

Valence, Voice, and Noun Incorporation in Karajá

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1. Introduction

The purpose of this paper is twofold. First, it provides a brief description of the morphosyntax of Karajá, a Macro-Jê language spoken in Central Brazil, focusing especially on the mechanisms of valence marking and grammatical relation changing. In addition, this paper discusses the implications of the Karajá data for Baker's (1988) incorporating account of antipassive. Karajá is traditionally described as having a very irregular fused set of prefixes indicating person, aspect, object, and direction (Fortune & Fortune 1964, Wiesemann 1986, Maia 1998). However, a more careful analysis reveals a rather regular, mostly agglutinating morphology, with separate prefixes indicating *person* (and cumulatively, *mood*), *direction*, and *valence* (1). In addition, pronominal direct objects are obligatorily incorporated into the verb (2).

- (1) *dɨkarẽ waha* *karrakokre*
dɨkarẽ waha ka-r-ɨ-rakɔ=kɔre
I my.father I-CTFG-TRANS-wait=FUT
'I will wait for my father.'

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- (2) *waha* *rɪwarakokre*
 waha Ø-r-ɪ-wa-rakɔ=kəre
 my.father 3-CTFG-TRANS-1-wait=FUT
 ‘My father will wait for me.’

These prefixes include a well-developed system of voice and valence markers. There is a clear-cut morphological differentiation between transitive and intransitive verbs, and valence changes are always morphologically indicated. Furthermore, the language presents a complex set of mechanisms to indicate changes in the grammatical relations among the arguments of a verb. For example, any transitive verb, such as *kəɔ* ‘to cut’ (3a), may be inflected to indicate the suppression of the agent, in a *passive* construction (3b), or the suppression of the patient, in an *antipassive* construction (3c).

- (3) a. *nadɪ* *waritʃɔre* *rade* *rɪkrɔreɪɪ*
 d-ãdɪ wa-rikɔre rade Ø-r-ɪ-kəɔ=r-ɛɪɪ
 REL-mother 1-offspring hair 3-CTFG-TRANS-cut=CTFG-PROGR
 ‘My mother is cutting my child’s hair.’
- b. *waritʃɔre* *rade* *rakrɔreɪɪ*
 wa-ritʃɔre rade Ø-r-a-kəɔ=r-ɛɪɪ
 1-offspring hair 3-CTFG-PASS-cut=CTFG-PROGR
 ‘My child’s hair is being cut.’
- c. *nadɪ* *rɔkrɔreɪɪ*
 d-ãdɪ Ø-r-ɔ-kəɔ=r-ɛɪɪ
 REL-mother 3-CTFG-ANTI-cut=CTFG-PROGR
 ‘My mother is cutting (*something*).’

The language also presents *noun incorporation*, which is generally a mechanism of possessor raising. In general, only inherently possessed nouns, such as body-part terms, may be incorporated. Since only the possessed noun is incorporated, the valence of the incorporating verb remains unchanged, as the possessor is promoted to subject with intransitive verbs, or direct object with transitive verbs (4a). And since a transitive verb remains transitive after having incorporated a noun, it can still be made passive (4b) or antipassive (4c):

- (4) a. *nadɪ* *waritʃɔre* *rɪradekrɔreɪɪ*
 d-ãdɪ wa-ritʃɔre Ø-r-ɪ-rade-kəɔ=r-ɛɪɪ
 REL-mother 1-offspring 3-CTFG-TRANS-hair-cut=CTFG-PROGR
 ‘My mother is cutting my child’s hair.’
 [Lit. ‘My mother is hair-cutting my child.’]
- b. *waritʃɔre* *rɔradekrɔreɪɪ*
 wa-ritʃɔre Ø-r-a-rade-kəɔ=r-ɛɪɪ
 1-offspring 3-CTFG-PASS-hair-cut=CTFG-PROGR
 ‘My child’s hair is being cut.’ [Lit. ‘My child is being hair-cut.’]

- c. *nadi* *rɔradɛkrɔɛɾɪ*
 d-ãdi Ø-r-ɔ-radɛ-kɔɔ=r-ɛɾɪ
 REL-mother 3-CTFG-ANTI-hair-cut=CTFG-PROGR
 ‘My mother is cutting hair.’ [Lit. ‘My mother is hair-cutting (*someone*).’]

Examples such as (4c), in which antipassive markers can co-occur with an incorporated noun, may have interesting implications for theories that treat antipassive as a special kind of noun incorporation, such as seen in Baker’s approach (1988). If antipassive is merely a case of noun incorporation, as Baker claims, how would it interact with noun incorporation proper? The following section describes the morphosyntax of Karajá, in order to familiarize the reader with the mechanisms of grammatical relation changing in this language. Section 3 discusses the implications of the Karajá data for Baker’s account of the antipassive construction.

2. Morphosyntactic overview

Karajá is an SOV, head-marking language. Core NP arguments—that is, subject and direct object—are not morphologically marked. Pronominal subjects are expressed by a series of free pronouns, such as *dɪkarɔ̃* ‘I’ in (1) above, while pronominal objects are expressed by a series of bound morphemes, such as *wa-* ‘1st person’ in (2). In contrast to a fairly simple nominal morphology, Karajá presents a complex verb morphology. Stem-formation processes such as compounding, noun incorporation, and reduplication are commonly used. In addition, as mentioned before, the verb is marked for *person* (and, cumulatively, *mood*), *direction*, and *voice/valence*.

2.1 Lexical classes

Most noun and verb stems can be divided into two lexical classes, arbitrarily labeled *class I* and *class II* (Ribeiro 1996). The main difference between class I and class II noun stems is in the series of personal prefixes they take, as illustrated below by the paradigms for *kɔɾʊ* I ‘forehead’ (5) and *ɛbɔ* II ‘hand’ (6). The series of personal prefixes occurring with class I and class II stems are summarized in Table 1 below.

(5)	class I		(6)	class II	
	<i>habu kɔɾʊ</i>	‘man’s forehead’		<i>habu d-ɛbɔ</i>	‘man’s hand’
	<i>wa-kɔɾʊ</i>	‘my forehead’		<i>wa-d-ɛbɔ</i>	‘my hand’
	<i>a-kɔɾʊ</i>	‘your forehead’		Ø- <i>ɛbɔ</i>	‘your hand’
	<i>i-kɔɾʊ</i>	‘his/her/its forehead’		<i>d-ɛbɔ</i>	‘his/her/its hand’, or
	<i>dʼa-kɔɾʊ</i>	‘his/her/its own forehead’			‘his/her/its own hand’

Table 1. Possessive prefixes in Karajá (Ribeiro 1996)²

Person	Class I	Class II
1 st	<i>wa-</i>	<i>wa-</i>
2 nd	<i>a-</i>	Ø-
3 rd	<i>i-</i>	<i>d-</i>
3 rd REFL	<i>dʼa-</i>	

² Although all class II stems are vowel-initial and most of class I stems are consonant-initial, the distinction cannot be reduced to phonological terms, since class I also includes some vowel-initial stems, such as *aθikɔ* ‘arm’ (♂ *aθiɔ*), *ɛθɔ̃* ‘cotton’, *ari* ‘to gather’, *eθi* ‘younger brother’, etc.

Whereas class I prefix series distinguishes a reflexive third person (*d̥a-*) from a non-reflexive one (*i-*), class II series has only one third person prefix (*d-*), which covers the range of meanings of both reflexive and non-reflexive third persons. Furthermore, the class II stem *ɛbɔ* ‘hand’ presents a prefix *d-* in the first person and when preceded by a nominal possessor.³ The function of this prefix is synchronically fairly opaque, but its distribution resembles that of *relational prefixes*, which mark the contiguity or non-contiguity of a stem to its determiner. Relational prefixes were first described as a grammatical peculiarity of Tupí-Guaraní languages, and their occurrence in languages of Karíb and Macro-Jê stocks, as well as in languages of other branches within the Tupí stock, has been pointed out as evidence for a genetic relationship among these three groups (Rodrigues 1994).

The main difference between class I and class II verb stems is in the fact that class II intransitive verbs, such as *ud̥əd̥ə* II ‘to become cold’, are marked by a zero prefix, whereas class I intransitive verbs, such as *d̥ɔd̥ək̥e* I ‘to become hot’, are marked by the prefix *a-*.⁴

- (7) a. *bəde* *rud̥əd̥əra*
 bəde Ø-r-Ø-ud̥əd̥ə=r-a
 weather 3-CTFG-INTR-become.cold=CTFG-PERF
 ‘The weather got cold.’
- b. *bəde* *rad̥ɔd̥ək̥era*
 bəde Ø-r-a-d̥ɔd̥ək̥e=r-a
 weather 3-CTFG-INTR-become.hot=CTFG-PERF
 ‘The weather got hot.’

Class II transitive stems, such as *ɔah̥ɪd̥ə* II ‘to treat’,⁵ take the prefix *d-* when not immediately preceded by a pronominal direct object or by an incorporated noun (8a). When immediately preceded by a pronominal direct object or an incorporated noun, the relational prefix *l-* is used (8b):

- (8) a. *həri* *warit̥ɔr̥e* *ɪd̥ɔah̥ɪm̥əre*
 həri *wa-rik̥ɔr̥e* Ø-r-l-d̥ɔah̥ɪ-d̥ə=r-e
 shaman 1-child 3-CTFG-TRANS-3/REL-medicine-VERB=CTFG-IMPERF
 ‘The shaman treated my child.’

³ The relational prefix and the third person prefix are palatalized before [high, +ATR] vowels, being pronounced as [dʒ] and [tʃ] respectively (cf. Ribeiro 2000a). In addition, the relational prefix has two non-phonologically conditioned allomorphs, *d-* (such as in *d-ɛbɔ* ‘hand’) and *l-* (such as in *l-ɔah̥ɪ* ‘medicine’), whose choice is subject to dialectal variations.

⁴ Maia (1998: 28) terms the vowel that follows the directional prefix *thematic vowel*, following an infelicitous tradition that traces back to Fortune & Fortune (1964). However, as we have seen, these vowels may be inflectional prefixes, marking voice and valence (1)-(4), as well as person (11). They can also be the result of the fusion between a person prefix and a voice prefix (15a). Finally, they can be simply part of the verb stem, such as in the third person of class II intransitive stems (7a, 12a, 14a).

⁵ This is a denominal verb derived from *ɔah̥ɪ* II ‘medicine’ (cf. section 2.4.1.1). It is tempting to consider the prefix *d-* occurring with transitive verbs as simply a marker of 3rd person object. However, this prefix also occurs with *antipassive* constructions (20), which do not allow explicit direct objects (see section 2.4.2.3).

- b. *həri* *rɪwəʋahĩĩĩre*
 həri \emptyset -r-I-wa-l-ʋahĩ-dã=r-e
 shaman 3-CTFG-TRANS-1-REL-medicine-VERB=CTFG-IMPERF
 ‘The shaman treated me.’

2.2. Subject agreement

Person agreement displays a strictly nominative pattern, with the verb always agreeing with the subject, be it intransitive (9a) or transitive (9b). Person agreement markers are distributed into two different sets, one occurring in the realis (present and past tenses) and the other in the irrealis (future, potential, and admonitory). These prefixes are listed in Table 2 below.⁶

Table 2. Subject agreement markers in Karajá (Ribeiro 1996)

Person	Realis	Irrealis
1 st	<i>a-</i>	♀ <i>ka-</i> /♂ <i>a-</i>
2 nd	<i>dã-</i>	<i>bã-/b-</i>
3 rd	\emptyset -	\emptyset -; ♀ <i>kã-</i> /♂ <i>ã-</i>

- (9) a. *krarĩfakre* b. *kariθohokre*
ka-r-a-rika=kõre *ka-r-I-θ-θohõ=kõre*
l-CTFG-INTR-walk=FUT *l-CTFG-TRANS-3-wash=FUT*
 ‘I will walk.’ ‘I will wash it.’

2.3. Direction

The verb also inflects for *direction*, according to the speaker’s point of view. *Centrifugal* direction (‘thither’), marked by the prefix *r-* or by its zero-allomorph, indicates that the process is seen as occurring away from the current location of the speaker (10a). *Centripetal* direction (‘hither’), marked by the prefix *d-*, indicates that the process is seen as occurring towards the current location of the speaker (10b). Centrifugal direction is the unmarked member of the opposition. All verbs are marked for direction, including those that apparently do not indicate a motion whatsoever, such as *urũ* ‘to die’ (cf. Ribeiro 2000b). Notice that the clitic aspectual auxiliaries also inflect for direction (3,4,7,8), and, in the 2nd person, also for person (15).

- (10) a. *kariwĩkre* b. *kadiwĩkre*
ka-r-I-θ-wi=kõre *ka-d-I-θ-wi=kõre*
l-CTFG-TRANS-3-carry=FUT *l-CTPT-TRANS-3-carry=FUT*
 ‘I will take it.’ ‘I will bring it.’

⁶ The same set of prefixes is used for singular and plural. There is also a distinction between a first person plural exclusive (marked by the same set of prefixes used for first person singular) and a first person plural inclusive (inflected for third person). The prefix *kã-* ‘3rd person’ is restricted to the centripetal direction of the irrealis mood.

2.4. Valence and voice

Karajá verbs are lexically either transitive or intransitive.⁷ Intransitive verbs may have their valence increased through causativization (2.4.1.1) or through oblique promotion (2.4.1.2). Transitive verbs, on the other hand, may have their valence decreased through reflexivization (2.4.2.1), passivization (2.4.2.2), and antipassivization (2.4.2.3).

2.4.1. Intransitive verbs

Intransitive verbs are those that do not take a direct object as one of their arguments, such as *udədə* II ‘to become cold’ (7a), *dədəke* I ‘to become hot’ (7b), and *rika* I ‘to walk’ (9a). As we have seen above, class I intransitive verbs are generally marked by the prefix *a-*, while class II intransitive verbs are marked by a zero allomorph. In addition, a few intransitive verbs, such as *θe* ‘to fall’, are marked by the prefix *ε-*. The class of intransitive verbs includes not only one-place verbs such as *rika* I ‘to walk’ and *udədə* II ‘to become cold’, but also *pseudo-transitive* verbs such as *obi* II ‘to see’, whose arguments are oblique NPs—in this case, a locative, marked by the postposition *bə* ‘diffuse locative’ (11). Although notionally transitive, such verbs behave as intransitive for all purposes. For example, they cannot be made passive or antipassive, and their arguments cannot be incorporated (16b).

- (11) *dɪkarə haləkəemə rabire*
 dɪkarə haləkəε=bə r-a-Ø-obi=r-e
 I jaguar=LOC CTFG-I-INTR-see=CTFG-IMPERF
 ‘I saw the jaguar.’

Most intransitive verbs can be transitivized, either through causativization or through the promotion of an oblique to direct object. The transitivized stem is formed by the nominal form of the verb plus the verbalizer suffix *-də*. This is illustrated in the example (12b) below, where the intransitive verb *uka* II ‘to be cooked’ is transitivized:⁸

⁷ Maia (1998, 79) mentions the existence of ‘diffuse verbs’, that is, verbs that can be used either transitively or intransitively without any morphological alteration. In our data, however, the only verb he mentions as being ‘diffuse,’ *ukə* II ‘to dry’, has exactly the same behavior of other intransitive verbs, such as *uka* II ‘to be cooked’ (12). As shown in the example (b) below, this verb presents transitive morphology when used transitively. Notice that the transitive stem is a denominal verb formed by the deverbal noun *urə* ‘the action of drying’ followed by the verbalizer suffix *-də* (cf. 2.4.1.):

- | | | | |
|-----|--|-----|---|
| (a) | <i>bεε rəkəre</i>
be Ø-r-Ø-ukə=r-e
water 3-CTFG-INTR-dry=CTFG-IMPERF
‘The water dried.’ | (b) | <i>tʃuu bεε rɪdʊrənəkre</i>
dʊ be Ø-r-ɪ-d-urə-də=kre
sun water 3-CTFG-TRANS-3/REL-dry-VERB-FUT
‘The sun will dry the water.’ |
|-----|--|-----|---|

⁸ This example illustrates a very common process for deriving nouns from verb roots, namely *consonantal replacement*, which consists in replacing a velar stop or a glottal fricative occurring in the last syllable of the verb root with an alveolar flap: *rika* I ‘to walk’ > *rira* ‘the action of walking’, *rira-də* ‘walking place’, *rira-dv* ‘the one who walks’; *θvɬə* I ‘to wash’ > *θvɬə* ‘the action of washing’, *θvɬə-də* ‘washing material’, *θvɬə-dv* ‘the one who washes’ (Ribeiro 1996). Thus, the transitive stem in (12b) above is constructed with the nominal form of the verb *uka* ‘to be cooked’, *ura* ‘the action of cooking’, followed by the verbalizer suffix *-də*.

- (12) a. *iweru rukureri*
iweru Ø-r-Ø-uka=r-eri
 calugi 3-CTFG-INTR-be.cooked=CTFG-PROGR
 ‘The *calugi* (a kind of drink) is cooking.’
- b. *ahawəki iweru rıdoranəkre*
 a-hawəki iweru Ø-r-ı-d-ora-də=kəre
 2-woman calugi 3-CTFG-TRANS-3/REL-be.cooked-VERB=FUT
 ‘Your wife will cook the *calugi*.’

2.4.1.1. Causativization

Causative stems derived from unergative verbs, such as *rika* I ‘to walk’, are formed with the causativizer suffix *-dəkə* plus the verbalizer suffix *-də* (13). However, the causative suffix does not occur in causative stems derived from unaccusative verbs, such as *uka* II ‘to be cooked’ in (12b) above.

- (13) *habu kuladu rıriradəkənəreri*
 habu kuladu Ø-r-ı-rira-dəkə-də=r-eri
 man child 3-CTFG-TRANS-walk-CAUS-VERB=CTFG-PROGR
 ‘The man is making the child walk.’

2.4.1.2. Oblique promotion

With a few *pseudo-transitive* verbs which take an allative or dative argument, such as *əkəraθi* II ‘to ask’, transitivity results in the promotion of the former oblique argument to direct object (examples from the Xambioá dialect):

- (14) a. *hawiki dərıkəkə rəkərafıre*
 hawiki d-a-rikəkə=kə Ø-r-Ø-əkəraθi=r-e
 woman 3REFL-offspring=AL 3-CTFG-INTR-ask=CTFG-IMPERF
 ‘The woman asked her son.’
- b. *hawiki dərıkəkə rıdəkərafınəre*
 hawiki d-a-rikəkə Ø-r-ı-d-əkəraθi-də=r-e
 woman 3REFL-offspring 3-CTFG-TRANS-3/REL-ask-VERB=CTFG-IMPERF
 ‘The woman questioned her son.’

2.4.2. Transitive verbs

Transitive verbs are those that take a direct object as one of their arguments. In Karajá, transitive verbs are always marked by the prefix *ı-*, as shown in examples (1)-(4) above. Both transitive and intransitive valence prefixes may fuse with the preceding personal prefix under certain circumstances, such as in the 2nd person in the centrifugal direction of the realis mood (15a). Notice that there is no fusion in the centripetal direction (15b).

- (15) a. *dərakode* b. *dadırakode*
 d-a-Ø-ı-Ø-rakəkə=d-e d-a-d-ı-Ø-rakəkə=d-e
 2-CTFG-TRANS-3-wait=2-IMPERF 2-CTPT-TRANS-3-wait=2-IMPERF
 ‘You waited for him (thither).’ ‘You waited for him (hither).’

2.4.2.1 Reflexive

There are two allomorphs of the reflexive morpheme, *eθi-* and *iθi-*. The former is incorporated into the verb, when the NP coreferential with the subject is a direct object (16a). The latter is attached to postpositions, when the coreferential NP is an oblique (16b).

- (16) a. *dɪkarə̃ kareʃiθuhokre*
 dɪkarə̃ ka-r-eθi-θuhɔ=kəre
 I 1-CTFG-REFL-wash=FUT
 ‘I will wash myself.’
- b. *habu iʃimə̃ robire*
 habu iθi=bə̃ Ø-r-Ø-obi=r-e
 man REFL=LOC 3-CTFG-INTR-see=CTFG-IMPERF
 ‘The man saw himself.’

2.4.2.2. Passive

Passive verbs are marked by the prefix *a-*, with class I stems such as *θuhɔ* ‘to wash’ (17b), or its zero allomorph, with class II stems, such as *uka* ‘to split’ (18b). Notice that this is apparently the same prefix that occurs with basic intransitive verbs such as *rika* I ‘to walk’ and *obi* II ‘to see’. With transitive roots, however, this prefix will always convey a passive or anticausative meaning.

- (17) a. *nadɪ wadəkɪ rɪθuhɔrɪrɪ*
 d-ədɪ wa-dəkɪ Ø-r-ɪ-θuhɔ=r-ɪrɪ
 REL-mother 1-clothes 3-CTFG-TRANS-wash=CTFG-PROGR
 ‘My mother is washing my clothes.’
- b. *wadəkɪ raθuhɔrɪrɪ*
 wa-dəkɪ Ø-r-a-θuhɔ=r-ɪrɪ
 1-clothes 3-CTFG-PASS-wash=CTFG-PROGR
 ‘My clothes are being washed.’
- (18) a. *kɔdʊ hālɔkɔɛ kɔrʊ rɪʃukare*
 kɔdʊ hālɔkɔɛ kɔrʊ Ø-r-ɪ-d-uka=r-e
 turtle jaguar forehead 3-CTFG-TRANS-3/REL-split=CTFG-IMPERF
 ‘The turtle split the jaguar’s forehead.’
- b. *hālɔkɔɛ kɔrʊ rukare*
 hālɔkɔɛ kɔrʊ Ø-r-Ø-uka=r-e
 jaguar forehead 3-CTFG-PASS-split=CTFG-IMPERF
 ‘The jaguar’s forehead was split.’

In the passive construction, the original O becomes the subject, as it happens in languages such as English, for example. However, unlike English, where the agent in a passive construction can be expressed as an oblique (‘by-phrase’), in Karajá the agent, although sometimes implicit, cannot be expressed at all. Thus, passives in Karajá are both

a *backgrounding* construction, functioning to delete unknown or irrelevant subjects, and a *foregrounding* construction, since they result in the promotion of the original O to subject position (Folley and Van Valin 1985).

2.4.2.3. Antipassive

Antipassive is a phenomenon typical of ergative languages, corresponding functionally to a ‘mirror image’ of the passive construction in nominative-accusative languages (Silverstein 1976). In a syntactically ergative language, “while the A and the O in an ergative clause are marked as ergative and absolutive respectively, the A in an antipassive is typically coded as an absolutive NP, and the O (if present) appears in a case other than the absolutive” (Cooreman 1994, 50).⁹ Although some authors, such as Cooreman, limit the discussion of antipassive constructions to ergative languages, nominative-accusative languages may also present *backgrounding* antipassives, which “function to demote the undergoer to peripheral status” (Folley and Van Valin 1985: 338). This is what occurs in Karajá, where antipassive, marked by the prefix ɔ-, results in the deletion of an unknown or irrelevant direct object:

- (19) *nadı* *rɔθohɔrɛrɪ*
 d-ãdı Ø-r-ɔ-θohɔ=rɛrɪ
 REL-mother 3-CTFG-ANTI-wash=CTFG-PROGR
 ‘My mother is washing (something).’

- (20) *hãbu* *rotfukarɛrɪ*
 hãbu Ø-r-ɔ-d-uka=r-ɛrɪ
 man 3-CTFG-ANTI-3/REL-split=CTFG-PROGR
 ‘The man is splitting (something).’

As these examples show, antipassive in Karajá is not promotional (or foregrounding), in the sense that the A remains in the same syntactic relation it occupies in the corresponding active, transitive voice. Furthermore, the antipassive construction in Karajá does not allow the expression of the demoted O whatsoever, which is an interesting parallel with what occurs to the agent in the passive construction.

2.5. Noun incorporation

Noun incorporation in Karajá is a process by which the head of the absolutive noun phrase is inserted into the verb, thereby forming a compound. The more productive pattern of noun incorporation involves only body-part terms, which are in general inherently possessed nouns.¹⁰ Since only the head of the absolutive noun phrase is

⁹ I will follow Cooreman in adopting Dixon’s (1979) use of the labels A and O to refer to the two participants in a two-participant clause—prototypically, the agent and the patient, respectively.

¹⁰ Karajá also presents *classificatory noun incorporation*. In such cases, the incorporated items are body-part terms that ordinarily function as *measure terms* (a), such as *ra* ‘head’ (measure term for potatoes and yams), *ru* ‘eye’ (measure term for grains), and *we* ‘belly’ (measure term for round fruits):

- | | | | | |
|-----|---|---|-----|---|
| (a) | <i>anõna</i>
adõda
pineapple
‘one pineapple’ | <i>i-we-θohodzi</i>
r-we-θohodi
3-belly-one | (b) | <i>anõna</i> <i>rɪwekɔkarɛrɪ</i>
adõda Ø-r-i-we-kɔka=r-ɛrɪ
pineapple 3-CTFG-TRANS-belly-grate=CTFG-PROGR
‘He/she is grating pineapple.’ |
|-----|---|---|-----|---|

incorporated, the valence of the resulting noun-verb compound remains unaltered, as the possessor is promoted to subject with intransitive, unaccusative verbs such as *bəhə* I ‘to break’ (21), or to object with transitive verbs such as *dəka* I ‘to tie’ (22):¹¹

- (21) a. *inəwε rɪkɪ dʌi rəbɔhɔrɛ*
 idə wε rɪkɪ dʌi Ø-r-a-bəhɔ=r-e
 people belly NARR 3.LOC 3-CTFG-INTR-break=CTFG-IMPERF
 ‘The people’s bellies were broken there, it is said.’
- b. *inə rɪkɪ dʌi rawɛbɔhɔrɛ*
 idə rɪkɪ dʌi Ø-r-a-wɛ-bəhɔ=r-e
 people NARR 3.LOC 3-CTFG-INTR-belly-break=CTFG-IMPERF
 ‘The people’s bellies were broken there, it is said.’
- (22) a. *kənəʃiwε kuθehewɛdɪ rɪdəkare*
 kədəʃiwε kuθehewɛ dɪ Ø-r-ɪ-dəkə=r-e
 K. rhea leg 3-CTFG-TRANS-tie=CTFG-IMPERF
 ‘Kynyxiwe tied the legs of the rhea.’
- b. *kənəʃiwε kuθehewɛ rɪdɪdəkare*
 kədəʃiwε kuθehewɛ Ø-r-ɪ-dɪ-dəkə=r-e
 K. rhea 3-CTFG-TRANS-leg-tie=CTFG-IMPERF
 ‘Kynyxiwe tied the legs of the rhea.’

As we have seen in (4) above, since noun incorporation is a valence-preserving process, an incorporating transitive verb can still be made passive or antipassive. The following section discusses the implications of the interaction between noun incorporation and antipassive in Karajá for Baker’s incorporating theory of antipassive.

3. Antipassive and noun incorporation

In this section, I will discuss the problems that the co-occurrence of antipassive and noun incorporation may potentially pose to an incorporating analysis of antipassive, taking into consideration the description of Karajá morphosyntax sketched above. Adopting the theoretical framework of the Government and Binding theory, Baker (1988) proposes a treatment of familiar grammatical function changing processes such as passive, possessor raising, and applicatives as a matter of incorporation, taking incorporation in a rather broad sense, as “processes by which one semantically independent word comes to be ‘inside’ another” (Baker *op. cit.*, 1). Instead of explicit rules which would account separately for each grammatical function changing process, Baker claims that “the heart

¹¹ Examples (21a) and (21b) are from the Javaé dialect. Although Maia (*op. cit.*: 63) claims that object incorporation does not occur in Javaé, noun incorporation seems to be as common in Javaé as it is in the other three dialects. The example below, involving the incorporation of the noun *dɪkəhɔ* I ‘knee’ to the transitive verb *wɛ* I ‘to penetrate’, occurs in the same text from which the examples above were obtained:

- (a) *rɪdɪkəhɔwɛrɛ*, *ɪdɪkəhɔ* *riwɛrɛ*
 Ø-r-ɪ-Ø-dɪkəhɔ-wɛ=r-e *ɪ-dɪkəhɔ* Ø-r-ɪ-wɛ=r-e
 3-CTFG-TRANS-3-knee-penetrate=CTFG-IMPERF 3-knee 3-CTFG-TRANS-penetrate=CTFG-IMPERF
 ‘[He] stabbed him in the knee, he stabbed his knee.’

of all apparent GF changing process is the movement of a word or (more technically) a lexical category” (p. 19). Thus, Baker claims that words, and not only phrases, can be moved, a process he terms X^0 movement, an instance of the generalized movement transformation Move-Alpha.¹²

Baker’s incorporation theory provides a unifying account for a number of apparently distinct grammatical function changing processes. Thus, while applicatives are seen as cases of adpositional incorporation, antipassive is treated as a matter of noun incorporation, along with noun incorporation proper and possessor raising reanalysis. According to Baker (*op. cit.*, 133), “antipassive is merely a special case of Noun Incorporation in which a single, designated lexical item incorporates.” The antipassive morpheme, which semantically corresponds to an indefinite NP, is generated in the direct object position at D-structure and then adjoined to the verb by X^0 movement. As is typical in the Government and Binding theory, the movement leaves a trace, which must be coindexed with the moved element in order to satisfy the Empty Category Principle (ECP), according to which traces must be properly governed.

In some languages, however, antipassive markers can co-occur with an incorporated noun. Karajá, as we have seen, is one of these languages. Cases such as these raise an interesting question concerning the way antipassive and noun incorporation proper would interact in an incorporating account of antipassive. Baker (*op. cit.*: 138) mentions the case of Nisgha (23), as well as the Mayan languages, as languages where antipassive marking occurs with an incorporated noun. According to him, in these languages, the antipassive morpheme “acts as a kind of ‘linking morpheme’ which appears when the object noun root is incorporated into the verb.” The antipassive “provides the theta role link necessary for Noun Incorporation to take place” (*op. cit.*: 139). Baker apparently does not consider examples such as (23) as cases of double NI, since both the antipassive affix and the incorporated noun share one and the same thematic relation.

(23) **Nisgha** (Baker *op. cit.*, 138)

a. *simiyeeni-sgu-m-hoon*
smoke-APASS-ADJ-**fish**
‘to smoke fish’

b. *lits’il-sgu-m-daala*
count.up-APASS-ADJ-**money**
‘to keep track of money (donations)’

All the examples cited by Baker seem to involve cases in which noun incorporation is a valence-changing process, making intransitive an otherwise transitive verb. In such cases, antipassive marking seems to be merely a consequence of the fact that the verb is made intransitive by the incorporation of its object. However, this is quite different from what happens in Karajá, where, as we have seen, productive noun incorporation is always a valence-preserving process. In cases in which the antipassive marker occurs with an incorporated noun, it is clear that the implied direct object corresponds to the original possessor of the incorporated noun (4c). If antipassive is indeed a case of noun incorporation, it is necessary to admit that, in examples such as this, antipassivization would have to be preceded by noun incorporation proper, which

¹² Given limitations of space, the summary of Baker’s theory presented here is necessarily succinct. My purpose in this section is not to provide an extensive discussion of his theory, but simply to point out its inadequacy to explain the Karajá data.

would place the antipassive morpheme in direct object position, making it eligible for incorporation.

In principle, this fact would apparently not be problematic for Baker's approach, since, according to him, the antipassive does not necessarily affect only structural direct objects (Baker *op. cit.*: 136). The antipassive morpheme may correspond, for example, to the subject of a lower clause, which is then moved up to a higher clause in a Raising-to-Object construction. This is what happens in Chamorro:

- (24) **Chamorro** (Baker *op. cit.*: 137)
Kao *man-ekspekta hao* *pära un ma'-ayuda?*
Q APASS-expect you(ABS) IRREAL-2S-PASS-help
'Do you expect someone to help you?'

Thus, one might likewise postulate that in Karajá, the antipassive morpheme could be generated as a possessor, which would be promoted to direct object through the incorporation of the possessed noun. The new object would then be incorporated into the verb, through antipassivization. However, Baker categorically rules out the possibility of multiple noun incorporations:

Both case theory and the ECP rule out acyclic combinations, where first a noun incorporates into the verb and then the possessor itself incorporates—even though that possessor will look like a direct object on the surface given the GTC. [Baker *op. cit.*, 374]¹³

According to the Government Transparency Corollary (GTC), “a lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position” (p. 64). Thus, the incorporation of the former possessor should in principle be possible, since it now behaves as the direct object. However, Baker (*op. cit.*: 367) argues that acyclic combinations would violate the *proper government* required by the ECP. According to this notion of government, intervening traces (such as the one left by an incorporated noun or adposition) and not only full lexical items can act as ‘possible antecedents,’ blocking the incorporation of the new direct object into the verb.

Nevertheless, such a scenario is exactly what happens in Karajá, where noun incorporation—which is essentially a possessor raising construction—clearly feeds antipassive.¹⁴ Therefore, if antipassive is, in fact, a matter of noun incorporation, Karajá provides a strong counterexample to Baker's claim that multiple noun incorporations do not occur. This apparently raises the necessity for a revision of Baker's approach in order to allow repeated applications of noun incorporation.

¹³ *Acyclic* combinations are those resulting from a movement which “reaches down more deeply into the structure than the first one does” (Baker *op. cit.*: 365).

¹⁴ As Baker admits, possessor raising constructions are the most likely to yield interactions between different NIs, “because by definition there are two NPs present: the possessor and the NP headed by the possessed noun.” Therefore, one would expect possessor raising to feed “Noun Incorporation proper, Antipassivization, or even Possessor Raising itself, since each of these processes is known to involve the verb and its direct object.” However, Baker considers such combinations “systematically impossible” (Baker *op. cit.*, 375).

4. Final remarks

This paper presents a reanalysis of the Karajá verb, revealing a complex set of grammatical relation changing mechanisms, such as antipassive and noun incorporation, which were not mentioned in previous studies of the language (Fortune & Fortune 1964; Maia 1998). In particular, the interaction between antipassive and noun incorporation in Karajá has interesting implications for Baker's (1988) incorporating account of antipassive, providing a strong counterexample to his claim against the occurrence of multiple incorporations.

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