A PRELIMINARY ACCOUNT OF THE PHRASE STRUCTURE IN WAIMIRI ATROARI: A CARIBAN LANGUAGE

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ABSTRACT: Waimiri Atroari is a chronically undescribed language. There are few linguistic studies about it, most of them being phonological sketches (HILL; HILL 1985, LACERDA, 1991, BRUNO, 1995, 2003, 2004, 2005 e 2006). Taking this situation into consideration, this article provides a first preliminary account of the phrase structure (noun, postposition, and verb) in Waimiri Atroari under the X-Bar Theory framework.

KEYWORDS: Waimiri Atroari Language; Phrase Structure; X-Bar Theory.

1 INTRODUCTION

In this article, I assume some ideas related to the structure of phrases that have been utilized in the X-Bar approach. In particular, 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"1 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 the heads must be either left or right. In other words, there would be some ‘mixed head languages’, as for example Basque - Radford (1988, p.39).

In Waimirí Atroari, phrase heads occur predominantly at the right edge of the constituent in noun, verb, and postpositional phrases. However, in instances of noun phrases containing a numeral, a quantifier word, or adjective, this does not seem to be always the case. As it will be demonstrated below, the fact that the head can be positioned either to the left or to the right in these kinds of phrases is probably related to the fact that numerals, adverbial quantifiers, and adjectives are adjuncts, and, as such, can occupy variable positions.

2 NOUN PHRASES

In Waimirí Atroari, the simplest case of noun phrases may consist of a single a single noun (1) or a pronoun (4). The clearest cases of NPs involving two nouns are examples of possessive phrases, which present the order possessor-possessed (7a and 8a):

1 According to Travis (1989, p.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.”

(1) mabaia ‘a/the papaya(s)’
(2) mydy i-apremy
   House   rel-master;owner
   ‘the master of the house’
(3) maryba i-apremy
   song/festivity rel-master
   ‘the song of the party’
(4) anyry ‘you’
(5) Ewepe pyruwa
   Ewepe   arrow
   Ewepe’s arrow
(6) Iawara mydy
   Iawara   house/village
   ‘the village of Iawara’

Moreover, the examples involving noun phrases seem to present instances of both adjectives and complements. In the trees below (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 Waimirí Atroari it is the possessed noun that receives morphological indication of the genitive relationship (head marking)2. 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’) showing a relation of modification, such as ‘modifier-modified’. The possessives will be always on the left because they will be either complement or specifier.

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2 In Waimirí Atroari, a number of vowel-initial noun and verb stems take the ‘linking prefix’ i- when immediately preceded by their determiners (that is, the possessor, with nouns, and the object, with transitive verbs). This prefix occurs generally with obligatorily possessed nouns, such as nouns denoting a ‘part-of-a-whole’ relationship (body-part and kinship terms, etc.). Examples are the stems eba ‘eye’ and algma ‘sweep’:

(i) a. Ewepe i-eba
   b. ke-eba
   c. a=i-eba
   Ewepe rel-eye
   1+2-eye   2=rel-eye
   ‘Ewepe’s eye’ ‘your eye’
(ii) bahinga n-iba-pia mydy i-algma-ia
   child 3-go-in house rel-sweep-in.order.to
   ‘The child went to sweep the house.’
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(Comp for inalienable and Spec for alienable). The example (5) does not have this problem because the only possible interpretation is 'the arrow that belongs to Ewepe'.

(7) a. Temere i-ee
   jaguar REL-tooth
   'The jaguar's tooth.'

b. NP
   NP
   N
   i-ee
   Temere

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

b. NP
   NP
   N
   i-yhia
   Kaina

2.1 NOUN PHRASES CONTAINING ADJECTIVES

As illustrated in the trees below, adjectives are adjuncts—or, in X-Bar terminology, a sister to a single bar level of an N' and

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daughters of a single bar level N' (CARNIE, 2001, P117). Because adjuncts can be more flexible in their distribution, in a noun phrase containing adjectives, the adjectives can be either to the left or at 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
   beautiful house
   b. mydy xiwia
   'beautiful house'

   beautiful house
   house beautiful

c. NP
   N'
   AdjP
   N
   xiwia
   mydy
   'house'

   NP
   N'
   N
   AdjP
   Mydy
   'house'

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On the other hand, consonant-initial stems do not present any linking prefix under these circumstances:

(iii) a. Ewepe pana
   Ewepe ear
   'Ewepe’s ear'

b. kyu-pana
   1+2-ear
   'our ears'

* a= pana
   2= ear
   'your ear'

I term i- a relational prefix. Relational prefixes are also mentioned in languages of the Tupi and Macro-Jê stocks (RODRIGUES, 1994).

3 Many Carib languages do not have adjective as a syntactic class (part of speech). Words corresponding semantically to adjectives are classified as nouns. Based on morphological evidence, I claim that Waimiri Atroari does have adjectives. Syntactically, adjectives can, like nouns, occurs in subject or object position. However, unlike nouns, adjectives cannot take the suffix -my that indicates 'absence' (e.g. ey-my ‘nameless’). Furthermore, only adjectives can take the emphatic suffix -po (e.g. tamkua-po ‘very short’). In Waimiri Atroari there is a second position particle, ram. It can never intervene between two elements of the same phrase. However, it is not clear whether one can use the second position particle ram as a boundary constituent in phrases of the type <N Adj>.

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(10) a. *taha* **kyrywuy**
    big/large snake
    ‘big snake’

b. *Kyrywuy taha*
    snake
    ‘big snake’

(11) *pana a’a n-itcpi-piaky [taha]

Yesterday 1+3PRO 1+3S-go-REC big canoe

warara *bi piy-ke *
turtle eggs look-for-in.order.to

‘Yesterday, we went in the big canoe to look for turtle’s eggs.’

(12) [wykywry sche] *tcc-piaky wara ya wu-se *
man tall go-IM paca kill-in.order.to

‘The tall man went to kill a *pana* (a kind of rodent).’

2.1.1 Noun Phrases Containing Quantifiers Words

As with noun phrases containing adjectives, noun phrases containing quantifiers also present a certain degree of positional variation. However, I don’t consider adjectives and quantifiers as in the same lexical category because they don’t get the same morphemes. As shown in examples (13-17) 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, what would explain their relative mobility.

(13) a. *waha xiba*
    many fish
    ‘many fish’

b. *xiba waha*
    fish many
    ‘many fish’

(14) a. *wapy kinja wyty ipo-piaky*
    many people meat look-for-REC
    ‘Many people hunted.’

b. *kinja wapy wyty ipo-piaky*
    people many meat look-for-REC
    ‘Many people hunted.’

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

*xrikiki haka-paiky*
    parakeet kill-T/A

‘Many elders climbed trees to kill parakeets.’

(16) *kinja wyty ipo-piaky wapy.*
    people meat look-for-REC 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) \textit{mamykhypa} \quad d'a \quad n-y-	extit{sapa} \quad kwata \quad \textit{wu-se} \\

Tomorrow \quad 1+3\text{PRO} \quad 1+3\text{S-GO-T/A} \quad \text{spider.monkey} \quad \text{kill-in.order.to} \\
"Tomorrow we will go to kill spider monkey."

(19) \quad a'a \quad n-y-	extit{sapa} \quad kwata \quad \textit{wu-se} \quad \textit{mamykhypa} \\

1+3\text{PRO} \quad 1+3\text{S-GO-T/A} \quad \text{spider.monkey} \quad \text{kill-in.order.to} \quad \text{name} \quad \text{tomorrow} \\
"We will go to kill spider monkey tomorrow."

(20) \quad a'a \quad n-y-	extit{sapa} \quad \textit{mamykhypa} \quad kwata \quad \textit{wu-se} \\

1+3\text{PRO} \quad 1+3\text{S-GO-T/A} \quad \text{tomorrow} \quad \text{spider.monkey} \quad \text{kill-in.order.to} \\
"We will go tomorrow to kill spider monkey."

Interestingly, the position of an adverbial quantifier such as \textit{waha} ‘many, a lot’ and \textit{wajpy} ‘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). What it seems not to be the case of the adjectives, but I still have to check. Waimiri Atroari lacks determiners that correspond to \textit{each}, \textit{every}, \textit{most}, and \textit{some}, a fact that suggests the absence of a class of D-quantifiers\(^4\) in this language. In Waimiri Atroari quantifiers such as \textit{all}, \textit{many}, and \textit{two} do not belong to the functional category of determiner; therefore, I prefer to think of them as adverbs.

2.1.2 Noun Phrases Containing Numerals

The native lexicon of Waimiri Atroari has only three numeral words,\(^5\) whose meaning is not generally restricted to mathematical quantities. The expression \textit{awini} \sim \textit{awinini} \sim \textit{awinihe} \sim \textit{awynihe} means ‘alone’ and also ‘one’; the term \textit{typtyyna} means ‘a couple’, ‘a pair’, or ‘two’; the word for ‘three’ is \textit{takynyapa}. Thus, traditionally the Kinja\(^6\) 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 by the examples below, numeral words can occur before a noun (21-23), after a noun (25), or by itself, after a verb (24).

(21) \textit{typtyyna} \quad \textit{karyka} \\
\text{two} \quad \text{chicken} \\
\text{‘two chickens’}

(22) \textit{awynihe} \quad \textit{petxi} \quad \textit{Kwawura} \quad \textit{i-aryka-pa} \quad \textit{ty-

\text{khyda} \quad \text{tohnaka} \quad \text{pig} \quad \text{Kwawura} \quad \text{REL-PUT-REM 3REFL-

\text{back} \quad \text{one} \quad \text{over} \quad \text{‘One wild pig put Kwawura on his own back.’}

\(^4\) According to Partee \textit{et al.} (1987), D-quantifier is associated with determiner-like elements where the scope is restricted to NPs, in specific positions.

\(^5\) 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.

\(^6\) Waimiri Atroari self-denomination.
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**The example above was taken from a mythological text. This sentence was introduced in the middle of the myth when the storyteller have talked a lot about the way that the wild pig lived.

(23) takynyna  pahky  kaminja  napyanka.
three  only  non-native  3S-escape
'Only the three white men escaped.'

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

(25) any  kinja  dezessete  apityby
other people seventeen behind
any  kinja  dezessete  nate'me
other people seventeen in front
'Seventeen people were in front, and seventeen were behind.'

It is not totally clear what motivates this variation in the position of the numeral words. However, from the examples seen 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 and Jelinek (1995), there is a mapping between argument structure and information structure. By information structure, Diesing (1992, p.58) refers to "the organization of the clause with respect to presuppositional (familiar) vs. information new to the discourse." Waimiri Atroari clearly follows this mapping when topicalizing some arguments of the clause and also seems to make an association between definiteness and old information vs. indefiniteness and new information through the relative position of the numeral word in a noun phrase. When in

specific and definite contexts, the numeral word seems to take preferably the left side of the noun (21-23), but in unspecified context the numeral word is positioned either post-verbally (24) or at the right side of the noun (25). In this sense, the numeral words in (24) behaves like the adverbial quantifier in example (15), inasmuch as the speaker is not talking about a specific group of people or hammocks. I admit that example (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 taken into consideration textual evidences and pragmatic aspects.

3 VERB PHRASES

In Waimiri Atroari¹, a VP can be constituted of a verb alone (27) or a verb preceded by a NP (28). The VP can move to a position before the subject NP through topicalization (28) 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 (29). In Waimiri Atroari there is a second position particle, rem, which can be used as a criterion to test the constituency of a given phrase. The particle rem can never intervene between two elements of the same phrase (26c). Furthermore, since rem is a second position particle, it can be useful in determining which elements in a given sentence were moved, such as in example (26a) below.

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

¹Waimiri Atroari has a SOV basic word order.
4 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. 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.

(30) PostP

   Post'
   "with water"

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

(31) iakypa da na ny-dykia-pa tapinja

then 1+3PRO 1+3S-squeeze-REM sieve

'Ven, we squeezed (the manioc) in the sieve.'

(32) samoka tyhnaka

hammock over

'over the hammock'
5 CONCLUSION

In this article, I have provided a preliminary analysis of the Waimiri Atroari phrase structure. Based on the different types of phrases showed above, I argue that Waimiri Atroari is a head-right language. In verb phrases, possessive noun phrases, and postpositional 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 depending on the kind of information that the speaker intends to convey, such as specificity and definiteness (adverbial quantifiers and numeral words), or whether it is modifying a noun or a verb (adverbial quantification phrases).
### ABBREVIATIONS

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<tr>
<th>Abbreviation</th>
<th>Description</th>
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<td>AL</td>
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