

Diagnosing unaccusativity in Kawahíva

Wesley dos Santos*

Abstract. Unaccusativity, the division of intransitive verbs into two distinct classes, is usually argued for based on a class of cross-linguistic diagnostics, e.g, passivization. However, I diagnose unaccusative verbs in Kawahíva, an endangered Amazonian language, despite the traditional diagnostics being missing. The argument draws on a pattern of *i*-marking found in several constructions involving object displacement and drop, as well as in a class of intransitive verbs which includes, among others, the verbs *i-katu* ‘be pretty, well’, *i-rovia* ‘be happy’. I suggest that, since *i*- is a result of object dislocation and drop, then the sole argument of *i*-marked intransitive verbs must be an object that undergoes dislocation. As a result of arguing that *i*-marked intransitive verbs select an object, as opposed to a subject, they fit into the definition for unaccusative verbs (Perlmutter 1978).

Keywords. syntax; morphology; unaccusativity; unergatives; Kawahíva

1. Introduction. In this paper, I argue that a class of intransitive verbs in Kawahíva (Tupí-Guaraní; Brazil) can be identified as unaccusative verbs despite all traditional cross-linguistic diagnostics of unaccusativity being missing. In particular, I suggest that verbs like *ikatu* ‘be pretty, well’, *ikwerai* ‘be tired’, *irovia* ‘be happy’, *irite* ‘be ugly’, *iro* ‘y’, a.o, are unaccusative, as opposed to the verbs *kwam* ‘dance’, *nhm* ‘run’ a.o, which are unergative verbs, based on a morphological pattern of *i*-marking.

The pattern of *i*-marking is found in constructions involving object extraction or dropping. To illustrate with object questions, consider an example of an embedded object question in (1b),¹ a construction that features an *i*-marked verb; (1a) is to show that a plain clause with a preverbal object in the dependent clause does not result in the verb marked with *i*-.

- (1) a. ere-piang nde [apinaga pira ’u-a] rai’i.
 2SG.A-see 2SG.PRO father fish eat-NMLZ PFV
 ‘You saw father eating fish.’
- b. gara nde ere-piang [apinaga *(i)-’u-a] rai’i?
 what 2SG.PRO 2SG.A-see father i-eat-NMLZ PFV
 ‘What did you see father eating?’

* This work would never be possible without the invaluable help of my consultants Mandéi Juma, Davi (Nhāndu) Uru Eu Wau Wau, Puré Uru Eu Wau Wau, and Tangāi Uru Eu Wau Wau. All errors are my own. Author: Wesley dos Santos, University of California, Berkeley. (wesleynascimento@berkeley.edu).

¹ The examples draw on primary data collected by the author through fieldwork with fluent speakers of dialects spoken by the Uru Eu Wau Wau and Juma communities. The data represents running speech drawn from personal stories and traditional narratives, as well as syntactic elicitation and participant observation. All data is deposited in the *Kawahíva Language Documentation Archive of the Survey of California and Other Indian Languages* (see References).

Examples throughout are written in the Kawahíva orthography, which is similar to the *International Phonetic Alphabet*, except for the following characters: <y> = [i], the apostrophe <’> = [ʔ], <kw> [k^w], <tx> = [tʃ], ngw = [ŋg^w], <gã> = [ŋã].

Glossing in the examples follow Leipzig Glossing Rules. Non-conventional glosses used are: A = subject indexing marker; B = object indexing marker; INF = infinitive; PRO = pronoun; RED = reduplicant.

In either clause, the clausal complement-taking verb *hepia* ‘to see’ selects for the bracketed clause headed by the verb ‘*u*’ ‘eat’ which, in turn, selects for the object *pira* ‘fish’. They differ, however, in that (1b) also includes an object question with the wh-word *gara* ‘what’. The wh-word appears in the initial position of the matrix clause, as opposed to the immediately preverbal position of the embedded clause in (1a). Crucially, in (1b), the different surface position of the object of the embedded verb triggers *i-*.

Based on similar constructions, I claim that [i] in *i-katu* ‘to be pretty, well’, *i-kwerai* ‘to be tired’ etc. is the same *i-* marker seen in (1b). The argument goes as follows: if the pattern of *i-* marking results from objects leaving the verb phrase, as it does in (1b) and other similar cases, it must be that the *i-* marking in verbs like *i-katu* ‘to be pretty, well’ results from an object leaving a VP. If on the right track, this idea supports that the only argument of *katu* ‘be pretty, well’ starts off as an object structurally, otherwise, it would not be able to trigger the *i-* marking. Assuming this to be true, then the pattern of *i-* marking found in these intransitive verbs strongly support the idea that the argument of these intransitive verbs is an object, thus explaining how they receive the same marker as other *i-* marked verbs. Furthermore, I argue this approach where the unique argument of some intransitive verbs pattern with objects of transitive verbs leads to the analysis of this class as unaccusative verbs, following the unaccusative hypothesis (Perlmutter 1978). This paper is organized as follows: In (2), I briefly discuss the phenomenon of unaccusativity. In (3), I provide some background on Kawahíva. Then, in (4), I discuss several constructions showing the pattern of *i-* marking. What these constructions have in common is they trigger a prefix *i-* on the verb. In (5), I suggest a unified account of the pattern of *i-* marking in those constructions discussed in (4) and *i-* marked intransitive verbs.

2. Unaccusativity. Some languages show a division in the class of intransitive verbs based on how the argument of some intransitive verbs behaves under e.g. passivization, auxiliary selection, participle formation, and resultatives. These constructions have been used as cross-linguistic diagnostics of the phenomenon referred to as *unaccusativity* since Perlmutter (1978).

Unaccusativity refers to the class of intransitive verbs whose sole argument is structurally an object, or an internal argument, as opposed to a subject, or external argument; the opposite of this class is called unergative. This split helps to explain the different behavior of arguments of some intransitive verbs under the abovementioned cross-linguistic constructions, passivization being one of the most common among them. Since only verbs which select for a subject may undergo passivization, it is no surprise that unaccusatives cannot undergo passivization. Another diagnostic for unaccusativity comes from differences in auxiliary selection in the formation of the past/perfect in Indo-European languages, which involves a periphrasis consisting of either ‘have’ and ‘be’ plus the past/perfect form of an intransitive verb. In French, for instance, intransitive verbs like *travailler* ‘to work’ form the past/perfect with the auxiliary *avoir* ‘to have’, but verbs like *tomber* ‘to fall’ can do so with the auxiliary *être* ‘to be’.

- (2) a. j’=ai travaillé.
 I=have worked
 ‘I have worked.’
 b. je suis tombé.
 I am fallen
 ‘I have fallen’ (lit. I’m fallen).

These diagnostics are unavailable in Kawahíva since the relevant constructions are missing in the language: i) the ‘be’ auxiliary, *eko*, but not the ‘have’ auxiliary, *rero-*,² appears in the periphrastic construction for the perfect/habitual, ii) there is no evidence for participles,³ nor is there iii) evidence for a passive or resultative construction.

Yet, I argue for a language-internal diagnostic to support the existence of unaccusative verbs in the language. The argument draws on a pattern of morphologically-marked verbs with *i-* (or allomorphs [e-] ~ [dʒ-] <j>, and ~ [ɲ-] <nh>),⁴ which is always found in constructions involving an object that is displaced or dropped from its preverbal position within the verb phrase. I concur that *i*-marked intransitive verbs must also involve a moved object and suggest these intransitives are unaccusatives assuming the unaccusative hypothesis (Perlmutter 1978).

3. Language background. Kawahíva is a Tupí-Guaraní language spoken by about 560 people in the Brazilian Amazon (dos Santos 2017, 2021a). It has VSO(PP) order in presentational and out-of-the-blue matrix clauses, as shown in (3), but other orders are possible depending on the informational structure status of the clause-initial argument (e.g. focus) (dos Santos 2021d). Dependent clauses, however, are strictly OV, as shown by the complement clause in (4a), subject-headed relative clause in (4b), and the adverbial (when-) clause in (4c) below.

- (3) a-hepia ki jie ka tapy'ynha=gã=pyri.
 1SG.A-see PST 1SG.PRO 3SG.MASC.PRO white.people=3PL.PRO=by
 ‘I saw him in the city.’ (lit. I saw him near the white people.)
- (4) a. a-hepiang ki jie [ji=ruva=ga pira 'u=a].
 1SG.A -see PST 1SG.PRO 1SG.PRO=father=MASC fish eat=NMLZ
 ‘I saw my father eating fish.’
- b. tapy'ynha [mõhanga mbuhu-har=a]=gã te'i o-hum ore=pyri.
 white.person medicine bring-har=NMLZ=PL ONLY 3A-go 1EXCL.PRO=by
 ‘The white people [who bring medicine] are the only ones that come to us.’
- c. [ji kandambuhua 'u-ramē], ji=reveka nda-katu-i.
 1SG.PRO papaya eat-when 1SG.PRO=stomach NEG-be.well-NEG
 ‘[When I eat papaya], my stomach gets bad.’

Syntactic relations in matrix clauses featuring transitive verbs are conveyed by a pattern of person-indexation which marks either the subject, thus resulting in SET A MARKING, or object, which leads to SET B MARKING (dos Santos 2020, 2021b). The choice of which argument gets marked depends on the person hierarchy 1>2>3 (dos Santos 2021b) for the Júma and Uru Eu Wau Wau dialects; 3 → 3 scenarios result in an invariant *o-* ~ *v-*⁵, which patterns with SET A MARKERS in other phenomena in the language, e.g. root allomorphy. To illustrate, (5a-b) shows the 1st person singular is indexed on the verb regardless of its syntactic function since it is the highest person in the abovementioned hierarchy.

² This auxiliary is formed by the applicative *rero-* plus *eko* ‘be’.

³ Compounding and relative clauses are the only means of noun modification.

⁴ The distribution of these allomorphs is not consistent. In most cases, [dʒ-] occurs before non-nasal vowel-initial stems, [ɲ-] occurs before nasal vowel-initial stems, and [i-] and [e-] would be in free variation elsewhere. However, in some cases, [e-] also occurs before oral vowel initial-stems, e.g. *ehõi* ‘be big, tall, and it also occurs in free variation with [dʒ-], e.g. [e]-*akwenãhim* versus [dʒ-]*akwenãhim* ‘be odorous’.

⁵ The distribution of the allomorphs of 3rd person consists in *v-* occurring before roots starting on vowels and *o-* occurring on roots starting on consonants.

- (5) a. a-hepia ki jie hēa.
1SG.A-see PST 1SG.PRO 3SG.FEM.PRO
'I saw her.'
- b. ji=repia ki hēa.
1SG.B=see PST 3SG.FEM.PRO
'She saw me.'

Matrix intransitive verbs show either a i) SET A MARKING or ii) an invariant prefix *i-*. One example of a SET A MARKED verb is *kwam* 'to dance' and an I-MARKED verb is *kwerai* 'to be tired', both of which are shown in table (1) below.

| | <i>-kwerai</i> 'be tired' | <i>-kwam</i> '(to) dance' |
|-------------|---------------------------------------|-------------------------------------|
| 1st SG. | i-kwerai ji(e) 'I'm tired' | a-kwam jie 'I danced' |
| 2nd SG. | i-kwerai nde 'you're (sg) tired' | ere-kwam nde 'you (sg.) danced' |
| 3rd SG. | i-kwerai ka/hēa 's/he's tired' | o-kwam ga/hēa 's/he danced' |
| 1st PL INCL | i-kwerai nhānde 'we're tired' | txi-kwam nhānde 'we (incl.) danced' |
| 1st PL EXCL | i-kwerai ore 'we're tired' | oro-kwam ore 'we (excl.) danced' |
| 2nd PL | i-kwerai pe 'y'all're tired' | pe-kwam pe 'y'all danced' |
| 3rd PL | i-kwerai gā 'they're tired' | o-kwam gā 'they danced' |
| NP | kunhā i-kwerai 'a/the woman is tired' | o-kwam kunhā 'a/the woman danced' |

Table 1. Table showing some data about something.

A non-exhaustive list of intransitive verbs that follow either pattern is shown below:⁶

- INTRANSITIVE VERBS WITH I-MARKING: *i-kari* 'be jealous', *i-po'ria* 'be orphan', *i-veu've* 'be lazy', *i-mbevot* 'be unpleasant', *e-hōi* 'be big/tall', *i-kyrahu* 'be fat (used for humans)', *i-kam* 'be fat (used for animals)', *nh-ākyvahim* 'be wet', *i-tuvurahim* 'be thin (used for humans)', *i-tytam* 'be thin (used for animals)', *nh-urāmete* 'be slow', *j-akwahim* 'be hot', *i-puku* 'be long', *i-pohyi* 'be heavy', *i-rovahim* 'be sour', *i-nēmahim* 'be rotten', *i-jung* 'be full', *i-karāi* 'be cramp', *i-putupap* 'be tired (as a result of working all day)', *i-karuvara* 'be sick', *e-avyry* 'be drunk', *i-vevu'an* 'be weak (as a result of a wound)', *i-jyn* 'be robust', *j-ytyhu* 'be rough', *nh-āpyruhu* 'be curved', *i-pepyra* 'be bent', *i-pupiruhu* 'be wide', *i-rupe* 'be far away', *i-pirimuhu* 'be painted, spotted', *i-hymahim* 'be smooth', *j-urujai* 'yawn', *i-pyapoji* 'vomit (used for humans)', *nh-ā'nhong* 'mourn', *i-katxing* 'be stinky', *e-akwenāhim* 'be odorous', and *i-puru'a* 'be pregnant'.
- INTRANSITIVE VERBS WITH SET A-MARKING: *o-yta* 'swim', *v-ata* 'walk, defecate', *o-pyta* 'stay', *o-tururu* 'drip', *o-ko* 'live, be', *o-mōnō* 'die', *o-veve* 'fly', *o-kyn* 'rain', *o-typyvyng* 'drown', *o-putuvun* 'breathe', *o-hem* 'escape', *o-ki* 'enter', *o-kapym* 'disappear', *o-imby'yi* 'sing', *o-vy'ang* 'imitate', *o-myi* 'wake up', *o-mā'ē* 'wake up', *o-kin* 'sleep', *o-jai* 'laugh', *o-puka* 'smile', *o-je'o* 'cry', *o-pyten* 'urinate', *o-kurung* 'urinate', *o-vuvun* 'swell', *o-mōrangwaha* 'grow', *o-ka'ē* 'heal', *o-pon* 'jump', *o-pyng* 'sit', *o-po'am* 'stand up', *o-puvun* 'paddle', *o-jyp* 'go down', *o-hin* 'fall from a height', *o-'an* 'fall over', *o-py* 'blow', *o-peju* 'fan', *o-pukai* 'shout, yell', and *o-pi* 'shut up'.

⁶ Set A-marked intransitive verbs are given with a 3rd person prefix, i.e. *o-* ~ *v-*.

Table (2) summarizes all three patterns of morphological marking found in Kawahíva verbs. I refer to intransitive verbs that make use of SET A-MARKING as unergatives and intransitive verbs that make use of the I-MARKING as unaccusatives.

| | <i>Transitive subjects and unergatives</i> | <i>Transitive objects</i> | <i>Unaccusatives</i> |
|-----------------|--|-------------------------------|----------------------|
| 1st SG. | a- | ji= | i- |
| 2nd SG. | ere- | nde= | i- |
| 1st PL. INCL. | txi- | nhãnde= | i- |
| 1st PL. EXCL. | oro- | ore= | i- |
| 2nd PL. | pe- | pe= | i- |
| 3rd (SG. & PL.) | o- ~ v- | - | i- |
| NP | o- ~ v- | - | i- |
| | SET A | SET B | I-MARKING |

Table 2. Table showing some data about something.

In the next section, I discuss several constructions where the pattern of *i*-marking is also found. The one thing these constructions have in common is the absence of an object, or internal argument, within a verb phrase that contains an overt verb. The absence of an internal argument may result either from object extraction or dropping.

4. The pattern of *i*-marking. This section discusses three different constructions that will serve as the basis for the main claim of this paper, i.e., that the prefix *i*- in unaccusative verbs marks object extraction from the VP.

4.1. COMPLEMENT CLAUSES. I briefly showed a pair of examples at the beginning of this paper to illustrate the pattern of *i*-marking. I repeated these examples below.

- (6) Object questioning triggers *i*- on the dependent verb.
- a. ere-piang nde [apinaga pira 'u-a] rai'i.
2SG.A-see 2SG.PRO father fish eat-NMLZ PFV
'You saw father eating fish.'
 - b. gara nde ere-piang [apinaga *(i)-'u-a] rai'i.
what 2SG.PRO 2SG.A-see father i-eat-NMLZ PFV
'What did you see father eating?'

The first example contains a plain declarative matrix clause with an embedded object clause complement, while the second example contains a similar sentence but with the object of the embedded verb in the initial position of the matrix clause since it is a *wh*-word; Kawahíva uses *wh*-words *ex-situ* in questions. Most importantly, the embedded verb bears the prefix *i*-, otherwise the sentence is ungrammatical. Subject questioning, on the other hand, does not result in the verb of the embedded clause *i*-marked, as shown in (7).

- (7) Subject questioning *does not* trigger *i*- on the dependent verb.
- mangan nde ere-piang [pira *(i)-'u=a] rai'i?
who 2SG.PRO 2SG.A-see fish (i)-eat-NMLZ PFV
'Who did you see eating fish?'

The next construction featuring the pattern of *i*-marking involves postverbal objects.

4.2. POSTVERBAL OBJECTS. As mentioned in the beginning, presentational transitive matrix clauses are VSO(PP) (see ex. (3)). The clause-final PP may also show in clause-initial position. As a result, the verb is clause-final, bears a special suffix *-i*, and the constituent order changes to PP-SOV; notice the same order is found in the complement clauses discussed above.

- (8) oi'i=ve'i ki jie tapi'ira 'u-i.
 other.day=ve'i PST 1SG.PRO tapir kill-INF
 'The other day I ate a tapir.'

The preverbal object may displace to the right of the verb and appear in postverbal position. As a result, the prefix *i-* surfaces on the verb, ungrammatical otherwise. There is also a difference in informational structure status between the two objects: the referent of the preverbal object example could not have been mentioned in the discourse before (the example would be felicitous in the beginning of a tapir hunting story), but the referent of the postverbal object should be part of the current common ground; either it must have been mentioned or be sufficiently salient in the discourse if not.

- (9) oi'i=ve'i ki jie i-'u-i, tapi'ira.
 other.day=ve'i PST 1SG.PRO i-eat-INF tapir
 'The other day I ate (it), the tapir.'

I discuss a related construction in the next section where the object in PP-SOV clauses is also preverbal but still triggers the *i*-marking.

4.3. PREVERBAL OBJECTS. Objects in PP-S-O-V clauses may also co-occur with an *i*-marked verb. However, unlike the PP-S-O-V clause without a co-occurring object and *i*-marking, there is a salient intonational break between the object and *i*-marked verb. Examples (10a-b) illustrate this pattern. Perhaps the second example is more telling since a particle, *te'i* 'only', intervenes between the object and verb. I assume the object and *i*-marked verb must be occupying different constituents.

- (10) a. oi'i=ve'i ki jie tapi'ira 'u-i.
 other.day=ve'i PST 1SG.PRO tapir eat-INF
 'The other day I ate a tapir.'
- b. oi'i=ve'i ki jie tapi'ira te'i i-'u-i.
 other.day=ve'i PST 1SG.PRO tapir ONLY i-eat-INF
 'The other day I ate only the tapir.'

The next and last section shows that constructions featuring dropped objects also result in the pattern of *i*-marking.

4.4. OBJECT DROP. Object dropping also triggers the prefix *i-*.⁷ The next sentences illustrate. In the first one, the object *kamipiva* 'coffee' is overtly realized, and then it is referred to as the object of 'u 'to eat', but not overtly pronounced; 'u is just *i*-marked.

⁷ Dropping an object correlates with whether it is a continuous topic, as opposed to e.g. contrastive topic. By continuous topic I mean cases where the referent of an object is already present in the discourse – either by an overt nominal phrase or by being salient in the common ground – and can be recovered in the following clauses.

- (11) txi-'u kamipiva, ore=ve ko. Ore i-'u-i.
 let's-eat coffee 1EXCL.PRO=to REALIS 1EXCL.PRO i-eat-INF
 'Let's have coffee, (they said) to us. (Then) we had it.'

The second example, in (12a-e), has more than one instance of object drop and consequently more than one instance of *i*-marking. The first instance of object drop happens in the second clause in (12b), following the previously mentioned nominal *pirapetxinguhua* 'jamari fish' in (12a) where it is focused as a result of being clause-initial. As a consequence of dropping this nominal, the verbs *mboapyg* 'cook' and *mndo* 'put', as well as the postposition *pype* 'inside', whose objects have the same referent of *pirapetxinguhua*, receive *i*-. The former verb also has an oblique PP whose object is *mbotavoruhua ra'yrajava'ea*⁸ 'rice'. The referent of this nominal is the same as that of the object of 'u 'eat' in (12e), and as a result, it is also *i*-marked.

- (12) a. pirapetxinguhua ki hēa o-pyhy-pyhy ko.
 jamari.fish PST 3SG.FEM.PRO 3a-RED-catch REALIS
 'It was Jamari fish that she caught.'
 b. aramē ki hēa, i-mboapyg-i...
 after.that PST 3SG.FEM.PRO i-cook-INF
 'After that, she cooked it (=the Jamari fish).'
 c. ... mbotavoruhua.ra'yrajava'ea=pymō, 'i-te ki ko.
 rice=together say-REALLY PST REALIS
 '... together with rice, it's said.'
 d. i-pype ki hēa, i-mōndo-i ko.
 i-inside PST 3SG.FEM.PRO i-put-INF REALIS
 'She put it (=the Jamari fish) inside it (=the rice).'
 e. aramē ore i-'u-i.
 after.that 1EXCL.PRO i-eat-INF
 'After that, we ate it (=the rice).'

5. Discussion. We have seen that a pattern of *i*-marking is triggered any time an object is missing from a position near a clause-final transitive verb, be it a result of extraction, as in complement clauses and post- and pre-verbal object shift, or as a result of object drop, as in the case of continuous topic objects. In the following section, I suggest the pattern of *i*-marking found in intransitive verbs like *i-kwerai* 'be tired' is the same found in the constructions discussed in this section if we assume that the unique argument of those intransitive verbs is an object, as opposed to a subject. In other words, a unified account of *i*-marking is possible by assuming that *i*-marked intransitive verbs are unaccusative verbs.

I have shown that a class of intransitive verbs show a pattern of [i]-marking; a non-exhaustive list with them can be found in section (3). I also discussed several constructions where an identical pattern of *i*-marking is found upon object extraction or dropping; in particular, *i*-marking is triggered whenever an object is missing from the position where it usually occurs in embedded clauses and other OV clauses, namely immediately preceding a clause-final verb without any intonational break between the two. In this section, I argue for a unified account of this pattern by suggesting that *i*-marked intransitive verbs are unaccusative verbs.

⁸ This is a relative clause meaning 'that which looks like the larva of the *mbotavoruhua* ant' because of the similarity between the size of a grain of rice and the larva.

6. Final remarks. In this paper, I have suggested that Kawahíva has a split in the class of intransitive verbs between unaccusative and unergative verbs, based on a pattern of *i*-marking. This pattern is found in several constructions involving either an object displaced from its usual preverbal position or from object drop. I argue that the prefix *i-* of verbs like *i-katu* ‘to be pretty, well’ must also involve object displacement from its usual position. If so, one has to assume that these intransitive verbs are unaccusative verbs since only the latter selects for an object. I arrived at this conclusion without referencing any traditional diagnostic for unaccusativity, such as auxiliary selection, passivization, etc. since they are missing in Kawahíva.

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