixed order and has an argumental function. This aspect will be considered as a remaining issue.

3.2.3 The Agentivity Particle

Interestingly, Waimiri Atroari has a particle *ia* that tells which argument is the participant that performs the action in the sentence. In the examples below, we can observe that this particle occurs in different kinds of sentences and it is not necessarily related to the causative construction. It can appear when it is necessary to identify the

CAUSEE as the agent of the structure (see example 217), but it is not obligatory. As we can observe, it also appears after nouns or pronouns.

(214) Ipaikypa naminja **ia** t-iika-hkypa wykyr-eme ny-tam-pia.
after dog AGT.PART REFLX-bite-after man-DEV 3S-cry-IM.P
'After the dog bit the man, he cried.'

(215) naminja **ia** aa=ika-hkypa kara wy-tam-pia.
dog AGT.PART 1O-bite-after 1PRO 1S-cry-IM.P
'When the dog bit me, I cried.'

(216) naminja **ia** a-ika-hkypa my-tam-pia.
dog AGT.PART 2O-bite-after 2S-cry-im.p
'When the dog bit you, you cried.'

(217) aa **ia** aa=ika-hkypa ka my-tam-pia.
1pro agt.part 1O-bite-after EVID 2S-cry-IM.P
'When I bit you, you cried.'

(218) k-eme **ia** aa=ika-hkypa ka k-eme ny-tam-pia.
3PRO-DEV AGT.PART 1O-bite-after EVID 3PRO-DEV 3S-cry-IM.P
'He cried when he bit me.'

(219) aa ram Kaina **ia** kyrywu h-ini-py-pia.
1PRO 2PART Kaina AGT.PART snake 1S-see-CAUS-IM.P
'I made Kaina see the snake.'

(220) ka ram aa-mama **ia** sanja iahkwa ini-piany.
3PRO 2PART 1POS-mother AGT.PART manioc flour make see-REC.P
'He saw my mother make manioc flour.'

(221) aa ram wyty pys-any itxi ta kyrywu huwa **ia** aa=iika-paiky.
1PRO 2PART meat look for-T/A jungle LOC snake ? AGT.PART 1O-bite-after
'I was hunting when the snake bit me.'

(222) k-e'me aa **ia** tymera wu-sy na
3PRO-VAL 1PRO AGT.PART jaguar kill-DESID COP
'He wants me to kill the jaguar.'

(223) daniel wyty bykwa-py-pia jacira **ia** roseli wytyme
Daniel food prepare-CAUS-IM.P Jacira AGT.PART Roseli food
'Daniel made Jacira prepare food for Roseli.'

According to Gildea (1998) and Meira (1999), in the Carib family there is a postposition *ya* (in the Proto-Carib wɨya) that marks different kinds of participants: directionals, datives, causees, ergative, and agent markers. Meira (1999:512) explains that the various kinds of participants that *ya* marks do seems to show some 'common semantic threads'—they are all human or sentient. In Tiriyó, the language described by Meira, we can see in example (226) below that the distinction is not always clear.

(224) pahko **ya** wit-te-e.
1:father DIR 1Sa-go:PRS.IPF-CTY
'I am going to my father's (house, village).'

(225) maja wi-ri-po ii-**ya**.
knife 1A-make-CAUS:PRS.PRF 3-Causee
'I had him make a knife.'

(226) pireu w-ekarama-po Asehpe **ya** Simetu **ya**.
arrow 1A-give-CAUS:PRS.PRF Asehpe CAUSEE/DAT? Simetu Causee/Dat?
'I made Asehpe give the arrow to Simetu' ~ 'I made Simetu give the arrow to Asehpe.'

Gildea (1998:121) claims that "the Cariban system of nominalization is ergatively organized, with the sole genitive relationship to the nominalized verb being claimed by the verb's notional absolutive argument (S and O), and the notional ergative argument (A) being therefore forced into oblique status." According to him, in the northern Full Set II dominant languages, such as Makuxi and Kapón, the goal/dative function of this morpheme has been lost, leaving only the ergative agent-marking function (see examples 227 and 228).

Makuxi-(227) [t-ekkari aretɨ'ka-sa'-tɨu-**ya**] yai aw-enna'po-'pɨ.
3.Refl-food finish-Nomlzr-3Refl-ERG at 3-return-TAM
'When he finished his food, he returned.' or
(lit. 'at the finishing of his food by himself he returned').

Kapon-(228)	[makonaiama	y-akwar-ri	ota-∅]	eyne-pu	∅-**ia**
	god	Rel-spirit-Psn	descend-Nmlzr	see-TAM	3-ERG

'He saw the spirit of God descending.'

As we can observe in the Waimiri Atroari examples (214-223) above, the morpheme *ia* does not mark datives and directionals. It clearly marks agents and causees. In two clauses with two different actors, *ia* appears after the actor who denotes more agentivity. Although I have an example of *ia* in a clause that seems to be nominalized, I would prefer to explore and get more data before claiming that in this situation *ia* marks ergativity.

(229) Amyra	ram	aa-papa	**ia**	tymere	w-o	m-ini-pa.	
2PRO	2PART	1POS-father	AGT.PART	jaguar	kill-NOMLZ	2S-see-REM.P	

'You saw my father kill the jaguar' or 'You saw the death of the jaguar by my father.'

Another interesting aspect of the particle *ia* that can be a topic for further research is related to the notion of agency. According to Mithun (1991:516), the prototypical agent is considered the "participant which performs, instigates, or controls the situation denoted by the predicate." In this sense, this assumption seems to demonstrate that agentiveness as performance/instigation and control/volitionality is not perfectly adequate for Waimiri Atroari.

The notion of semantic agency is a complex one, as explored in Foley & Van Valin (1984) and DeLancey (1985), among many others. Foley & Van Valin (1984:29) characterize their general category 'actor' as "the participant which performs, effects, instigates, or controls the situation denoted by the predicate," features shared by prototypical agents. They characterize their general category 'undergoer' as "the

participant which does not perform, initiate, or control any situation but rather is affected by it some way" (Foley & Van Valin 1984:29), features shared by prototypical patients.

In Waimiri Atroari, as demonstrated in examples (219) and (220) above, there is a participant who instigates and controls the action and another who performs the action. The participant who performs or does the action will be followed by the *ia* particle. Interestingly, the participants who will perform the action do not necessarily have volition or control over the situation.

3.2.4 Final Remarks

Ergativity is a system or pattern of casemarking which casemarks A as ERG and S/O as ABS (Blake 2001). Although ergativity is not a unified phenomenon, I prefer to do more research in order to claim that Waimiri Atroari shows any feature of ergativity. In Waimiri Atroari, S and O share no formal features, as we would expect if they were "absolutive" elements, so I do not treat them as the same. Moreover, even when this particle *ia* only occurs after A, I question if we can use it as an ergative marker. Moreover, it is necessary to collect more data in order to verify whether Waimiri Atroari follows the Inverse Split-S system observed by Gildea (1998). The selection of the prefixes in intransitive verbs do not seem to be conditioned by tense or aspect where the ergative is always found in either past tense or perfect tense (Dixon 1979:95). It also does not seem to follow the activity versus non-activity distinction.

In the Waimiri Atroari language, first, second, and first plural inclusive and exclusive person are ranked higher than third person. However, when second person acts on first or first acts on second, it was observed that in some cases we have subject

agreement, while other cases show object agreement. Therefore, subject and object marking must follow this hierarchy: 1=2,1+2/1+3>3. Although we have observed that full internal pronouns as object were not obligatory, this is not true for the external arguments. A remaining issue that needs to be studied in more detail is the behavior of the ditransitive verbs in order to better understand the role of the indirect object. Clearly, the dative does not function as a core argument.

CHAPTER 4- SYNTAX

4 Phrase Structure, Clauses, and Word Order in Waimiri Atroari

This chapter is organized as follows. Section 4.1 describes and analyzes phrase structure in Waimiri Atroari. Section 4.2 provides a discussion about Waimiri Atroari clausal order. Section 4.3 analyzes the topicalization construction in this language, and finally section 4.4 provides a brief analysis of two types of subordinated clauses.

In this grammatical sketch, I argue that Waimiri Atroari is a head-right (or head-final) language. However, there are cases in which the head is apparently allowed to have variable position (either left or right side). As I intend to show, all these examples seem to involve the presence of *adjuncts*—such as noun phrases containing adjectives, adverbial quantifiers, and numeral words. It has been observed that adjuncts are different from complements in that they have a higher degree of positional freedom so that this apparent 'mobility' of the head could alternatively be explained as a result of the positional fluctuation of the adjunct. Moreover, as already observed by Vieira (1995:701) in Asuriní (Tupi-Guarani family), in Waimiri Atroari quantifiers such as *all, many,* and *two* do not belong to the functional category of determiners. Therefore, the similarity in distribution of the head among the phrases containing adjectives, adverbial quantifiers, and numeral words leads me to define Waimiri Atroari as a head-right language.

As I have already mentioned, I claim that S(O)V is the basic word order, based on statistical frequency, pragmatic factors, and descriptive simplicity. However, different kinds of order are also attested, such as (O)VS, SVO, and (O)SV. Again, the occurrence

of word orders like SVO seems to constitute a counterexample to the claim that Waimiri Atroari is a head-right language. Although I will not be dealing with such examples in this paper, I suggest that a possible explanation could be related to the influence of Portuguese in the speech of the younger speakers. The OSV and OVS word orders will be analyzed as being the result, respectively, of the movement of the object and the whole VP to a topic position.

4.1 Phrase Structure in Waimiri Atroari

Here, I assume that phrases are built around an element whose head is instantiated by a major lexical class, such as N, V, or A. Second, I assume that there are at most two projections of each class, an intermediate projection X' and a maximal projection XP, and we can add adjuncts at any level. Since X-Bar Theory allows "Parameters"[15] (Travis, 1989:264) on the position of heads, complements, and adjuncts, I use it to explain the phrase structure in this language. According to Greenberg (1963), there is a general word order tendency in natural languages that tends to place modifier elements either before or after the head. On the other hand, it is observed that the position of heads and complements in different kinds of phrases seems not to be limited to the binary choice where all heads must be either left or right. In other words, there could be some 'mixed head languages,' for example Basque (Radford 1988:39).

In Waimiri Atroari, the head of the phrase occurs predominantly at the right edge of the constituent in noun, verb, and postposition phrases. However, in the case of noun

[15] According to Travis (1989:264), "[L]anguage variation is allowed through parameters which introduce a limited flexibility to the system. Parameters represent the range of variation that can be found in natural languages as well as what has to be learned by the children."

phrases containing a numeral, quantifier word, or adjective, this does not seem to always be the case. As will be demonstrated below, the fact that the head can be positioned either to the left or to the right in this kind of phrase is probably related to the fact that numerals, adverbial quantifiers, and adjectives are adjuncts, and, as such, can occupy variable positions.

4.1.1 Noun phrases

In Waimiri Atroari, the simplest case of noun phrases can have a single noun (1) or a pronoun (2). The clearest cases of NPs involving two nouns are examples of possessive phrases, which present the order possessor-possessed (3) to (8):

(1) mabaia 'a/the papaya(s)'

(2) amyry 'you'

(3) mydy **i-apremy**
house REL-owner
'the owner of the house'

(4) Ewepe **pyruwa**
Ewepe arrow
'Ewepe's arrow'

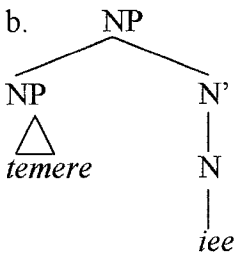
(5) maryba **i-apremy**
song/festivity REL-owner
'owner of the song or of the party'

(6) Iawara **mydy**
Iawara house/village
'the village of Iawara'

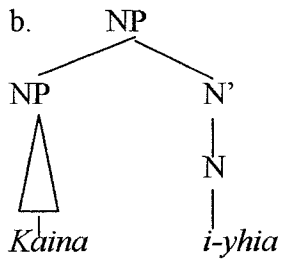
Moreover, the examples involving noun phrases seem to have examples of both adjunction and complements. In the trees in (7b) and (8b), the SPEC N is a possessor and the head is the N'. Unlike English, where the possessive clitic *'s* is attached to the possessor NP, in Waimiri Atroari it is the possessed noun that receives the morphological indication of the genitive relationship (head marking). Moreover, in cases such as example (6) above, the noun-noun construction can be ambiguously interpreted as a typical possessive phrase (i.e., 'the village that belongs to Iawara') or a 'naming' construction ('the village whose name is Iawara'). Moreover, possessives will be always

on the left because they will be either complement or specifier (Comp for inalienable and Spec for alienable).

(7) a. Temere **iee**
jaguar tooth
'The jaguar's tooth.'

b.


(8) a. Kaina **i-yhia**
Kaina REL-hair
'Kaina's hair.'

b.


4.1.1.1 Noun phrases containing adjectives[16]

As illustrated in the trees below, adjectives are adjuncts—or, in X-Bar terminology—sisters of an N' and daughters of an N'. Because adjuncts can be more flexible in their distribution, in a noun phrase containing adjectives, the adjectives can be

[16] Many Carib languages do not have 'adjective' as a syntactic class (part of speech). Words corresponding semantically to adjectives are classified as nouns. As discussed in Chapter 3, I claim that Waimiri Atroari *does* have adjectives. Syntactically, adjectives can, like nouns, occur in subject or object position. However, unlike nouns, adjectives cannot take the suffix *-mi* that indicates 'absence' (e.g. *ety-my* 'nameless'). Furthermore, only adjectives can take the emphatic suffix *–pa* (e.g. *tamkwa-pa* 'very short'). On the other hand, it is not clear whether one can use the second-position particle *ram* as a boundary constituent in phrases of the type <Adj N>. I have to do more tests because it is not always the case that the Waimiri Atroari consultants allow this kind of construction:

a. ***kyrywy** **xiwia** *ram* **mixopa***
snake red 2PART long
'The long red snake.'

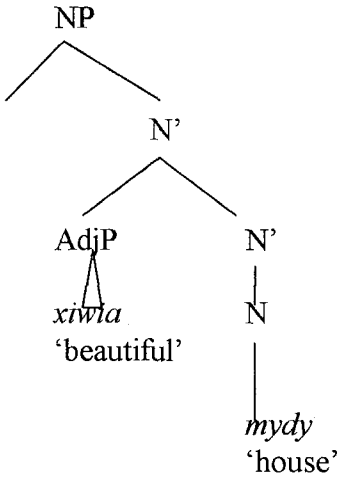
b. *wykyry* ***sehe*** *ram* *waryna* *wu-se* *txi-pia* *ipaikypa* *weri* ***tamkwa***
man tall 2PART paca kill-in.order.to go-IM.P after woman short

kymy *i-eky* *i-akymy-se.*
bacaba REL-juice REL-make-in.order.to
'The tall man went to kill *paca* (a kind of rodent) and the short woman went to prepare *bacaba* fruit juice.'

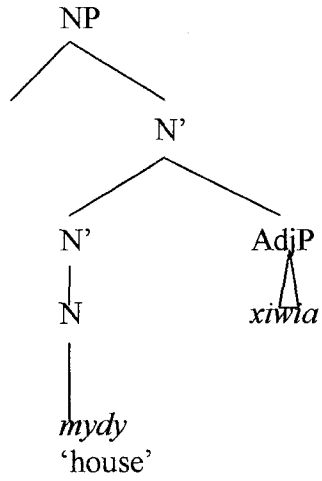
either to the left or to the right of the head noun. At this moment, I cannot determine whether this variation is purely stylistic or whether it entails any semantic difference.

(9) a. xiwia mydy b. mydy xiwia 'beautiful house'
beautiful house house beautiful

c.



d.



(10) a. **taha** kyrywy b. kyrywy **taha**
big/large snake snake big/large
'big snake' 'big snake'

(11) pana a'a n-itxi-piany [**taha**_kanuwa] ta
yesterday 1+3pro 1+3S-go-REC.P big canoe LOC

warara bi pipe-se
turtle eggs look.for-in.order.to
'Yesterday, we went in the big canoe to look for turtle eggs.'

(12) [wykyry **sehe**] txi-pia waryna wu-se
man tall go-IM.P paca kill-in order to
'The tall man went to kill a *paca* (a kind of rodent).'

4.1.1.2 Noun phrases containing quantifier words

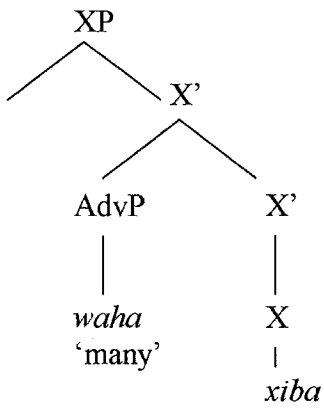
As with noun phrases containing adjectives, noun phrases containing quantifiers also present a certain degree of positional variation. As shown in examples (13) to (17) below, adverbial quantifiers can occur either to the left or to the right of the head noun.

As the syntactic trees in (13c) and (13d) demonstrate, I consider such quantifiers as adjuncts, which would explain their relative mobility.

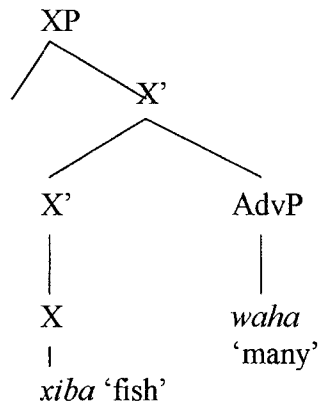
(13) a. **waha** xiba
many fish
'many fish'

b. xiba **waha**
fish many
'many fish'

c.



d.



(14) a. **wapy** kinja wyty ipo-piany
many people meat look.for-REC.P
'Many people hunted.'

b. kinja **wapy** wyty ipo-piany
people many meat look.for-REC.P
'Many people hunted.'

(15) tahkome **wapy** n-oosa-pa kamakaxi taka
elders many 3-climb-REM.P tree (sp.) AL

xirikiki baka-paiky
parakeet kill-T/A
'Many elders climbed trees to kill parakeets.'

(16) kinja wyty ipo-piany **wapy**.
people meat look.for-REC.P many
'People hunted a lot.'

(17) njawa nyn-pa **waha** kipety tarara many
rain come-REM many wind thunderstorm too
"It rained a lot, with wind and thunderstorm as well."

Although examples (18), (19), and (20) are not examples of adverbial quantifiers, I provide them to show that other kinds of adverbs behave in the same way, presenting the same mobility.

(18) **mamyhkypa** a'a n-y-sapa kwata wu-se
tomorrow 1+3pro 1+3S-go-T/A spider.monkey kill-in.order.to
"Tomorrow we will go to kill a spider monkey."

(19) a'a n-y-sapa kwata wu-se **mamyhkypa**
1+3pro 1+3S-go-T/A spider monkey kill-in.order.to tomorrow
"We will go to kill a spider monkey tomorrow."

(20) a'a n-y-sapa **mamyhkypa** kwata wu-se
1+3pro 1+3S-go-T/A tomorrow spider.monkey kill-in.order.to
"We will go tomorrow to kill a spider monkey."

Interestingly, the position of an adverbial quantifier such as *waha* 'many, a lot' and *wapi* 'many, a lot' seems to be free when they modify a noun phrase (examples 13-15). However, these adverbial quantifiers seem to occur preferentially in post-verbal position when modifying a verb phrase (examples 16 and 17). Waimiri Atroari lacks determiners that correspond to *each*, *every*, *most*, and *some*, a fact that suggests the absence of a class of D-quantifiers[17] in this language. As mentioned in the introduction, in Waimiri Atroari quantifiers such as *all*, *many*, and *two* do not belong to the functional category of determiner; therefore, I prefer to think of them as adverbs.

[17]. According to Bach *et al* (1995), D-quantifier is associated with determiner-like elements where the scope is restricted to NPs in specific positions.

4.1.1.3 Noun phrases containing numerals

The native lexicon of Waimiri Atroari has only three numeral words,[18] whose meaning is not generally restricted to mathematical quantities. The expression *awini ~ awinini ~awinihe ~awynihe*' means 'alone' and also 'one;' the term *typytyna* means 'a couple,' 'a pair,' or 'two;' the word for 'three' is *takynynapa*. Thus, traditionally the *kinja* counted only up to three; amounts higher than three were referred to simply as 'several, many'. Today, with the modern necessity for handling money and the introduction of western mathematical concepts through the village schools, the *kinja* started using Portuguese loanwords to refer to numbers higher than three. These borrowed numerals occur in the same position as the native words meaning 'one,' 'two,' or 'three.' Less commonly, Portuguese numerals for 'one,' 'two,' or 'three' may also be used instead of the native words, especially by the younger speakers (25). As shown in the examples below, numeral words can occur before a noun (21-23, 26), after a noun (24, 26), or by itself, after a verb (25).

(21) **typytyna** karyka
two chicken
'two chickens'

(22) **awynihe** petxi Kwawura i-aryka-pa ty-kyda tohnaka
one pig Kwawura REL-put-REM 3REFL-back over
'One wild pig put Kwawura on his own back.'

(23) **takynyny** pahky kaminja n-apynaka.
three only non-native 3-escape
'Only *the* three white men escaped.'[19]

[18].I am using the term 'numeral words' instead of 'numerals' because I have no evidence for the existence of numerals as an independent part-of-speech in this language.

[19] This sentence was taken from a text narrating a fight between the *kinja* and the non-natives. The three non-Indian characters mentioned in this sentence have already been introduced in an earlier passage of the

(24) weri samka ka-pia **takynynapa**
woman hammock make-IM three
'The woman made three hammocks.'

(25) amy kinja **dezessete** apytyhy
other people seventeen behind

amy kinja **dezessete** nate'me
other people seventeen behind
'Seventeen people were in front, and seventeen were behind.'

(26) **dois** kinja xiba myry-myry-pia **quatro** pahky.
two people fish REDUP[20]-fish-IM four only
'Two people caught only four fish.'

It is not totally clear what motivates this variation in the position of the numeral words. However, from the examples shown above, it seems that the variation may be related to issues of specificity and definiteness. That is, if the speaker thinks the listener already knows and can identify the particular referent which will be talked about, the speaker will codify such referents as definite and specific. According to Diesing (1992) and Diesing & Jelinek (1995), there is a mapping between argument structure and information structure. By information structure, Diesing (1992:58) refers to "the organization of the clause with respect to presuppositional (familiar) *vs.* information new to the discourse." The Waimiri Atroari language clearly follows this mapping when topicalizing some arguments of the clause and also seems to make an association between definiteness and old information versus indefiniteness and new information through the relative position of the numeral word in a noun phrase. When in specific and definite

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text. Therefore, the noun phrase *takinini pahki kamiɲa* 'only [the] three White men' is clearly definite in this context, as shown by the English translation provided above.

[20] This is an example of reduplication in Waimiri Atroari. Reduplication in this language is bimoraic, occurring with verb stems to indicate repetition or continuation; See section 2.5.4 and 2.6.2.

contexts, the numeral word seems to prefer the left side of the noun (21-23, 26). However, in unspecific contexts, the numeral word is positioned either post-verbally (25) or at the right side of the noun (24, 26). In this sense, the numeral words in (24) and (26) behave like the adverbial quantifier in example (15), inasmuch as the speaker is not talking about a specific group of people or hammocks. It is true that examples (21) and (25) are potentially problematic for my assumptions, since it is not clear if the consultant is talking about two specific chickens or a specific group of seventeen *kinja*. Therefore, this is a hypothesis to be further investigated.

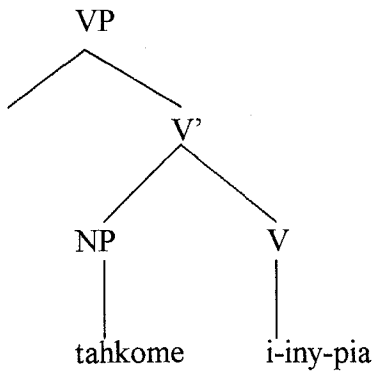
4.1.2 Verb phrases

In Waimiri Atroari, a VP can be constituted by a verb alone (28) or a verb preceded by a NP (27). The VP can move to before the subject NP through topicalization (27) and cannot have its components separated, except in the OSV context when the object moves alone to a topic position (as will be discussed below in example 30). In Waimiri Atroari there is a second-position particle,[21] *ram*, which can be used as a criterion to test the constituency of a given phrase (See section 3.1.6.2). The particle *ram* can never intervene between two elements of the same phrase (27c). Furthermore, since *ram* is a second-position particle, it can be useful in determining which elements in a given sentence were moved, as in example (27a) below.

(27) a. tahkome i-**iny-pia** ram Irikwa
elders REL-eat-IM 2PART Irikwa
'Irikwa (a mythological entity) ate the elders.'

[21] According to the syntactic framework I am adopting here, based on Halpern & Zwicky (1996), the first element is the first immediate constituent of the clause, such as a complement or argument of the verb, an adverbial modifier, or other clausal constituent.

b.



c. **[tahkome ram i-iny-pyia] Irikwa.*
elders 2PART REL-eat-IM Irikwa
'Irikwa (a mythological entity) ate the elders.'

(28) ka-ky*!*
speak-IMP
'Speak!'

(29) bahinja maia **kynke**
children knife break-T/A
'The children are breaking the knife.'

(30) woky i-eky kra **h-ee-ia**
banana REL-juice 1PRO 1-drink-T/A
'I drink the banana juice.'

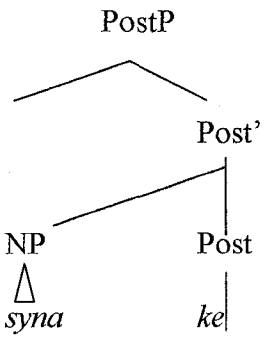
Example (30) above illustrates the only context where the VP is separated by the subject, when the object undergoes topicalization. (For more details, see section 2.1 on topicalization.) Generally, in more 'unmarked' situations, nothing can intervene between the object and the verb.

4.1.3 Postpositional phrases

In Waimiri Atroari, some postpositions can inflect for person, taking the same series of markers used to indicate the possessor on nouns and the object on transitive verbs (See table 3.10). The syntactic link between a postposition and its noun phrase

object is as strong as that between the elements of the noun and verb phrases: nothing can intervene between them.

(31)



'with water'

The tree above demonstrates that the head is always to the right in postpositional phrases, just as with noun and verb phrases. The examples below reinforce my claim that nothing can separate the postpositions from their complements.

(32) iakypa a'a ny-djkie-pa tapinja **ta**
then 1+3PRO 1+3S-squeeze-REM.P sieve LOC
'Then, we squeezed (the manioc) in the sieve.'

(33) samka **tyhnaka**
hammock over
'over the hammock'

(34) impa a'a n-ike'ia-pa meie impary axinjaty **tyhnaka**
then 1+3PRO 1+3-bake-REM beiju then oven on
'Then we baked the *beiju* (kind of manioc tortilla) on the oven.'

(35) iakypa a'a minja pitxi-pia maia **ke**
After 1+3PRO manioc peel-IM.P knife INSTR
'Then we peeled the manioc with the knife.'

(36) aa ram xiba h-iri-pia ka **inaka**
1PRO 2PART fish 1-give-IM.P 3PRO DAT
'I gave fish to him.'

(37) amyra ram **aa=inaka** xiba m-yry-pia
2PRO 2PART 1-DAT fish 2A-give-IM.P
'You gave fish to me.'

(38) paruwe aa=i-iry-py-pia, woky yry-ky mahta **inaka**
Paruwe 1=REL-tell-CAUS-IM.P banana give-IMP Marta DAT
'Paruwe told me: "Give the banana to Marta."'

Based on the different types of phrases shown above, I argue that Waimiri Atroari is a head-right language. In verb phrases, noun phrases with possessives, and postposition phrases, Waimiri Atroari presents a typical case of head right. However, in phrases with adjuncts, such as noun phrases containing adjectives, adverbial quantifiers, and numeral words, the relative position of the head seems to vary: a) depending on the kind of information that the speaker intends to convey, such as specificity and definiteness (adverbial quantifiers and numeral words);[22] or b) whether it is modifying a noun or a verb (adverbial quantification phrases).

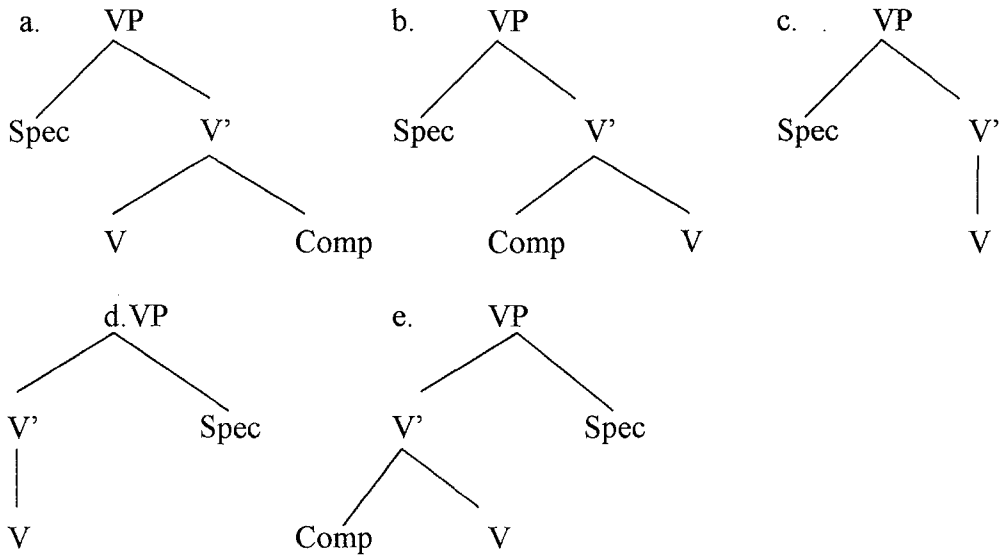
4.2 Waimiri Atroari Clausal Order

I have shown in the first section of this chapter that Waimiri Atroari is a head-right language. In the next section, I intend to extend the analysis to show that this language is also 'specifier-first.' According to Radford (1997:90), "Since although the notion *specifier* is central to much contemporary work in syntax, it is hard to identify any common set of properties which all specifiers share because of the disagreement among linguists of what is its function." Here, I assume the view that "specifier position is used to mark a particular grammatical function, the subject function" (Chomsky 1991). As illustrated in the trees below, Waimiri Atroari allows different kinds of clausal order, such as SOV, SVO, SV, VS, OSV, and OVS. However, as demonstrated in the tree in

[22] In relation to this issue, I have to do more tests and collect more data to check this hypothesis.

(39), in the majority of cases the head of the clause is on the right and the specifier is in the first position.

(39)



Like English, Waimiri Atroari is a 'specifier-first' language, since the SPEC is mostly positioned before the head. The only exceptions are in the OSV and VS orders. In the OSV context, topicalization destroys the order of the SPEC in relation to the head, leaving behind a trace. However, at this point in the analysis, it is not clear to me what motivates the VS order.[23] It is possible that verbal topics offer an area of exploration for this word order.

In this grammatical sketch, I claim that SOV is the basic order based on three factors: *statistical frequency*, *descriptive simplicity;*[24] and *pragmatic aspects* (such as distinctions between old and new information, etc.). Waimiri Atroari tends to put old information on the left side of the sentence. Waimiri Atroari shows what Mithun

[23] In transitive sentences, Waimiri Atroari does not allow verb-initial orders.

[24] Chomsky (1965:127) shows that the preferred order for potentially ambiguous clauses can generally be considered the most neutral one. As he states it, "Simple, declarative, active clauses with no complex verbs or noun phrases" seem to exhibit a neutral order.

(1992:31) call 'newsworthiness:' even when both arguments (subjects and objects) are equally provided at the same time or both are new (none of them was presented in previous discourse or context), the speakers of Waimiri Atroari tend to prefer the subject first (see texts in Appendix).

Looking at a corpus of eleven texts of different kinds (mythological, technical, reported stories, and others), I analyzed all sentences that presented both one- and two-place predicates with overt non-pronominal arguments and pronominal arguments. From a limited sample of ninety-five sentences, the proportion of word order variation found was the one presented in Table 4.1 below:

Table 4.1—Frequency of occurrence of each clausal order

SOV	42
SV	25
OVS	10
SVO	8
OSV	5
VS	5

Taking the position of the specifier in relation to the head, even with the possibilities of OVS and VS (fifteen occurrences), in the majority of cases (eighty occurrences) reinforce the 'specifier-first' analysis. Although statistical predominance may not be sufficient to establish the basic word order of a language, as pointed out by Derbyshire (1977), this criterion is also corroborated by other facts of the Waimiri Atroari language. Here, I demonstrate that at surface structure the basic word order appears in different types of constructions, reinforcing the assumption that SOV shows the 'descriptive simplicity' pointed out by Chomsky (1965). The examples below also show the preference for 'SPEC-first' and head-right constructions.

Transitive context

(40) *aa* *ram* *ka* ***h-ini-pia***
1 2PART 3 1-see-IM
'I saw him.'

(41) *ka* *ram* ***aa=i-ini-pia***
3 2PART 1=REL-see-IM
'He saw me.'

(42) *kipeti* *wiwe* ***pyrykia-pa*** *waha*
wind tree bring.down-REM.P many
'The wind brought down many trees.'

(43) *warakaxi* *myryky* *ram* *kixinja* ***i-mah-pa***
Warakaxi son 2PART sand REL-throw-REM.P

Kamiahara *myryk-eme* *i-eba* *taka*
Kamiahara son-DEV REL-eyes AL
'Warakaxi's son threw sand on the eyes of Kamiahara's son.'

As you can observe, examples (40) to (43) were taken from elicitation data and from stories; they show the preference for SOV,

Stative predicates (with copula)

(44) *Anaruwa-beme* *ram* *ietypy-pa* *na*
bird (sp.)-DEV 2PART sick-emph cop
'Anaruwa is sick.'

Quotative context

(45) *mawa* *njy* *i-tee-pa,* *n-ootxi-pa* *ke-pa,* *apia* *myre?*
Mawa noise REL-hear-REM.P 3-go.down-REM.P say-REM.P what that
'Mawa heard a noise, waited, and said: "What's that?"'

Since X-Bar Theory does not allow or cannot generate sentences of the type 'OSV' inasmuch as the SPEC of IP cannot intervene between the verb (head) and the complement object, in this grammatical sketch I show that the OSV and OVS orders result respectively from the object and the VP movement to a topic position.

4.3 Topicalization

According to Payne (1997:270), "Topic is what the sentence is about, it is the old, given, or known information." In Waimiri Atroari, topical elements tend to appear in initial position, a fact that is very common cross-linguistically. The topic construction in Waimiri Atroari is used to turn the attention to a definite object in order to avoid being focused and interpreted as new information, as predicted by Diesing (1992).[25]

Aissen (1992:43), analyzing the position of topic and focus in Mayan, claims that sentences with two NPs before the verb, (SOV) and (OSV), involve the focus of one NP and the topicalization of the other. She shows that while SOV represents subject topicalization and object focus (topic is S-initial), OSV order must represent object topicalization and subject focus (focus position is preverbal). Taking part of this approach into consideration, I claim that the OVS order in Waimiri Atroari results from a left movement of the VP in order to reach topic position, and unlike Mayan, the OSV order results from the leftward movement of the object alone.

4.3.1 OVS order (movement of the whole VP)

Unlike Hixkaryana (Derbyshire 1977:595), an OVS language of the same family which moves the subject to the initial position in order to express topic, in Waimiri Atroari OVS is not neutral. Instead, it is a marked order where what is moved to the topic position is the whole VP. In this paper, I argue that the element to be topicalized moves into the SPEC position within a TopP (Topic Phrase) constituent headed by a topic head. The text fragments below illustrate cases of topicalization:

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[25] See texts in the Appendix.

(46) a. tapesa kixinja weiaky tyiyry n-o'm-pa
shallow beach when? Tyiyry 3S-dive-REM.P

tapiwutape ta n-o'm-pa.
Tapiwutape LOC 3S-dive-REM.P
'In the shallow beach of the Tapiwutape lake Tyiyry dived.'

b. tyiyry i-yhia i-erekyty-pa xiriminja
Tyiyry REL-hair REL-cut-REM.P Xiriminja
'Xiriminja cut Tyiyry's hair.'

In example (46b), the VP *tyiyry i-yhia i-erekyty-pa* 'tyiyry's hair cut' is topicalized probably because it contains old information—that is, the noun *tyiyry* 'Tyiyry' is introduced earlier in the text (46a). As a result of the topicalization of the VP, the subject NP *xiriminja* 'mythological entity,' which is new information, is introduced at the end of the sentence.

A similar case occurs in the examples in (47) below. In (47a), the subject NP *ianana* 'Ianana' and the object NP *tahkome* 'elder(s)'are both introduced for the first time in the unmarked, SOV order. In (47b), the NP *tahkome* occurs again as the subject of an intransitive verb. In the following two sentences, (47c) and (47d), the NP *tahkome* is already considered old information; therefore, the VP in which it occurs is topicalized. This situation is represented in (48) below.

(47) a. ianana tahkome bake-pa iskixki xirikiki pyky
Ianana elders shoot/kill-REM parakeet parakeet because
'Ianana killed the elders because of the parakeets.'

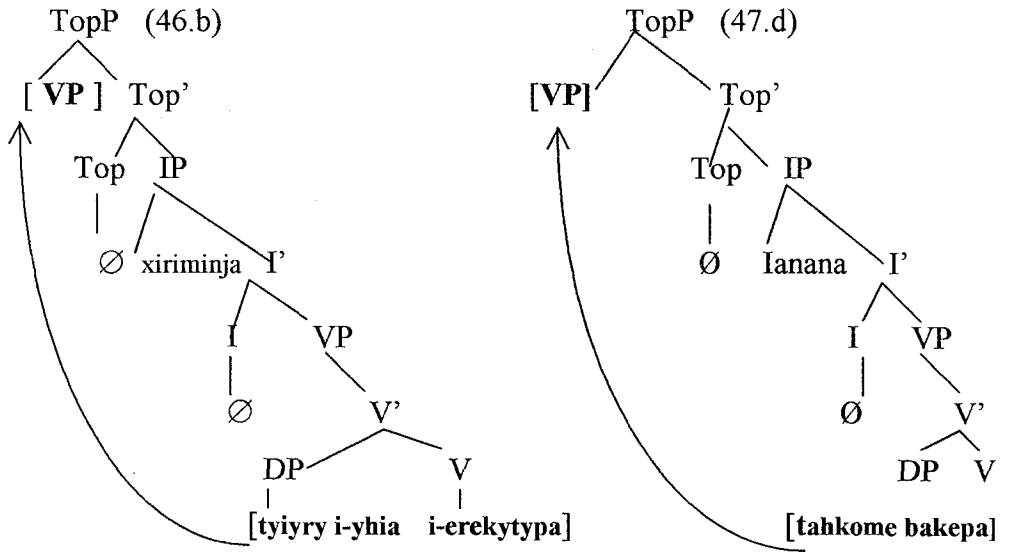
b. tahkome wapy n-oo-sa-pa kamakaxi taka
elders many 3-climb-rem kamakaxi.tree AL

xirikiki baka-paiky
parakeet shoot/kill-T/A
'Many elders climbed the *kamakaxi* tree in order to kill the parakeet.'

c. impa tahkome ipia-pa ianana xirikiki baka taka
then elders find-REM Ianana parakeet shoot/kill AL
'Then Ianana found the elders killing parakeets.'

d. impa tahkome bake-pa ianana ebapy tapary
then elders shoot/kill-REM Ianana eye LOC
'Then Ianana shot the elders in their eyes.'

(48) **OVS (through VP topicalization)**



4.3.2 OSV order (movement of the object)

As X-bar theory cannot deal with OSV order, I claim that this order results from the dislocation of the object to topic position. Diesing (1995:126) claims that in many languages, object shift depends on information structure, in particular something like the contrast between specific (definite) and non-specific (indefinite) information. As a result, objects move for configurational or interpretational reasons rather than for case-checking. According to my Waimiri Atroari consultants, this order happens when they want to

emphasize who did the action. Therefore, as proposed by Diesing (1995), I assume that in the OSV order, the object undergoes topicalization. The subject position in this order is restricted to 1st (taking only the *kra* ~ *kara* form) and 2nd person pronouns. The only exception for this restriction happens with quotative sentences, where the subject can be a proper noun.

(49) [ampa kinja teneriki na-ky], **kybina** ke-pa
other people afraid COP-PAST Kybina say-REM
'"The other persons were afraid," said Kybina.'

I leave aside these quotative sentences since they are well known for exhibiting a marked order (Branigan and Collins 1993). I assume that OSV order in the standard case can best be explained by Wackernagel's Law, which claims that clitics, particles, and pronouns must appear in second position in a clause (Halpern & Zwicky 1996). According to Kaisse (1981), recent research on clitics shows that languages may vary with respect to their definition of second-position particle. Waimiri Atroari is one of those languages, such as Bulgarian, Luiseño, and Serbo-Croatian, that allow either the first word or the first constituent of the clause to define 'second position' (see footnote 9).[26]

(50) [merepy i-eky] kra h-ee-ia
merepy fruit REL-porridge 1PRO 1A-drink-T/A
'I drink *merepy* porridge.'

(51) maryma kra h-yn-iany
piranha 1PRO 1A-eat-T/A

---

[26] As illustrated above in examples (50) and (51), the pronoun indicating first person singular *kra* can occur after a word or a constituent. On the other hand, second position particle *ram* can appear not only after a word and a constituent, but also after a whole clause.

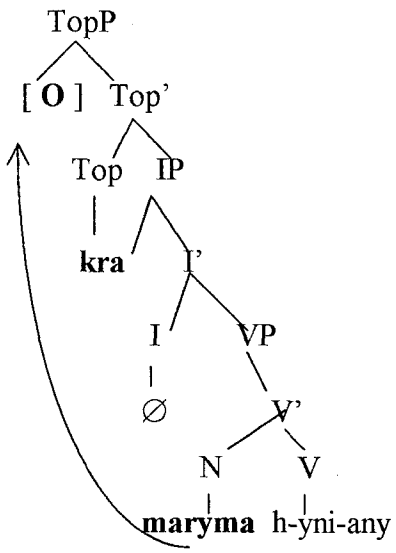
- *imka typotxe a=wutoty m-itxirikw-epa ipaikypa**ram** tymeri a=w-iapa*
if fast 2-run 2-stop-T/A after 2PART jaguar 2=kill-T/A
'If you stop running fast, the jaguar will catch you.'

'I am eating piranha.'

(52) *Maryma ram kra h-yn-iany
piranha 2PART 1PRO 1A-eat-T/A
'I am eating piranha.'

In the tree below, I demonstrate that the heavy element moves to the left and the light element stays in the right, in the second position. The pronoun *kra* is in fact in the second position, inasmuch as the second-position particle *ram* cannot co-occur in this example (see example 52). They compete for the same slot in the tree, the Top slot. They are in complementary distribution.

(53) OSV (through topicalization of the O)



4.4 Adverbial subordinated clauses

According to Payne (1997:316) and Thompson & Longacre (1985:171), adverbial clauses are those which serve an 'adverbial function:' they modify a verb phrase or a whole clause. Adverbial subordinated clauses behave as adjuncts inasmuch as they simply add some extra information to the clauses. Thompson & Longacre (1985:172)

explain that there are three types of subordinated clauses: those which function as noun phrases (complements); those which function as modifiers of nouns (relative clauses); and those which function as modifiers of verb phrases or entire propositions (adverbial clauses).

In this section, I briefly direct the analysis to two types of subordinated clauses: clauses that indicate time and location, and what Meira (1999) and Gildea (1998) call 'nominalized clauses.' Here, I want to demonstrate that these clauses work exactly like the simple phrases illustrated above.

4.4.1 Temporal subordinated clauses[27]

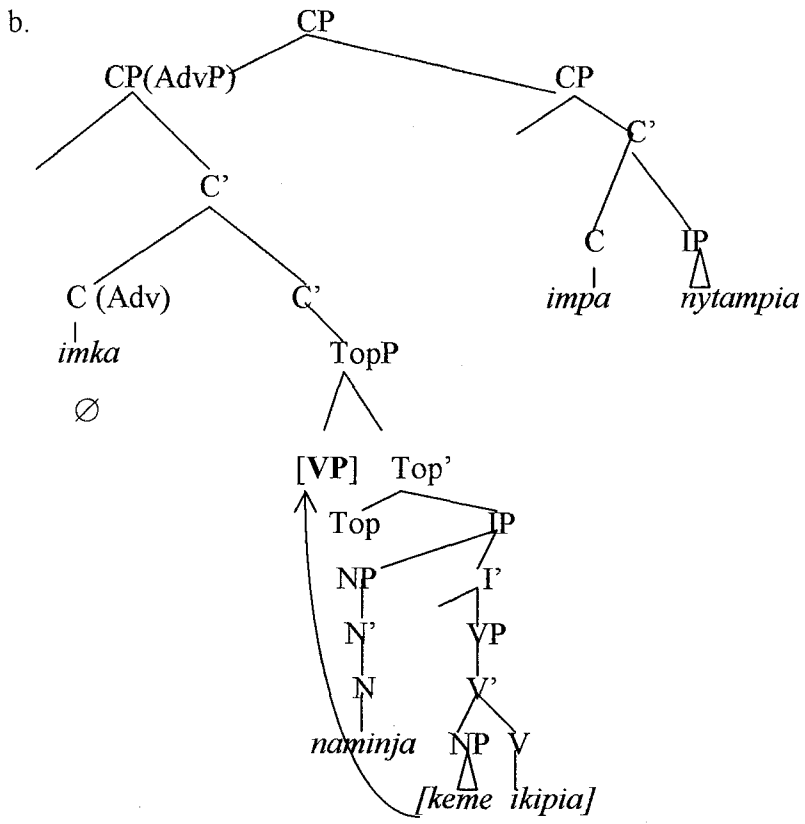
This type of clause can occur either at the beginning or at the end of the sentence. Thompson & Longacre (*op. cit.*) claim that in the world's languages, there are typically three devices for marking subordinated clauses: subordinating morphemes, special verb forms, and word order. Waimiri Atroari uses only the first two devices. As shown in the example below, temporal adverbial clauses in Waimiri Atroari are introduced by the word *imka* 'when, if.' As Thompson & Longacre (*op. cit.*, 193) mention, there are several languages, such as Indonesian and certain languages of Papua New Guinea, which do not make a distinction between *if* clauses and *when* clauses. Waimiri Atroari seems to be one of these languages, since, as we have mentioned, *imka* can be either translated as 'when' or 'if' (see another example provided in footnote 16.)

(54) a. [keme iki-pia namiɲa] impa ni-tam-pia
3 bite-IM.P dog then 3S-cry-IM.P
'When the dog bit him, he cried.'

[27] In this paper, as you note in the trees below, I am not dealing with INFL (I am not representing it in the trees).

As you can observe in the tree below, in the temporal adverbial clause, the VP undergoes topicalization; it does not show the basic order SOV, but the marked OVS. This example was given after I had asked about other examples: *keme* 'he' is old information. Moreover, you can note that the C slot can be empty or filled by the word *imka* 'if, when.'

b.



4.4.2 Locative subordinated clauses

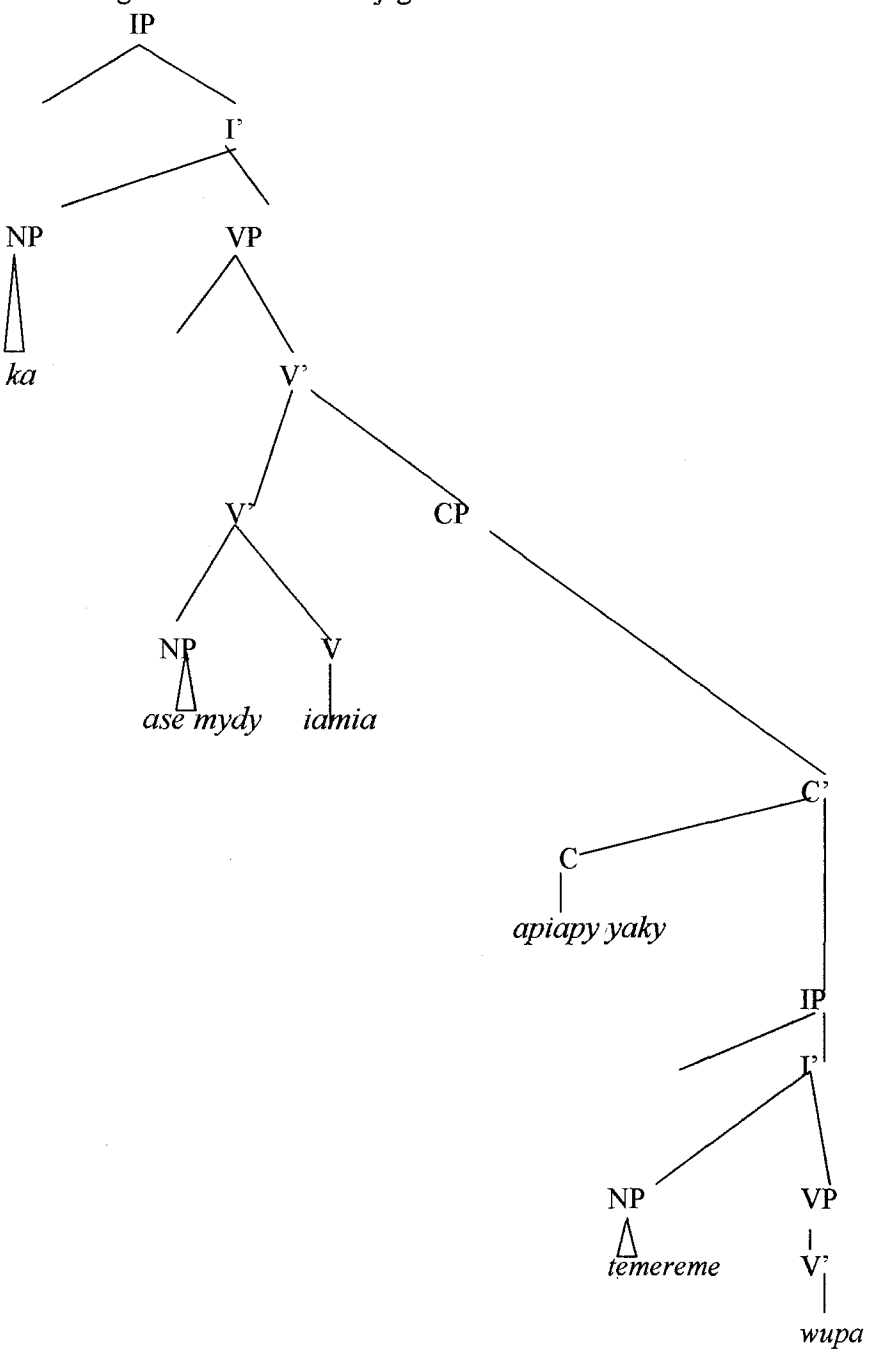
Unlike temporal clauses, which can occur either at the beginning or at the end of a sentence, locative subordinate clauses, introduced by the construction *apiyapi yaki ~ epiapi yaki*, can only occur at the end of the sentence, as shown by examples (55) and (56) below:

(55) *ka* *mepr-eme* *wu-pa* *epiapy* *yaky* *mydy* *pahsapy* *na-ky*
3 tapir-DEV kill-REM where house old COP-PAST
'He killed the tapir where the old village was.'

(56)

a. *ka* *ram* *ase* *mydy* *iam-ia* *apiapy* *iaky* *temer-eme* *wu-pa*
3 2PART new house build-T/A where jaguar-DEV kill-REM
'He builds the new village where he killed the jaguar.'

b.



4.5 Nominalized clauses

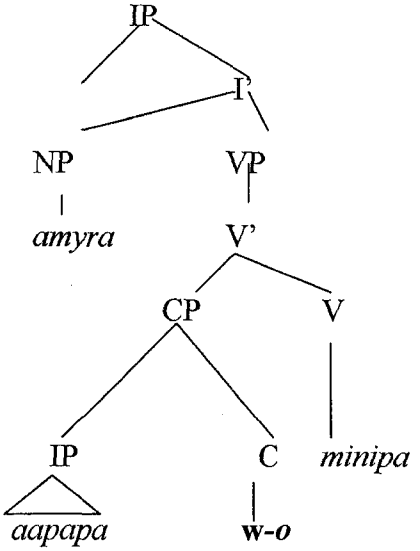
Nominalized clauses present the same parameter position of the head shown by the more typical NPs described above. As shown by examples (57) and (58) below, the head in these nominalized clauses is marked by the nominalizer suffix *-o*, while the NP corresponding to the subject of a transitive clause is marked by the particle *ia*. Unlike independent clauses, which may present word-order variations due to phenomena such as topicalization, nominalized clauses present a strict SOV order, a fact that gives further support to the postulation of SOV as the basic word order in Waimiri Atroari.

(57) *ka* *ram* *aa=y-akyny* *ia* *woky* ***i-akym-o*** *i-ini-piany*
3 2PART 1=REL-sister AG banana REL-make-NOM REL-see-REC
'He saw that my sister made banana porridge' or 'He saw the making of banana porridge by my sister.'

(58)

a. *amyra* *ram* *aa=papa* *ia* *tymeri* ***w-o***[28] *m-ini-pa*
2 2PART 1-father AG jaguar kill-NOM 2-see-REM
'You saw that my father killed the jaguar' or 'You saw the killing of the jaguar by my father.'

b.



[28] The root of the verb 'to kill' is *-wu* and the root of the verb 'to make' is *-akimi'*. The last vowel of the root is dropped with the suffixation of the nominalizer *–o*. The nominalizer *-o* is also observed in other Carib languages (Gildea 1998).

I have provided an analysis of the Waimiri Atroari phrase structure and word order, as well as a brief overview of the distribution of the heads in some subordinated and nominalized clauses, accounting for the head and specifier parameter. I have argued that Waimiri Atroari belongs to a parametric class of languages that exhibits the following characteristics at spell-out: (a) head-right when not involving adjuncts, (b) specifier-first, and (c) topicalization-left based on pragmatic factors (distinction between old versus new information) that have grammatical consequences.

Less usual word orders, such as OVS and SOV, are accounted for by postulating a movement resulting in the topicalization of the whole VP or the object alone, respectively. Although I do not analyze cases of SV and SVO orders in this paper, I speculate that SVO order could be a result of Portuguese influence, inasmuch as its occurrence is very reduced, being more common among the younger male speakers, who present a higher degree of bilingualism than elders and women. Therefore, this, as well as the factors underlying the occurrence of SV word order, is one of the hypotheses to be further investigated.

ABBREVIATIONS

A	'subject of transitive verb'
ABL	'ablative'
AGT.PART	'agentivity particle'
ADJ	'adjective'
ADV	'adverb
AL	'allative'
CAUS	'causative'
COP	'copula'
DAT	'dative'
DES	'desiderative
DEV	'devaluative'
DISJ	'disjunctive particle'
EMPH	'emphatic'
IMM.F	'imminent future'
IM.P	'immediate past'
IMP	'imperative'
INT	'interrogative'
INSTR	'instrumental'
INSTR.N	'instrumental nominalizer'
LOC	'locative'
NEG	'negation'
NOMLZ	'nominalizer'
2PART	'second-position particle'
O	'object'
POS	'possession'
PRO	'pronoun'
REC.P	'recent past'
REM.P	'remote past'
REDUP	'reduplication'
REFLX	'reflexive'
REL	'relational prefix'
REM.F	'future remote'
REM.P	'remote past'
S	'subject of intransitive verb'
T/A	'tense/aspect
VAL	'valuative'
VERBL	'verbalizer'
1	'first person singular
2	'second person sing. or pl.'
3	'third person sing.or pl.'
1+2	'first person plural inclusive'
1+3	'first person plural exclusive'

APPENDICES

A1. Tyiyry ikaa[29]

'Tyiyry's story'

1. **tapesa** **kixinja** **weiaky** **tyiry** **n-o'm-pa**
   shallow beach when? Tyiyry 3S-dive-REM.P

   tapiwutape **ta** **n-o'm-pa.**
   Tapiwutape LOC 3S-dive-REM.P
   'In the shallow beach of the Tapiwutape lake Tyiyry dived.'

2. **syna** **i-apo'o** **tyiyry** **i-yhia** **i-erekyty-pa** **xiriminja**
   water REL-inside Tyiyry REL-hair REL-cut-REM.P Xiriminja
   'Inside the river, Xiriminja cut Tyiyry's hair.'

3. **aminjaky** **iakypa** **xiriminja** **ny-nypykwa-pa** **amehepie'** **taka**
   later after Xiriminja 3S-appear-REM.P Amehepie' AL
   'Later on, Xiriminja appeared at the Amehepie' village.'

4. **njawa** **n-ym-pa** **waha** **kipety** **tarara** **many**
   rain 3S-come-REM many/much wind thunder/lightning also
   'It rained a lot with thunder and lightning also.'

5. **kipety** **wiwe** **pyrykia-pa** **waha**
   wind tree bring.down-REM.P many
   'The wind brought down many trees.'

6. **kinja** **pyruwa** **ke** **n-itxikwa-pa**
   people arrow INSTR 3A-shoot-REM.P
   'The persons shot with arrows.'

7. **paryna** **xiriminja** **pykwa-pa** **iakypa** **maiahka** **n-itxikwa-pa,**
   Paryna Xiriminja shoot.arrows-REM.P after Maiahka 3A-shoot-REM.

   ampa **kinja** **many**
   other people also
   'After Paryna shot Xiriminja, Maiahka also shot him, and other people did too.'

---

[29] These stories, traditional tales of the Kinja people, were narrated by Dauna, a male shaman and storyteller today in his late fifties, in the village of Kaminjanyty in 1990/1993. I collected Ianana story, kaapy tahkome karykapa, wyty ikaa (written by Waraie), and meie ikaa (written by the women of Alalaú's village). The other stories were collected by Carlos Augusto Queiroz (ex-professor of the Alalaú's village)

8. **maiahka xiriminja i-yhy i-aa-pa itxi taka**
Maiahka Xiriminja REL-head REL-take-REM.P jungle AL
'Maiahka took Xiriminja's head to the jungle.'

9. **kyta-hkypa xiriminja iee i-aa-pa iakypa iee wepy**
putrefy-after xiriminja teeth REL-take-REM.P after teeth ?

iry-pa wymy ida-typyme.
make-rem.p lice comb-used to
'After that Xiriminja's tooth putrefied, he took his tooth and made a comb to take lice.'

10. **tyiyry araky nyryna kyky ta na**
Tyiyry today alive under LOC COP
'Today, Tyiyry is alive under (the river).'

A2. Kyrywaky Weriri Ikaa
Parrot woman's story
'The Parrot woman's story'

1. **pana kinja wapy na-ky maryba ka-huwa**
formely people many COP-T/A party make-NEG
'Formely, the people did not make many parties.'

2. **iakypa ka kyrywaky i-meky ny-pytxima-pa**
then ? parrot REL-daughter 3S-transform-REM.P

ny-synypykwa-pa kinj-e'me pa piyhy mydy taka
3S-appear-REM.P people-VAL as Piyhy village AL
'Then, the parrot's daughter became a person and appeared at Piyhy's village'

3. **paxe nu-waty-pa iry mana ka**
Paxe 3S-marry-REM.P 3PRO with/and 3PRO
'Paxe married her.'

4. **kyrywaky pyty paxe i-nepa-pa maryba kapry pyky**
parrot wife Paxe REL-teach-REM.P party/song make how
'The parrot's woman (Paxe's wife) taught Paxe how to sing and make parties.'

5. **iakypa ny-tyn-pa kinja many kapy te'xy n-eeni-pa**
then 3S-go-REM.P people with NEG DESID 3S-stay-REM.P
'Then she went off, she did not want to stay with the people.'

6. **maryba** **kapy-se** **n-y-sapa** **kaapa** **taka** **iry**
song/party make-in order to 3S-go-T/A field al 3PRO

ty-iymy **ipo-se** **na.**
3REFLX-father find-in order to COP
'She went to sing in the garden in order to meet her father.'

7. **paxe** **sakyna** **wapy** **i-amapy-se** **n-eepy-sapa** **mydy** **taka**
Paxe angry many REL-call-in order to 3S-return-T/A house AL
'Paxe very angry called her to return to the house.'

8. **iry** **n-aryma-pa** **te'xy** **n-eeni-pa** **iakypa** **paxe**
3PRO 3S-come back-REM.P DES 3S-stay-REM.P then Paxe

n-ipykwapy-sapa **pyruwa** **ke**
3S-kill-T/A arrow INSTR
'She did not want to come back then Paxe killed her with arrows.'

9. **paxe** **ka-pa** **t-aska** **ia** **piyhy** **mydy** **tany**
Paxe say-REM.P 3REFLX-relatives to Piyhy village from

ke-pa: **kaapy** **taka** **kamapa!**
say-REM.P heaven AL let's go
'Paxe said to his relatives from Piyhy's village: "Let's go to the sky!"'

10. **waiamy** **kinja-py** **kaapy** **pykwa-pa**
tortoise people-as sky shoot arrow-REM.P
'The tortoise person shot an arrow to the sky.'

11. **iakypa** **pyruwa** **i-asyty** **pykwe-pa** **kixi** **tyhnaka** **n-otxia-pa.**
Then arrow REL-butt shoot-REM.P floor on 3S-climb down-REM.P
'Then he was shooting an arrow into the other arrow's butt until they touched the floor.'

12. **iare** **kinja-py** **kyrywy**
Iare people-as snake
'Iare, the snake that was a person.'

13. **iry** **n-oony-pa** **kykynora** **i-aa-pa** **kaapy**
3PRO 3S-climb-REM.P Sp. of leave Rel-take-REM.P sky
'He climbed to the sky using the leaves.'

14. **waiamy** **tyty-sy** **n-eepy-sapa**
tortoise ?-DES 3S-return-T/A
'The tortoise wanted to return (climbed to the heaven).'

15. **wook-uwa-pa** **n-eeni-pa**
climb-NEG-REM.P 3S-stay-REM.P
'She could not climb, then she stayed.'

16. **mawa** **kinja-py** **iry** **ia** **ke-pa:** **yrypy** **we'ky** **ka-pa**
Mawa people-as 3PRO to say-REM.P here IMP say-REM.P
iakypa **n-oo-sapa**.
then 3S-climb-t/a
'Mawa who was a person said to him to be here, then he climbed.'

17. **kwata** **ny-kypia-pa** **ny-kyhy-sapa** **tykyry** **pyky**
spider monkey 3S-experiment-REM.P 3S-try-T/A ? how
'The spider monkey tried to climb.'

18. **mawa** **kykynora** **kyty-pa** **iakypa** **iry** **n-yma-pa** **itxi** **iary**
Mawa Sp.leave cut-REM.P then 3PRO 3S-fall-REM.P jungle tree

tyhnaka **araky** **ipy** **na**.
over today there COP
'Mawa cut the leave, then he (the monkey) fell over a tree in the jungle and stayed there until now.'

A3. Ianana ikaa[30]
'Ianana's story'

1. **ianana** **tahkome** **bake-pa** **iskixiki** **xirikiki** **pyky**
Ianana elders shoot/kill-REM.P parakeet (sp.) parakeet(sp.) because
'Ianana killed the elders because of the parakeets.'

2. **tahkome** **wapy** **n-oo-sa-pa** **kamakaxi** **taka**
elders many 3-climb-REM.P kamakaxi.tree AL

xirikiki **baka-paiky**
parakeet shoot/kill-T/A
'Many elders climbed the *kamakaxi* tree in order to kill the parakeets.'

3. **impa** **tahkome** **ipia-pa** **ianana** **xirikiki** **baka** **taka**
then elders find-REM.P Ianana parakeet shoot/kill AL
'Then Ianana found the elders killing parakeets.'

---

[30] *Ianana* is a mythological entity, the owner of the forest. He has as a pet parakeet (*firikiki* in Waimiri Atroari).

4. **impa tahkome bake-pa ianana ebapy tapary**
then elders shoot/kill-REM.P Ianana eye LOC
'Then Ianana shot the elders, at their eyes.'

5. **iakypa ianana wehe warykypa i-apremy i-amyrysa-pa**
later Ianana arrow luck REL-owner REL-miss-REM.P
'Later on, Ianana's arrow missed the lucky person.'

6. **iakypa ianana ke-pa: wa-pesa wura aa-wehe wy-se**
after Ianana say-REM.P NEG-in the time ? 1POS-arrow go-in order to
'After Ianana said: "-once there aren't animals anymore my arrows will disappear."'

7. **impa tahkome ikehepy i-emxa-pa iakypa**
then elders dead REL-put.together-REM.P after

n-ymia-pa arawuta ike piempary
3A-lash-REM.P monkey ? like
'Then [Ianana] put together the dead elders and later lashed them as one lashes monkeys.'

8. **impa tahkome ikehepy i-aa-iaa-pa ty-mydy taka**
then elders dead REL-take-REDUP-REM.P 3REFLX-house AL
'Then Ianana took the dead elders to his house.'

9. **impa warakypa i-apremy n-ytxia-pa n-ahtapa myry-kyhpa**
then lucky REL-owner 3S-go-REM.P 3S-at the back that-after

n-y-sapa takynyt-aska ikehe i-ary ini-apa.
3S-go-T/A ? 3REFLX-relatives dead 3REL-take see-t/a
'Then, that lucky person went at Ianana's back observing to see where Ianana would take his dead relatives.'

10. **impa ianana ny-bia-pa ty-mydy taka**
then Ianana 3S-come-rem.p 3REFLX-house AL
'Then Ianana came to his own house.'

11. **warakypa i-apremy tahkome ikehe iaba i-te-pa:**
lucky REL-owner elder dead ? REL-hear-REM.P

Hepe! Hepe! Hepe! Hebe! ianana ke-pa tahkome ikehe iabepa
Hepe! Hepe! Hepe! Hebe! Ianana say-rem.p elder dead ?

ianana
Ianana
'Then the lucky person heard Ianana happily saying to the dead elders:-"hepe! hepe! hepe! hebe."'

12. **impa warakypa i-apremy peri i-kysa-pa wiwe ke**
then lucky REL-owner door REL-measure-REM.P wood INSTR
'Then that lucky person measured the size of the door of Ianana's house with a piece of wood.'

13. **impa peri i-kyhypy n-ame-pa mydy taka warakypa**
then door REL-measurement 3S-take-REM.P house AL lucky

i-apremy
REL-owner
'Then the lucky person took the door's measurement from Ianana's house to the village.'

14. **impa tximtxa byia-pa tahkome**
then wood plank make-REM.P elder
'Then the elder made a wood plank to close the entrance.'

15. **impa tximtxa byhy i-aaia-pa impa tahkome ianana peri**
then wood plank make REL-take-REM.P then elder ianana door

i-tapia-pa
REL-close-REM.P
'Then the elder took the wood plank and make a door to close ianana's entrance.'

16. **impa ianana beme txitmxa pykwapy-pysa**
then ianana poor wood plank shoot arrow-T/A
'Then the poor ianana was locked in and he was shot arrow.'

Note: Ianana lived in a hollow tree.'

17. **impa tahkome waty tamyke-pa**
then elder fire put-REM.P
'Then the elders put fire in Ianana's house.'

18. **impa tahkome waty i-atxia-pa wahpary**
then elder fire rel-make-rem.p many
'Then the elders make a big fire.'

19. **txamka-ky!** **txamka-ky!** **ke-pa** **tahkome** **waha** **i-aty-ky!**
make fire-IMP make fire-IMP say-REM.P elder many REL-put-IMP

i-aty-ky! **ke-pa** **tahkome**
rel-put-imp say-REM.P elder
"Make the fire!" "make the fire!" said the elder "Put more fire wood!" "Put more fire wood!" said the elders to the others.

20. **impa** **ianana** **ny-kyrysa-pa** **tykatyka** **aa=pap-eme**
then ianana 3S-burn-REM.Psay 1POS-father-DEV
'Then they burned Ianana, said my father.'

21. **impa** **tahkome** **kirikwa-hkypa** **n-aryme-pa** **ty-mydy** **taka**
then elder burn-after that 3S-come back-REM.P 3REFLX-house AL
'Then after they burned Ianana's house, they returned to their own house.'

22. **impa** **amiakypa** **tahkome** **n-ysa-pa** **ikry** **tyhy** **ini-se**
Then later elder 3S-come back-REM.P ashes LOC see-in order to
'Then they come back to see Ianana's ashes.'

23. **impa** **tahkome** **ianana** **myryky** **maryba** **kapry** **i-te-pa**
then elder ianana son song sing REL-hear-REM.P
'Then the elders heard Ianana's son sing.'

24. **-hensin** **hensin** **mensi** **taba** **ieni** **piky** **many** **taba** **iene**...
hensin hensin mensi taba ieni piky many taba iene
'Hensin, hensin mensi taba iene piky many taba iene said Ianana's son.'

Note: I tried to get the translation for this song, but even my consultants could not translate.

25. **impa** **puwan-pa** **ianana** **myryky** **i-ape'ia-pa** **kiwyry**
then rear-REM.P ianana son REL-take-REM.P tree hole

ny-tytapah-ky
3S-held-PAST
'Then the elders took Ianana's son who was hold in the tree hole to rear.'

26. **impa** **tahkome** **n-aaia-pa** **many**
then elders 3S-take-REM.P with
'Then they took him with them.'

27. **impa tahkome ny-puwasa-pa**
then elders 3S-rear-REM.P
'Then the elders took care of Ianana's son until he grow up.'

28. **ipaikypa ty-puwa-hkypa ianana myryky mepry syh-kwa-pa**
then 3REFLX-grew-after that ianana son tapir hair-take-REM.

impa timatrepitxi mepri syhy i-aaia
then adopted father tapir hair REL-take
'Then after he grow up, he plocked tapir's hair to show his adopted father (to show that closed to there they could find tapirs).'

29. **impa typuwa-hkypa ianana myryky mepry pykwe-pa axiwi**
then grew after that ianana son tapir shoot–REM.P agouti

ikehe warypahky tete ianana myryky mytxia-pa patuwa ia
dead look like ? inana son wrap-REM.P pataua leaf

taka
AL
'Then after he was grown up, he hunted a tapir and wrapped it with pataua leaves to look like agouti.'

30. **impa n-insa-pa typuwanypytxi mepri ikehe ini-sapa ianana myryky**
then 3S-bring-REM.P adopted mother tapir dead see-T/A ianana son
'Then he brought the tapir to show his adopted mother.'

31. **impa typuwanpa i-kyh-sapa heme! heme! ka-kwapy ma**
then adopted mother REL-order-t/a heme! heme! say-IMP mom
'Then (before she could open the wrapped thing) he told his adopted mother to say "heme!" "heme!" say mom.'

32. **Impa xana-terepy ke-pa ianana myryky ia bahinja syba**
then mother-? Say-rem.p ianana son to small bad

amyry m-inehetxa axiwi sybary myra kapy inime mepri inehty taha
2PRO 2A-bring agouti bad ? NEG husband tapir bring big

myry ieny inehty
? basket bring
'Then her mother said: "- This is not tapir, this looks more like agouti." "When my husband would bring tapir, it was in a very big basket.'

33. **impa xanypy tamtypy sykwe-pa impa mepri ikehe n-adaryke-pa**
then mother string cut-REM.P then tapir dead 3S-spreadREM

taham-pa-ry
big-EMPH-?
'Then when she cut the string that tied the bundle, the bundle spread open showing the real size of the tapir.'

34. **impa nysakome iaxinja-tyrypy i-kynke-pa mepry se-py tyruwa many**
then elder woman griddle-/ REL-break-REM.P tapir foot-? pan and
'Then when the eldery woman opened the bundle, the tapir's foot kicked the griddle and the ceramic pan too.'

35. **impa ianana myryky texiba-pa *na-pa***
then ianana son sad-emph cop-rem.p
'Then Ianana myryky became very sad.'

36. **impa ianana myryky ke-pa: -hepe! hepe! hebe! tykatry-ky**
then ianana son say-REM.P -hepe! hepe! hebe! say-PAST

aa=mam-eme aa=mama kapy sybary amyry ke-pa
1POS-mother-DEV 1POS-mother NEG bad 2PRO say-REM.P
'Then Ianana's son said: "- You are not my mother!" "My true mother said:- hepe! hepe! hebe!"'

37. **impa tykry tykry tykry ka i-te-pa ianana myryky**
then tykry tykry tykry EVID REL-hear-REM.P ianana son
'Then Ianana's son heard: -tykry, tykry,tykry.'

38. **impa ianana myryky ke-pa: "-aa=iaka ky n-yt-e"**
then ianana son say-REM.P 1POS-uncle this 3S-sing-T/A
'Then Ianana's son said: "-This is my uncle singing.'

39. **ipaikypa kate' ianana myryky n-y-sapa**
after ? ianana son 3S-go-T/A
'Then he left and never come back.'

A4. Kaapy tahkome karykapa
'The sky fell over the elders'

1. **Pinapa tete tahkome pyna mepri n-ytyta-pa pakia many**
close ? elders place tapir 3S-come-REM.P pig and/with
'The tapirs and wild pig came close to the place (village) of the elders.'

2. **wahpaky** **tete** **tahkome** **pyna** **nykwa** **n-yhtxa-pa**
many ? elders place animals 3S-come-REM.P

kaapy **ia** **tybekia-paiky**.
heaven to tell-after
'Many animals came close to the elder's place,(somebody telling to other that this happened before.'

3. **Impa** **tahkome** **kabaha** **iee** **ini-apa pakia** **iee** **waryparyky**
Then elders armadillo tooth see-T/A pig tooth as
'Then the elders saw the armadillo's teeth as the wild pig's teeth.'

Note: The elders perceived it because the armadillo's teeth are small, and they were big as the wild pig's teeth.

4. **impa** **ty-perimipy** **mydy** **ini-pysapa**
Then 3REFLX-brother-in-law house see-T/A
'Then He saw the house of his own brother-in-law.'

5. **impa** **tahkome** **ke-pa**
then elder say-REM.P
'Then the elders say:'

6. **- moo** **kytapy** **mykyme** **mydypy** **ka-pysapa** **tahkome**
-there ? that house say-T/A elder

ty-perimipy **mydy** **pia**.
REFLX-brother-in-law house ?
"-There, is the house of that people" said the elders to his brother-in-law.'

Note: The villages were very distant from each other, but a big fire had made a big clearing in the jungle that made it possible to see from a village to another.'

7. **ipaikypa** **kate'** **tahkome** **bekie-pa** **kaapy**
after that ? elders fall-REM.P heaven
'After that, the sky fell on the elders.'

8. **he'pia!** **he'pia!** **ka-pysapa** **tahkome** **irany** **xia**
poor us poor us say-T/A elder what ?

ka-pysapa **tahkome** **kaapy** **ia** **tywu-paiky**.
say-T/A elder heaven to kill-after that
"Poor us, poor us" said the elders. "What is happening!" said the elders. After that the sky fell on the village and killed them.'

9. **piria** **wukapry** **tete** **n-opyna-pa.**
type of wood support ? 3S-save-REM.P
'Only a man and a woman (siblings) that protected themselves in the central pool of the house were saved.'

10. **ie'ximpa** **ampa** **mydy** **tanypywu-iapa**
all other house ABL die-T/A
'All the other people from the other houses died.'

11. **impa** **yry** **itxiri** **tyhnaka** **n-apyke-pa** **tykaty** **aa-pap-eme**
then this land above 3S-pass-REM.P say 1POS-father-DEV
'Then (those people that were saved) passed by the house's support to the new land said my father.'

Note: The house's central pole made a hole in the sky. Through this hole the people who were saved exited, went above the old sky and built a new land. Today the Waimiri Atraori people live on the top of sky.

12. **takrehen** **myky** **kaapy** **n-ybixkwa-pa** **n-esa-pa** **tykaty** **tete**
take time 3PRO heaven 3S-hurt-REM.P 3S-recovery-REM.P say ?

tahkome **etypa** **myry** **kaapy** **tykaty** **tahkome**
elder hot this heaven say elder
'They took time to recover from all the injuries caused by the sky's falling said the elders...the elders said that the sky was very hot.'

13. **piria** **wukrapy** **tete** **n-iemkwa-pa** **araky** **kwetypyme**
type of wood support ? 3S-reproduce-REM.P today ?
'That brother and sister who survived, they reproduced. It is because of their children that we are here today.'

14. **impa** **takrehen** **myry** **ty-samka** **i-pyia-pa.**
then take time this 3REFLX-hammock REL-find-REM.P
'Then they took time to find their own hammock.'

15. **impa** **takrehen** **ny-patyme-pa** **ty-kaapa** **i-akytxia-pa**
then take time 1+3S-find-REM.P 3REFLX-garden REL-make/cut-REM.P
'Then they took time to find a place to make their own garden plantation.'

16. **impa** **ty-mydy** **i-amyia-pa** **tahkome** **takrehen-pary** **ty-pyty-pe'me**
then 3REFLX-house REL-build-REM.P elder take time-? 3REFLX-wife-DEV

many **pahky** **ty-kaapa** **i-akytyia-pa**
and/with ? 3REFLX-garden REL-make/cut-REM.P

'Then the elders (the brother and sister that survived) took a long time to build their own house and make their garden plantation too, his wife also helped him to make the garden plantation.'

17. **wury kapy kypahky ty-kaapa i-akytyia-pa topy kypahkyn**
axe NEG made of 3REFLX-garden REL-make-REM.P stone made of

pakia iee kypahkyn waryna iee kypahky ty-kaapa
wild pig tooth made of Sp. of rodent tooth made of 3REFLX-garden

i-akytyia-pa tahkome piemekyry-pahky
REL-make/cut-REM.P elder slowly-/
'The elders cut the garden plantation with the axe that was not made of steel, but made of stone, wild pig teeth, and paca teeth...they cut the garden very slowly.'

18. **impa iry iapykahp-e'me ny-kwahsa-pa ny-kwahsa-pa**
then 3PRO survivor-VAL 3S-have sex-REM.P 3S-have sex-REM.P

ny-kwahsa-pa iry iapykahp-e'me n-iemkwa-pa
3S-have sex-REM.P 3PRO survivor-VAL 3S-reproduce-REM.P
'Then they, the survivors, had sex, had sex, had sex and produced many children'

19. **impa niriky n-yme-pa e'nypeme ampa n-yme-pa ampa**
then son 3S-born-REM.P help other 3S-born-REM.P other

n-yme-pa.
3S-born-REM.P
'Then many sons were born to help them.'

20. **impa tahkome n-iemkwe-pa piemkyry-pahky kaapy**
then elder 3S-reproduce-rem.p slowly-? Heaven

wumaha ikaa pykyry many
falling story tell and/with/too
'Then the elders reproduced very slowly, and for each child who was born, they told the story of the sky's falling.

21. **ipaikypa iry i-aaia-pa Mawa tykatyka aa-pap-eme myry**
After that 3PRO 3REL-take-REM.P Mawa say 1POS-father-DEV 3PRO

pykyry-maty
tell-?
'After that Mawa took that couple who survived said my father.'

22. **tykaty aa-pap-eme a'a i-nepiaka-ty tymatry-ky tete wapy**
say 1POS-father-DEV 1+3PRO REL-? fall-T/A ? many

kaapy tymatry-ky tete wapy typohinji
heaven fall-T/A ? many like
'The sky fell a lot, it liked to fall...said my father to make us afraid.'

23. **iawura iawura iawura ky tete tahkome baka-ty wapy kaapy**
always always always ? ? elder kill-? many heaven
'The sky always, always, always falls...killing many elders.'

Note: The elders said that the sky had fallen three times already. The last time was when this pair of siblings survived.

24. **iry patahkan-pa kanji wumaha n-oky-sa tykaty kara**
3PRO substitute-REM.P this falling 3S-stay-T/A say ?

aa-pap-eme
1POS-father-DEV
'That fallen sky was substituted by this sky that we have today...said my father.'

Note: This heaven that we have today will fall as well said the kinja

A5. Meie Ikaa
'The story of manioc bread'

1. **kokyne a'a n-itxi-pia minja i-kwa-se**
early 1+3PRO 1+3S-go-IM.P manioc REL-take-in order to

kaapa taka
garden AL
'Early in the morning, we went to the garden to collect manioc tubers'

2. **impa n-arem-pia mydy taka minja i-ne-pia**
then 1+3S-come back-IM.P house AL manioc REL-?-IM.P

wyiepe ta
jamaxi(kind of basketery) LOC
'Then we came back to the house with the jamaxi full of manioc.'

3. **iakypa a'a minja pitxi-pia maia ke**
after 1+3PRO manioc peel-IM.P knife INSTR
'After that we peeled the manioc with a knife.'

4. **iakypa a'a n-ikin-pia syna ke paxa taka**
after 1+3PRO1+3-wash-IM.P water INSTR bowl AL
'After that we washed the manioc with water in the bowl.'

5. **iakypa a'a ny-dexkie-pa tapinja ta**
after 1+3PRO 1+3S-squeez-REM.P sieve . LOC
'After that we squeezed the manioc in the sieve.'

6. **iakypa a'a ny-ria-pa wiwi taka**
after 1+3PRO 1+3S-put-REM.P wood AL
'After that we put the manioc in the press.'

7. **impa wiwi tapary n-emine-pa minja behe**
then wood LOC 3S-dry-REM.P manioc dough
'Then we dried the dough.'

8. **impa a'a n-ike'ia-pa meie impa-ry axinjaty tyhnaka**
then 1+3PRO1+3S-toast-rem.p bread then stone griddle on
'Then we toasted it into flat bread on the gridle.'

9. **impa ny-tyky-pia.**
then 1+3S-finish-IM.P
'Then we finished.'

A6. Wyty Ikaa
'The story of the meat.'

1. **kinja ram wyta-ha bykw-e waty taka**
person 2PART meat-? cook-T/A fire AL
'Kinja cooks the meat in the fire.'

2. **impa-ry n-iki-e tamxi-pesa waty tanyme**
then-? 3S-take out-T/A soft-in the time fire ABL
'Then, when the meat become soft, they take it from the fire.'

3. **impa-ry kinja n-ynia-pa atyke-hkypa kinja n-iki-epa**
then-? person 3S-put-REM.P cold-after that person 3S-take out-T/A

bixuwa taka
bowl AL
'Then, they took the meat from the pan and put it in a bowl.

4. **impa-ry** **bahinja** **n-ape'-ia** **tynaka**
then-? child 3S-take-T/A ?
'Then the child takes the meat with the hands.'

5. **naminja** **ny-tyt-epa** **bahinja** **pyna**
dog 3S-come-T/A child close
'The dog came close to the child.'

6. **iakypa** **bahinja** **ke-pa:**
after child say-REM.P
'After that the child said:'

7. **-piare! naminja** **wyty** **wanpa naminja**
-piare dog meat NEG dog
'- Don't you have food, dog!'

8. **ny-tyky-pia**
3S-finish-IM.P
'Finished.'

B. Part of Material elaborated by the Waimiri Atroari teachers after I explained to them points of articulation

Kara **mo** **pyky** **wenpa-typy**
Language sound how study-used to
'What is used to study the sounds.'
(Phonology)

KYNYRY (tongue)
- Kynyry nata (tip of the tongue)
- Kynyry sopry (center of the tongue)
- Kynyry iee kysa (laterals of the tongue)
- Kynyry kadyhyry (back of the tongue)

KIEE PYNY WOTYKA (alveolar ridge)
Teeth cloth cover

KIEE IEPRY DYWE (palate)
Teeth
Places of articulation:

BILABIAL- kypyta bixi nytybaske sypyky naka. (The two lips get together);

- P , b, kapaiky kypyta bixi nybaske imany kynyraty tuwaha na kiee iepry pyky naka wotyrykwaharyky na.

  " When we say /p/ and /b/ our lips will get together and our tongue will be in the middle, it will not touch the palate"

- /M/ iatykapaiky ram kynata nyta ta napyke neky wapy.

  " When we say /m/ the sound leaves through the nose."

- /W/ kapaiky ram kareme wotyrykwaharyky kypyta bixi na.

  "When we say /w/, the lips do not keep together the whole time"

ALVEOLAR- Kynyry nata notyrykwe kiee pyny wotyka pyky naka - The tip of the tongue touch behind of the teeth, on the alveolar ridge)

C. More Verbal Paradigms

Sa

c.1 -ikiam- 'spill'

Awy	h-ikiam-pia	'I spilled'
Amyry	m-ikiam-pia	'you spilled'
Iry	n-ikiam-pia	'she/he spilled'
A'a	n-ikiam-pia	'we spilled' (1+3)

c.3 -pyty- 'think'

Awy	hy-pyty-pia	'I thought'
Amyry	my-pyty-pia	'you thought'
Ka	ny-pyty-pia	'she/he thought'
A'a	ny-pyty-pia	'we thought' (1+3)

So

c.2 -tyryma- 'run away, escape'

aa	wy-tyryma-ky	'I ran away'
amyry	my-tyryma-ky	'you ran away
ka	ny-tyryma-ky	'he ran away'
a'a	ny-tyryma-ky	'we ran away'
kyky	hy-tyryma-ky	'we ran away'

c.4 -synehky- 'disappear'

wy-synehky-piany 'I disappeared'
my-synehky-piany 'you disappeared'
ny-synehky-piany'she disappeared'
ny-synehky-piany 'we disappeared'
hy-synehky-piany 'we disappeared'

c.5 -ek- 'defecate'

aa	w-eky-pia	'I defecated'
amyry	m-eky-pia	'you defecated'
ka	n-eky-pia	'she/he defecated'
a'a	n-eky-pia	'we defecated'
kyky	h-eky-pia	'we defecated'

c.6 Verb 'to push'

1A3O	Aa ram k-eme h-aape'-pia 1PRO 2PART 3PRO-DEV 1A-push-IM.P 'I pushed him'
2A3O	Amyra ram k-eme m-aape'-pia 2PRO 2PART 3PRO-DEV 2A-push-IM.P 'You pushed him'
3A3O	Ka ram k-eme i-aape'-pia 3PRO 2PART 3PRO-DEV REL-push-IM.P 'She/he pushed him'
1+2A3O	Kyka ram k-eme h-aape'-pia 1+2PRO 2PART 3PRO-DEV 1+2A-push-IM.P 'We pushed him'
1+3A3O	A'a ram k-eme a'=i-aape'-pia 1+3PRO 2PART 3PRO-DEV 1+3A-push-IM.P 'We pushed him'
3A1+2O	Ka ram k-aape'-pia 3PRO 2PART 2O-push-IM.P 'He pushed you'
1+3A2O	A'a ram a=i-aape'-pia 1+3PRO 2PART 2O-push-IM.P 'We pushed you.'

c.7

1A3O	Aa ram ka h-irima-py-piany. 1PRO 2PART 3PRO 1A-rest-CAUS-REC.P 'I made him/her rest.'
2A3O	Amyra ram ka m-irima-py-piany. 2PRO 2PART 3PRO 2A-rest-CAUS-REC.P 'You made him/her rest.'
3A3O	Ka ram ka Ø-irima-py-piany. 3PRO 2PART 3PRO Ø-rest-caus-REC.P 'She/he made him rest.'
3A2O	Ka ram a-irima-py-piany. 3PRO 2PART 2O-rest-CAUS-REC.P 'She/he made you rest.'
1A2O	Aa ram k-irima-py-piany.' 1PRO 2PART 2O-rest-CAUS-REC.P 'I made you rest.

c.8 Verb to vomit/ threw up

1sg	Aa hu-wen-ta-pa 1PRO 1S-vomit-VERBL-REM.P 'I threw up.'
2sg	amyry mu-wen-ta-pa 2PRO 2S-vomit-VERBL-REM.P 'You threw up.'
3sg/pl	mykyky nu-wen-ta-pa 3PRO 3S-vomit-VERBL-REM.P 'He/she/they threw up.'
1+2 incl	kyky hu-wen-ta 1+2PRO 1+2S-vomit-VERBL-REM.P 'We threw up.'
1+3 excl	a'a nu-wen-ta-pa. 1+3PRO 1+3S-vomit-VERBL-REM.P 'We threw up.'

D. List of animals and plants found in this sketch with their scientific names

Animals:

Akenbehe	'Sp. of armadillo'	(*Priodonts Maxims*)
Akra'	'Sp. of fish'	(*Aequidens*)
Amakra	'tucunaré fish'	(*Cichla Ocellaris*)
Amana	'Amazonian dolphin'	
Arawata	'Guariba monkey'	(*Ateles Paniscus*)
Danja	'cicada'	
Iake	'alligator'	(*Caiman-crocodilus Crocodilus*)
I'ky	'Sp. of ant'	
Inaxixi	'bat'	
Kabaha	'Sp. of armadillo'	(*Dasypus sp.*)
Kadjiwi	'worm'	
Kyrywaky	'parrot'	(*Amazona sp. Psittacidae*)
Kyrywy	'any kind of snake'	
Kwata	'spider monkey'	(*Ateles Paniscus*)
Maba	'macaw'	(*Ara ararauna-Psittacidae*)
Makrykry	'pernilong'	
Mare'e	'guam-bird'	(*Penelope Sp. Cracidae*)
Mepry	'tapir'	(*Tapirus Terrestris*)
Pakia	'Sp. of wild pig'	(*Tayassu Tajuca*)
Petxi	'Sp. of wild pig'	(*Tayassu Pecari*)
Peepe	'butterfly'	
Poopo	'moth'	
Pyryry	'frog'	
Sadada	'shrimp'	
Sady	'crab'	
Sana	'termite'	
Suweri	'deer'	(*Mazana Americana*)
Tabe'e	'capybara'	(*Hydrochoerus capybara*)
Temere	'jaguar'	(*Panthera onca*)
Waiamy	'tortoise'	(*Geochelone carbonaria*)
Warara	'turtle'	(*Podocnemis spp.*)
Waryna	'paca'	(*Agouti paca*)
Wuky	'mutum bird'	(*Crax alector-cracidae*)
Xeri	'skate fish'	
Xirikiki	'parakeet'	(*Pyrrhura sp. Psittacidae*)

Fruits and Plants

Anahkwa~anaskwa	'Abiorana fruit'	(*Sapotacea)*
Bixuwa	'cuieira'	(*Crescentia cujete, Bignoniaceae*)
Hiri	'caju fruit'	(*Anarcadium Occidentale, Anacardiaceae*)
Kymy	'bacaba berry'	(*Oenocarpus bacaba, palmae*)
Mabaia	'papaya'	(*Carica papaya, caricaceae*)
Merepy	'palm fruit'	(*Bactris gaspaes, palmae*)
Mixi	'buriti fruit'	(*Mauritia flexuosa, palmae*)
Nana	'pineaple'	(*Ananas Comosus, bromeliaceae*)
Patuwa	'patauá berry'	(*Jessenia bataua, palmae*)
Tetyky	'brazilian nut'	(*Bertholletia excelsa, Lecythidaceae*)
Woky	'banana'	(*Musa spp, Musaceae*)

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