Subordination in Karitiana

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1. Introduction

Karitiana is an endangered Amerindian language spoken today by approximately 400 people who live in Área Indígena Karitiana, a reservation located 95 Km south of the urban area of Porto Velho, the capital of the state of Rondônia, Brazil. The language is the sole representative of the Arikém family, one of the ten genetic groupings identified inside the Tupi stock.[1]

There is a sharp difference between matrix and embedded clauses in Karitiana that is central to the understanding of the language. As most, if not all Tupian languages, the language is invariably verb-final in non-finite

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[1] It has been described mainly by David and Rachel Landin from the Summer Institute of Linguistics (Landin D. 1976, 1983, 1984, 1988, Landin R. 1977, 1982, 1987, 1989, Landin D. & R. 1973), Luciana Storto from the Universidade de São Paulo (1993, 1994, 1997, 1998, 1999, 2001, 2002, 2003, 2005, 2008, 2010, to appear), and Caleb Everett from The University of Miami (2006). Four masters' theses have been written on aspects of Karitiana syntax and semantics by students at the University of São Paulo: Coutinho-Silva (2008), Sanchez-Mendes (2008), Marques (2010) and Rocha (2011). Other people who have published papers focused on aspects of the grammar of Karitiana are Ana Muller, (Muller, Storto & Coutinho-Silva 2006a-b, Muller & Negrão 2010), Didier Demolin (Demolin, Haude & Storto 2006, Demolin & Storto 2002, 2004, Storto & Demolin 2002a-b, 2004, 2005, 2007, 2008), Luciana Sanchez-Mendes (Sanchez-Mendes & Muller 2007), Daniel Everett (1986, 1993), and Jean-Pierre Angenot & Wany Sampaio (2001).

clauses and nominalizations (Moore 1994, 2005, Galucio 2005, Rodrigues 2005). In this paper we will show that embedded clauses in Karitiana are non-finite and occur in verb-final orders (SOV and OSV), as expected in a verb-final language. Karitiana differs from most Tupi languages, however, in that the typical OV pattern is not the rule in matrix clauses, which are inflected for mood, tense and agreement and never occur in verb-final orders. This complementary distribution between matrix and embedded clauses was identified and explained by Storto (1999) as the result of an obligatory verb movement to the left periphery in matrix clauses associated to the acquisition of inflectional morphology. Landin (1984) and Everett (2006) do not believe that Karitiana has agreement, considering the person prefixes on the verb to be pronouns. However, even in their analysis, one has to grant that the presence of tense is correlated with the complementary distribution in word order between matrix and embedded sentences. In that respect, Karitiana reminds us of the verb second Germanic languages. It is unlike Germanic languages, however, in that the left periphery head to which the verb moves in matrix clauses is not the subordinating head.[2]

The only functional heads overtly present in embedded clauses are aspectual morphemes that invariably occur sentence-finally. These aspectual subordinators form a syntactic and prosodic unit with the verb, but are not affixal, since they have their own stress and are clearly pronounced as separate phonological words. The syntactic unit in question is derived by head movement and is equivalent to compounds in the language, that may be formed by more than one phonological word and constitute a prosodic unit described by Storto (1999) as a phonological phrase:[3]

(1)   *[São.Paulo pip   y-otam tykiri] Ø-naka-pop-Ø   Maria*
        São.Paulo   in   1-arrive PERF   3-DECL-die-NFUT   Maria
        When I arrived in São Paulo, Maria died.

(2)   *[São.Paulo pip   y-otam kit]   Ø-naka-pop-Ø   Maria*
        São.Paulo   in   1-arrive before 3-DECL-die-NFUT Maria
        Before I arrived in São Paulo, Maria died.

(3)   *[São.Paulo pip y-otam byyk] Ø-naka-pop-Ø   Maria*
        São.Paulo   in 1-arrive after 3-DECL-die-NFUT Maria
        After I arrived in São Paulo, Maria died.

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[2] For lack of space, the present paper will not review the arguments given by Storto (1999) for this analysis. A summary of the arguments can be found in Storto (2003), that can be downloaded from www.fflch.usp.br/dl/storto/publicacoes.

[3] Inside these phonological phrases, certain phonological processes may apply that do not apply inside words (Storto 1999, Storto & Demolin 2005).

In the next sections three different types of subordinate constructions will be described: adverbial, complement, and relative clauses. Similarities and differences among them will be discussed, and an analysis of embedded clauses in general will be given that takes them to be truncated versions of matrix clauses.

2. Adverbial embedded clauses

Adverbial embedded clauses are structures that are subordinated to a matrix verb without being an argument of that verb, but modifying it adverbially, as an adjunct. Sentences (1-3) given above are examples of that kind of structure, easily identified by their aspectual subordinators. These subordinators can be roughly translated as 'when/if', 'before', 'after',[4] but much more work needs to be done on their function and compositional semantics before we fully understand their denotations. For this reason, we do not intend to give a comprehensive analysis of aspectual heads in this paper. We will limit ourselves to showing that the semantics of aspectual subordinators may be complex, since they are not always monomorphemic as *byyk* seems to be in (3). In some cases, subordinators are clearly formed by at least three morphemes:

(4)   *Ty-ki-ri*   perfective
       Ty-ki-'oot   imperfective progressive (neutral for number)
       Agi-'oot   imperfective progressive (plural)

It seems to be correct to analyze the morphemes *ki* and *agi* as the roots of the aspectual subordinators, because they can be found elsewhere in the language as copular verbs or aspectual auxiliaries (Storto, to appear). Also, the enclitic *'oot* has been described by Storto (2002) as an aspectual clitic in matrix sentences.

The subordinator *tykiri* refers to a completed or finished event (perfective). When the event is ongoing, the subordinator *tyki 'oot* is used:

(5)   *[Ti'y Marcelo 'y   tykiri] Ø-na-pa'ira-t   João*
       food Marcelo eat   PERF   3-DECL-anger-NFUT   João
       When Marcelo ate the food, João got angry.

(6)   *[Gok   Maria amang tyki'oot] Ø-na-oky-t   him   taso*
       manioc Maria plant   PERF   3-DECL-kill-NFUT   game   man
       While Maria was planting manioc, the man killed the game.

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[4] These translations, although useful, miss the point because the actual meanings of these morphemes do not include any temporal notions: concomitant, perfective, imperfective, anterior or posterior would be more acurate descriptions of their meaning.

Agi'oot is the plural version of *tyki'oot*, used when an event is imperfective and plural. For a complete discussion of verb and auxiliary suppletion meaning plurality of events, I refer the reader to Storto (to appear):

(7)   *[a-oty-p   a-tat   tyki-'oot]   y-ta-so'oot-Ø   yn   an-ty*
        2S-bath-LOC 2S-go IMPF-PGR   1S-DECL-see-NFUT I   2S-OBL
        While you (sg.) were going to bathe, I met you (sg.).

(8)   *[Aj-oty-p   aj-hot   agi-'oot]   y-ta-so'oot-Ø   yn   ajxa-ty*
        2P-bath-LOC 2P-go.PL IMPF.P-PGR   1S-DECL-see-NFUT I   2P-OBL
        While you (pl.) were going to bathe, I met you (pl.).

What is crucial to the analysis of aspectual heads is that they are not limited to embedded clauses, occurring also in matrix clauses. If the same heads that in embedded clauses occur at the end of the clause end up in the left periphery of the sentence in matrix clauses, it is reasonable to assume that when the verb moves to acquire inflectional morphology in matrix sentences, it takes along with it those aspectual functional heads. First, the status of aspectual morphemes will be discussed, and at the end of this section an analysis of embedded clauses as truncated versions of matrix clauses will be given.

2.1. Aspectual auxiliaries in matrix clauses

The aspectual clitic *'oot* seen above in embedded environments (6, 7 and 8) is not limited to such uses, but also occurs associated with matrix verbs. In these environments, it is used to characterize an event as inchoative or inceptive (Storto 2002):

(9)   *Ø-naka-heredn-'oot   taso*
        3-DECL-get.together-inceptive   man
        The men started to get together.

The root morphemes *ki* and *agi* that are present inside aspectual subordinators in (1, 5, 6, 7 and 8) occur as existential copular verbs (10, 13) or aspectual auxiliaries (11, 15) in matrix clauses as well:

(10)   *yjxa   naka-'agi-t   hak*
        people   DECL-be.PL-NFUT   here
        There are people here.

(11)   *y-'a tyki   y-haj*
        1-be IMPFv 1-elder.brother
        I am here, my brother.

(12)   *[hak   taso aka] Ø-na-aka-t   hotel   ongy-t*
        here   man COP 3-DECL-COP-NFUT hotel   employees-ABS.COP.AGR
        A/the man who is here is a hotel employee.

(13)   *[Hak   taso   ki]   Ø-na-aka-t   hotel   ongy-t*
       here   man   COP.PL   3-DECL-COP-NFUT   hotel   employees-ABS.COP.AGR
       A/the man who are here are hotel employees.

(14)   *Ø-Py-mangat   tyka-dn   taso   Luciana*
       3-ASSERT-lift   IMPF-NFUT   man   Luciana
       Luciana is lifting a/the man/men.

(15)   *Ø-Py-mangat   agi-dn   taso   Luciana*
       3-ASSERT-lift   IMPF.P-NFUT   man   Luciana
       Luciana is lifting a/the man/men (more than once).

The structure of sentence pairs (12-13) and (14-15) requires some discussion. Muller, Storto & Coutinho-Silva (2006a, 2006b) have shown that Karitiana is a language without articles and quantifiers in the noun phrase but with bare nouns that can be used as singular or plural, definite or indefinite. This creates a lot of ambiguity, since any sentence with non-pronominal arguments will have a number of possible interpretations. The absence of functional material in the noun phrase seems to be compensated in the language by the use of verb and auxiliary reduplication to pluralize events (Sanchez-Mendes & Muller (2007). When a verb is reduplicated in Karitiana, or when suppletion of verbs and auxiliaries occurs, a pluralizing operation takes place in the event, and part of the ambiguity disappears (Storto to appear). In (12-13) we have demonstrative constructions used as subjects of copular sentences. Muller, Storto & Coutinho-Silva (2006a-b) were the first to identify these demonstrative phrases and embedded clauses, arguing that they are formed by a deictic element, the noun and the copula *aka*. Coutinho-Silva (2008) has argued that these structures are head-internal relative clauses, headed by a copula *aka* or *ki* (plural) and modified by a positional deitic that has the status of an adverbial or adjunct inside the relative. A more complete description of the syntax of copular and cleft sentences in Karitiana can be found in Storto (2008, 2010). In (14-15) we have a pair of sentences that differ solely in the use of different aspectual auxiliaries: when the auxiliary *tyka* is used, a singular interpretation for the event is available, and when *agi* is used, a plural interpretation of the event is forced. These aspectual heads are considered auxiliaries because in matrix clauses they are suffixed by tense, as in (14-15) and in other examples to be shown below (Storto 2002).

David Landin (1984) and Caleb Everett (2006) describe these aspectual heads that occur in matrix clauses as verb suffixes. I disagree with them on this issue, because, although they do form a syntactic unit with the verb, they constitute separate phonological words, having independent stress and being pronounced separately from the verb in slow

speech. Since they form complex heads with the verb, however, the two together form a phonological phrase in which phonological processes such as stress deletion take place (Storto 1999, 2002, Storto & Demolin 2005).

Landin was the first to describe some of the aspectual morphemes occurring in matrix clauses in Karitiana as markers of progressive aspect that also indicate the position of the body of a subject:

> "The aspect suffix indicates not only the progressive form of the verb, but also the position or stance of the referent of the subject, e. g. sitting, standing, in motion or supine" (Landin 1984: 6).

The examples given by Landin are given below[5]:

(16) *i   Ø-na-oky   tysyp-Ø   saara*
      he   3-DECL-kill   IMPF.SUP-NFUT alligator
      He is killing the alligator.

(17) *taso Ø-na-atik   tyso-t   kinda*
      man 3-DECL-throw   IMPF.STDNG-NFUT thing
      'the man is throwing things'

(18) *yn Ø-na-aka-t   i-bik   tyj̃a-t   iso pityp*
      I   3-DECL-COP-NFUT   PART-sit IMPF.STING-COP.AGR fire beside
      I am sitting beside the fire.

(19) *i Ø-na-aka-t   i-pon   tyka-t*
      he 3-DECL-COP-NFUT   PART-hunt IMPF.MOT-COP.AGR
      He is hunting.

Storto (2002) agrees with Landin (1984) about the fact that progressive meaning has to be expressed through the use of the aspectual morphemes described above, but she shows that other kinds of imperfective meanings besides the progressive can be encoded by those same morphemes. Her examples are given below:

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[5] The examples given by Landin are modified here to adapt to the current Karitiana orthography and are corrected according to the description of the language given in Storto (1999, 2002). In Landin's examples, the morphemes he analyzes as a progressive is considered a suffix that replaces the tense suffix. Storto (1999, 2002) analyzes these morphemes as independent phonological words that form a syntactic unit with the verb. She also differs from Landin in that she shows that aspectual heads may be suffixed by tense in matrix clauses. Landin also has a very different analysis of copular sentences than Storto (1999, 2008, 2010), and for that reason both the segmentation and the glosses given by Landin had to be adapted to Storto (2010).

Progressive uses

(20) *a-ohen   (naakat) i-'ot   tyka-t   õẽ* [6]
      2-penis-ring   PART-fall IMPF.MOT-COP.AGR dear
      Your penis-ring is falling, my dear (friend).

(21) *pyr-yryt   tysyp-yn   i   'a* [7]
      ASSERT-arrive IMPF.SUP-NFUT 3   there
      There they come.

(22) *hỹĩ   hadn-'a tyso-t   tyym i a-so'oot<o> mini   an him bosy*
      INTERR speak-do IMPF.STDNG-NFUT then he 2-see   NEG.POL you game in.law
      Oh, he was saying then, didn't you see where the game is, brother in law?'

(23) *i-ndo   tysyp<y>-'oot Ø-naka-tat saryt   Ora*
      3-finish IMPF.SUP-incept 3-DECL-go   IND.EVID Ora
      Ora was starting to finish, they say.

Non-progressive uses

(24) *i-ndo tysyp   'ejo   hy)*
      3-finish IMPF.SUP grave INTERR
      Oh, the grave is finished?

(25) *Ø-pyry-ndo   tysyp-yn   'ejo*
      3-ASSERT-finish IMPF.SUP-NFUT grave
      Yes, the grave is finished.

The imperfective meaning of a verb like 'to finish' in (24)-(25) is difficult to understand, because the event of 'finishing the grave' is indeed completed, but marked as imperfective to show that it has been an event with internal duration. The text from which these sentences were taken describes a mortuary ritual in which many steps have to be taken as part of the completion of the grave. According to Comrie (1974), there is typological evidence of imperfective aspect used with completed events as long as the event has a durative character. The last use Storto (2002) gives for imperfective auxiliaries is one in which the imperfective aspect is use to describe a state. Another example we have seen of a stative use of the imperfective is example (26):

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[6] This sentence is a copular construction used with the omission of the copular verb. Omitting the copula is possible whenever it is inflected in the nonfuture tense (Storto 2008). This sentential type is similar to non-declarative sentences such as the one given in (11), but differs from them in that here the clausal complement of the copula [verb+aspect] has a suffix of absolute copular agreement.

[7] The supine aspectual auxiliary, normally used to mean 'lying down', may also be used to mean plural.

Stative

(26) *y-mboyr-a y-man   syypo hadna-na   yn ti-m-'a   tysyp<y>-ty*
      1-save-IMP 1-husband eyes speak-ADVZR I OFC-CAUS-be IMPF.SUP-OBL
      Save me dear, for I have a vertigo.

Storto (2002) segments the prefix *ty-* and the root of the auxiliary, pointing out that the root suppletes to convey the meanings of plural or different body positions:

(27) *ty-ka*   movement
      ty-so   standing
      ty-syp   supine/lying down (also plural)
      ty-ĵa   sitting

Other examples of aspectual auxiliaries in matrix clauses are given in (28-31). They are useful to show that in declarative or assertative sentences aspectual morphemes are the same, forming a syntactic unit with the verb to the point that the tense suffixes occur on the auxiliary (*-t/-Ø* for declarative and *-<v>n* for assertative mood):

(28) *João Ø-naka-m-'a   tyka-t   ambi*
      João   3-DECL-CAUS-do IMPF.MOT-NFUT house
      João is making a house.

(29) *João Ø-naka-'y tyĵa-t   asyryty*
      João   3-DECL-eat IMPF.STING-NFUT banana
      João is eating a banana.

(30) *Ø-pyry-'y   tyĵa-dn   asyryty João*
      3-ASSERT-eat IMPF.STING-NFUT banana   João
      João is eating a banana.

(31) *Ø-pyr-yryt   tysyp-yn   i   'a*
      3-ASSERT-arrive IMPERF.P-NFUT they there
      There they come.

The progressive use of the auxilary may be combined with another aspectual head *pasagng*, meaning posteriority, with stative verbs:

(32) *Ø-pyr-osedn   pasagng   tyka-dn   Pedro*
      3-ASSERT-happy   posterior IMPF.MOT-NFUT Pedro
      Pedro is becoming happy.

This aspectual morpheme meaning posteriority also occurs in embedded environments, as we will see in section 3.

2.2. Constituent order in adverbial embedded clauses

Another aspect of adverbial subordinate clauses that must be mentioned is that their constituent order may be either OSV or SOV when non-pronominal subjects are involved. The former is the usual order in colloquial sentences, SOV being used in a more formal style found in myths and other types of traditional narratives (Storto 1999):

(33)   OSV subordinate clauses:

[boroja   taso   oky   tykiri]   Ø-naka-hyryp-Ø   õwã
snake   man   kill   PERF   3-DECL-cry-NFUT   child
When the man killed the sanke, the child cried (coloquial).

(34)   SOV subordinate sentenes

[taso   boroja oky   tykiri]   Ø-naka-hyryp-Ø   õwã
man   snake   kill   PERF   3-DECL-cry-NFUT   child
When the man killed the snake, the child cried (archaic).

With pronominal arguments inside the embedded clause, we have an obligatory cliticization of the pronoun to the verb:
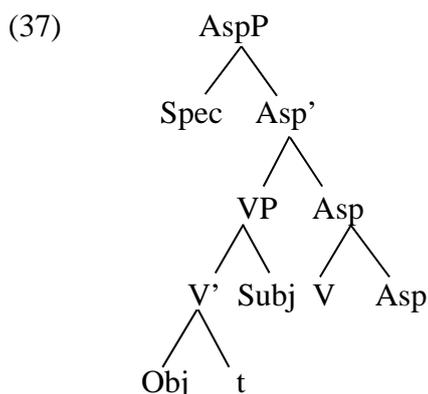
(35)   y-ta-ahy-t   yn   [y-pyt'y   tykiri]
1-DECL-drink-NFUTI   I-eat   PERF
When/if I eat, I drink.

(36)   *Ø-na-ahy-t   taso [ta-pyt'y   tykiri]*
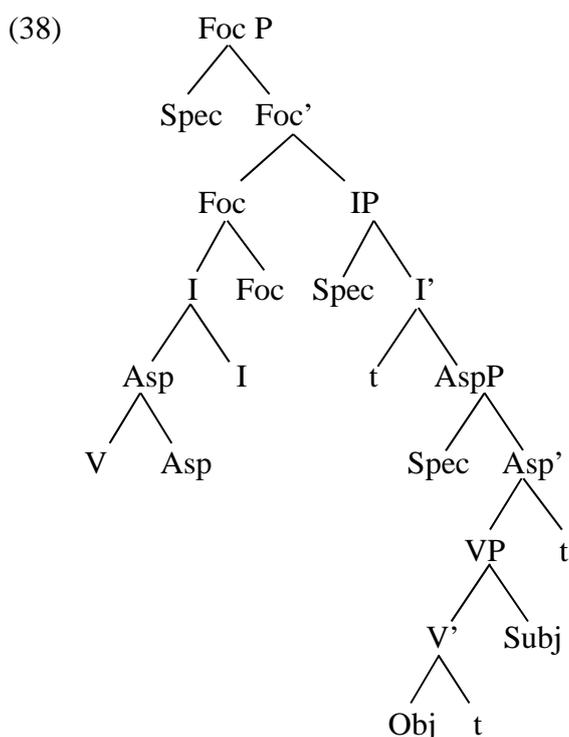3-DECL-drink-NFUT   man   3ANAPH-eat   PERF
When/if the man eats, he drinks.

In section 4 it will become clear that, in relatives, the order of constituents is motivated syntactically. In those structures, there is a special morpheme marking the verb when the object is the head of the relative. In such cases, the object moves to the left periphery of the embedded clause, and the word order is a fixed OSV. If the subject is the head, it moves to the left edge of the clause as well, the word order is SVO, but there is no special morphology on the verb.

2.3. Discussion

We have seen that the same aspectual heads that occur as subordinators in embedded clauses are used as aspectual auxiliaries forming a syntactic unit with matrix verbs. Storto (1999) explains these facts by saying that the verb phrase is the complement of these aspectual heads, and that the verb moves to adjoin to the aspectual heads in embedded clauses:

(37)

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                    AspP
                   /    \
                Spec    Asp'
                       /    \
                     VP      Asp
                    /  \     /  \
                  V'   Subj V    Asp
                 /  \
               Obj   t
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That same verb and aspect unit moves further to adjoin to other functional heads in matrix clauses. Since the aspectual head selects the verb phrase to its left, when the verb adjoins to this head it appears at the end of the sentence. Mood, tense and agreement, however, are heads that attract the verb to the left periphery of the sentence, and when the verb moves to adjoin to them, it occupies the first or second position in the sentence. This is represented in tree diagram (38) that has a Focus head as the leftmost head to which the verb adjoins. The empty specifier position of FocP may be filled by a focused noun phrase or empty (Storto 2010). This diagram is a departure from Storto 1999 that considered the leftmost head to be a complementizer (C). The reason why this new view is advocated is the fact that subordinators in Karitiana are not complementizer-like heads, since they also occur in matrix clauses.

(38)

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                    Foc P
                   /     \
                Spec     Foc'
                        /     \
                     Foc       IP
                    /   \     /   \
                   I    Foc  Spec  I'
                  /  \           /    \
                Asp   I         t     AspP
               /  \                  /    \
              V   Asp             Spec    Asp'
                                         /    \
                                       VP       t
                                      /  \
                                    V'   Subj
                                   /  \
                                 Obj   t
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3. Complement embedded clauses

Complement embedded clauses are structures that are clausal objects of an embedded verb. These clauses may be direct or indirect objects, but we will concentrate here on indirect objects, given that clausal direct objects invariably have the structure of head-internal relative clauses (cf. section 4). Many verbs that in English would have clausal complements that are direct objects, such as 'to see', 'to know', 'to like' and 'to want', in Karitiana have indirect objects. That is, these verbs are syntactically intransitive, and if they have a clausal argument as object, it is a non-obligatory indirect object, marked by the same oblique postposition found in indirect arguments of ditransitive verbs. In this section, the structure of such clausal indirect objects is discussed.

(39) *y-py-pyting-yn   yn [him   pisyp Inácio opĩ]-ty*
      1-ASSERT-want-NFUT I   game meat Inácio cut-OBL
      I want that Inácio cuts the meat.

(40) *y-py-sondyp-yn   yn [Inácio 'ep   opiĩ]-ty*
      1-ASSERT-know-NFUT I   Inácio   tree cut-OBL
      I know that Inácio cut the tree.

(41) *yn Ø-na-aka-t   i-sondyp-Ø   [Inácio 'ep   opiĩ]-ty*
      I   3-DECL-COP-NFUT PART-know-ABS.COP.AGR Inácio tree cut-OBL
      'I know that Inácio cut the tree.

(42) *y-py-sondyp-yn   yn [Inácio 'ep   opiĩ   pasagng]-<ã>ty*
      1-ASSERT-know-NFUT I   Inácio   tree cut   posterior-OBL
      I Know that Inácio will cut the tree.

(43) *y-py-so'oot-yn   yn [Inácio 'ep   opĩ]-ty*
      1-ASSERT-see-NFUT I   Inácio   tree cut-OBL
      I saw that Inácio cut the tree.

(44) *y-py-so'oot-yn   yn [Inácio 'ep   opĩ tyka]-ty*
      1-ASSERT-see-NFUT I   Inácio   tree cut   IMPF.MOT.-OBL
      I saw that Inácio was cutting the tree.

As seen in examples (42) and (44) above, in these types of embedded clauses, aspectual auxiliaries such as *tyka* and *pasagng*, meaning imperfective and posterior aspect, respectively, may occur, but there is no morphology of tense, aspect or agreement on the verb. The similarities between complement and adverbial embedded clauses are obvious: in both cases the verb is bare and aspectual auxiliaries may follow it, and the aspectual auxiliaries that occur in both types of embedded clauses also occur in matrix clauses. The use of imperfective aspect in matrix clauses has been discussed in section 2. An example of the use of posterior aspect together with the imperfective in a matrix clause was also given in (32), repeated below as (45):

(45)   *Ø-pyr-osedn   pasagng   tyka-dn   Pedro*
       3-ASSERT-happy posterior   IMPF.MOT-NFUT   Pedro
       Pedro is becoming happy.

The crucial difference between adverbial and complement embedded clauses, however, is that only the latter may be relative clauses. There are two kinds of evidence for that characterization of complement clauses. The first one is the fact that the translation of a relative clause may be the same as that of a completive embedded clause (Storto 1999):

(46)   *[dikisy y-man   ti-oky]-ty   y-ta-so'oot yn*
       spider   1-husband OFC-kill-OBL   1-DECL-see   I
       I saw the spider that my husband killed or
       I saw that my husband killed THE SPIDER.

Second, restrictions of constituent order in relatives and complement clauses may be the same: if an object is relativized, it must be on the left edge of the sentence, with a verb prefixed by the object focus prefix *ti-* thus yielding OSV word-order, as in (46); if a subject is relativized instead, SOV word-order is obligatory, as we will see in the next section. It must be emphasized that complement clauses, however, do not have to be relatives. We have seen in (39), for instance, a complement clause with OSV word-order in which the verb was not marked by the object focus construction prefix, in he same way that in adverbial clauses OSV sentences do not get focus morphology. We turn now to the structure of relative clauses in Karitiana.

4. The structure of relative clauses

Storto (1999) points out that the relativized noun phrase (subject, direct object, or indirect object) is always clause-initial in relative clauses. She argues that the relativized noun phrase is moved to clause-initial position in relatives in the same way that it is moved in wh- questions and focus sentences (answers of wh-questions, for instance). The evidence presented for that analysis, besides the constituent order, is the presence of a prefix *ti-* on the verb (glossed OFC for object focus construction) in those syntactic environments when the object is clause-initial (OSV in embedded clauses or OVS in matrix clauses):

(47)   *yn (Ø-na-aka-t)   i-so'oot-Ø   [taso õwã   mi]-ty*
       I   DECL-COP-NFU PART-see-ABS.COP.AGR. man   child   beat-OBL
       I saw the man who has beaten the child.

(48)   *yn (Ø-na-aka-t)   i-so'oot-Ø   [õwã   taso ti-mi]-ty*
       I   DECL-COP-NFUT PART-see-ABS.COP.AGR. child man   OFC-beat-OBL
       I saw the child whom the man has beaten.

(49)   Non-declarative OFC
         'ep   i-ti-pasagngã-t   jõnso
         tree   3-OFC-count-NFUT   woman
         The woman counted TREES.

(50)   Object wh- question
         morã-mon taso ti-i-oky-t
         Qu-INT.COP man OFC-PART-kill-ABS.COP.AGR
         What is it that the man killed?

(51)   Cleft answer to wh-question
         pikom   (Ø-na-aka-t)   taso ti-i-oky-t
         monkey   3-DECL-COP-NFUT man OFC-PART-kill-ABS.COP.AGR
         It is monkeys that the man killed.

(52)   Declarative OFC: answer to wh-question
         pikom   a-ta-oky-t taso
         monkey DOFC-DECL-kill-NFUT   man
         Monkeys, the man killed.

(53)   Relatives in subject position:
         [jõnso õwã   mi] Ø-na-aka-t   i-hyryp-Ø
         woman child   beat 3-DECL-COP-NFUT PART-cry-ABS.COP.AGR
         The woman who has beaten the child cried.

(54)   *[õwã jõnso   ti-mi]   Ø- na-aka-t   i-egngy-t*
         child   woman   OFC-beat 3-DECL-COP-NFUT PART-vomit-ABS.COP.AGR
         The child whom the woman has beaten vomited.

(55)   Relatives in oblique object position
         [dikisy y-man   ti-oky]-ty   y-ta-so'oot yn
         spider   1-husband OFC-kill-OBL   1S-DECL-see I
         I saw the spider that my husband killed or
         I saw that my husband killed THE SPIDER.

(56)   Relatives in direct object position
         yn Ø-naka-mi-t   [õwã ti'y   'y]
         I   3-DECL-beat-NFUT child   food eat
         I have beaten the child who ate the food.

Note that when, inside the relative, there is an intransitive verb that has an oblique argument relativized, this argument, marked by the oblique postposition, is fronted in the same way as a direct object or subject are:

(57)   *y-py-so'oot-<o>n   yn [ti'y-ty   õwã   pytagng]-<a>ty*
         1-ASSERT-see-NFUT   I   food-OBL   child   rob-OBL
         I saw the food that the child has robbed.

The same pattern obtains with ditransitive verbs, which have themes as indirect objects:

(58)   *yn naka-hit   Nelson [presente-ty y-amã]-ty*
        I   DECL-give Nelson present-OBL   1-buy-OBL
        I gave Nelson the present that I bought.

There is no reason to analyze relatives in Karitiana as nominalizations, as researchers have done with other Tupi languages (Galúcio 2006 for Mekéns, Moore 1989, 2006 for Gavião), for many reasons. First, since there is no overt nominalizer in such clauses. Second, we know that movement has occurred inside the relative because when the object is relativized since the object focus construction prefix *ti-* is obligatory. The obligatory movement of the relativized noun phrase – subject, object or indirect object - to the left periphery of the relative clause (Spec,AspP in our tree diagram) by itself yields the desired reading of a focus operator binding a variable. The object focus prefix *ti-* also occurs in object wh-questions that have the structure of cleft sentences (Storto 1999, 2008, 2010), and in object focus constructions (as in (49)) that are fully inflected matrix clauses. Because of examples like (49), it is not possible to say that the OFC constructions nominalize the relative clause, as Galúcio (2006) claims is true for Mekéns. The nominalizer of clausal complements of the copula verb headed by adjectives or intransitive verbs is the participle prefix *i-* in Karitiana (Storto 2008, 2010). Finally, other phrases that distribute as noun phrases, such as demonstrative phrases and universally quantified phrases have been shown to be relative clauses in the language (Muller, Storto & Coutinho-Silva 2006a, 2006b, Coutinho-Silva 2008) and there is no evidence indicating that they are nominalized. This is not to say that Galucio and Moore are incorrect in their analyses of Mekéns and Gavião. Karitiana clearly differs from these languages in this respect, as there is no nominalizing morphology in any embedded clause with the exception of copula complements.

5. Conclusion

Karitiana has at least three types of embedded clauses. In none of these types of clauses the verb is inflected for tense, mood or agreement. It appears in its bare form, sometimes followed by aspectual auxiliaries. We show that such auxiliaries also occur in matrix clauses, where they form a complex head with the verb and get inflected for tense. We argue that the absence of tense in embedded clauses by itself is not a good evidence for nominalization. There is no reason why a nominalized clause should have aspectual morphemes or plural suppletion (on verbs and auxiliaries, marking events as plural), and embedded clauses in Karitiana may have both. We hypothesize, instead, following Storto (1999) that embedded clauses are truncated versions of matrix clauses in the language. Whereas matrix clauses have functional heads such as aspect, tense, mood and agreement, in embedded clauses the only funcional head available is aspect.

Abbreviations

ABS.COP.AGR=absolutive copular agreement, ADVZR=adjectivizer, ASSERT=assertative mood, CAUS=causative, COP=copula, DECL=declarative mood, DOFC=declarative object focus construction, IMP=imperative mood, IMPF=imperfective aspect, IMPF.MOT= imperfective aspect suppleted for motion; IMPF.STDNG=imperfective aspect suppleted for standing position; IMPF.STING=imperfective aspect suppleted for sitting position; IMPF.SUP=imperfective aspect suppleted for supine position; IMPF.P=imperfective aspect (plural), IND.EVID=indirect evidential, LOC=locative, NFUT=non-future tenses, NEG.POL=negative polarity item, OBL=oblique case, PART=participle, PERF=perfective, PGR=progressive aspect, 3=third person prefix (singular or plural), 3ANAPH=third person anaphoric prefix (singular or plural), 1S=first person singular prefix, 2S=second person singular prefix, 2P=second person plural prefix.

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