The syntactic status of noun incorporation in the Tenetehára language (Tupí-Guaraní family)

O estatuto sintático da incorporação nominal na língua Tenetehára (família Tupí-Guaraní)

Ricardo Campos Castro[1]
ORCID: 0000-0003-3513-1409

Quesler Fagundes Camargos[2]
ORCID: 0000-0001-9112-4858

DOI: 10.26512/rbla.v13i01.38034
Recebido em julho de 2021 e aprovado em setembro de 2021.

Abstract:

This paper aims to propose a theoretical analysis that explains the noun incorporation process in the Tenetehára language (Tupí-Guaraní family). Thus, we attempt to answer the question: based on the assumptions of the Minimalist Program (cf. Chomsky 1993, 1995), what is the formal feature responsible for motivating noun incorporation in Tenetehára? We consider two types of noun incorporation in this language, namely: (i) transitive predicates which become formally intransitive verbs as the internal argument is incorporated; and (ii) transitive and intransitive predicates preserve the verbal valence when the possessee noun is incorporated. As for the syntax of noun incorporations, based on Baker (1988), we lay the foundation for further investigation about this morphosyntactic phenomenon within a minimalist approach (cf. Chomsky 1993, 1995). In summary, we propose that, in the Tenetehára language, the driving force responsible for the incorporation of the noun into the head of a *v*P is the [+non-individuated] formal feature.
Keywords: Tupí-Guaraní family. Tenetehára Language. Noun Incorporation. Minimalist Program.

Resumo

Este artigo tem por objetivo propor uma análise teórica que explique o processo de incorporação nominal na língua Tenetehára (família Tupí-Guaraní). Assim, procuramos responder à seguinte pergunta: com base nos pressupostos do Programa Minimalista

[1] Visiting Professor at the State University of Campinas (UNICAMP), Institute of Language Studies (IEL). São Paulo Research Foundation (FAPESP) Postdoctoral Fellow. Process: 2017/09615-9. E-mail: ricardorrico@uol.com.br.

[2] Professor of the Graduate Program in Languages (PPGML) and the Department of Intercultural Education (DEINTER) at the Federal University of Rondônia (UNIR). Member of the Research Group on Education in the Amazon (GPEA) and the Laboratory of Indigenous Languages and Cultures (LALIC). E-mail: queslerc@gmail.com.

(cf. Chomsky 1993, 1995), qual é o traço formal responsável por motivar a incorporação nominal em Tenetehára? Consideramos dois tipos de incorporação nominal nessa lingua, a saber: (i) predicados transitivos que se tornam verbos formalmente intransitivos na medida em que o argumento interno é incorporado; e (ii) predicados transitivos e intransitivos mantêm a valência verbal preservada quando o nome possuído é o elemento incorporado. Quanto à sintaxe das incorporações nominais, com base em Baker (1988), lançamos bases para futuras investigações acerca desse fenômeno morfossintático dentro de uma abordagem minimalista (cf. Chomsky 1993, 1995). Em suma, propomos que, na língua Tenetehára, a força motriz responsável pela incorporação do nome ao núcleo de vP é o traço formal [+não individuado].
Palavras-chave: Família Tupí-Guaraní. Língua Tenetehára. Incorporação Nominal. Programa Minimalista.

1. Introduction

In this paper[3], we investigate the formal feature responsible for triggering noun incorporation in the Tenetehára language. In the Minimalist Program, Chomsky (1993, 1995) proposes that derivations are motivated by inherent formal features. Based on this claim, we investigate the process of noun incorporation in Tenetehára, analyzing the formal features of nominal items. This paper is organized into six sections. In this section (§1), we provide a theoretical account for noun incorporation, highlighting two types of incorporation in natural languages: (i) valence-reducing incorporation in the Mapudungun language and (ii) non-valence-reducing incorporation in the Greenlandic and Kambera languages. In §2, we analyze the types of noun incorporation in Tenetehára, which allows this syntactic operation with and without valence reduction. In §3, we investigate this phenomenon in predicates derived from applicative and causative constructions. In §4, we discuss the relationship between reflexive morpheme and noun incorporation. In §5, we reanalyze Tenetehára data within the Minimalist Program (cf. Chomsky 1993, 1995). Finally, in §6, we provide a brief conclusion.

[3] We would like to thank two anonymous reviewers from *Revista Brasileira de Linguística Antropológica* (RBLA) for their comments and constructive critiques, that contributed greatly to improving this paper. We would like to extend our sincere thanks to the Tenetehára people for their invaluable assistance with our field research between 2010 and 2019. Special thanks are due to Cintia Maria Santana da Silva Guajajara, Raimundo Alves de Lima Guajajara, Moisés Gomes Guajajára, Pedro Paulino Guajajara and Sebastião Bento de Souza Lima Guajajara. All remaining errors are, of course, our own.

The noun incorporation in natural languages

According to Baker (1988), noun incorporation is a syntactic phenomenon in which a head is moved from its base to a higher position[4]. Thus, incorporation consists of a head-to-head movement, generalized as Move α[5]. As an example, we observe the following data[6] from Mapudungun[7], a language spoken in Chile:

(1a) ñi *chao* *kintu-le-y* *ta.chi* *pu* ***waka***
my father look-PROG-IND.3SS the COLL cow
'My father is looking at the cows.'

(1b) ñi *chao* *kintu-**waka**-le-y*
my father look-COW-PROG-IND.3SS
'My father is looking at the cows.' (Salas 1992: 195)

As illustrated in example (1a), the transitive predicate *kintu* 'to look' selects the subject ñi *chao* 'my father' and the object *ta.chi pu waka* 'the cows'. In (1b), we observe the process of head incorporation of the object *waka* 'cows'. The object head moves from its argument position to the head of the verb phrase. Therefore, a new syntactic configuration is generated:

[4] Baker (1988) claims that incorporation is a type of head-to-head movement – a generalization of the Move α. This movement must satisfy the Empty Category Principle (i.e., a moved element must leave a trace in the position where it was generated; and this trace must be c-commanded by the moved element) and the Uniformity of Theta-Assignment Hypothesis (in noun incorporation, there must be a one-to-one relationship between semantic and syntactic structures). Therefore, the relationship between the thematic and syntactic structure must be preserved.

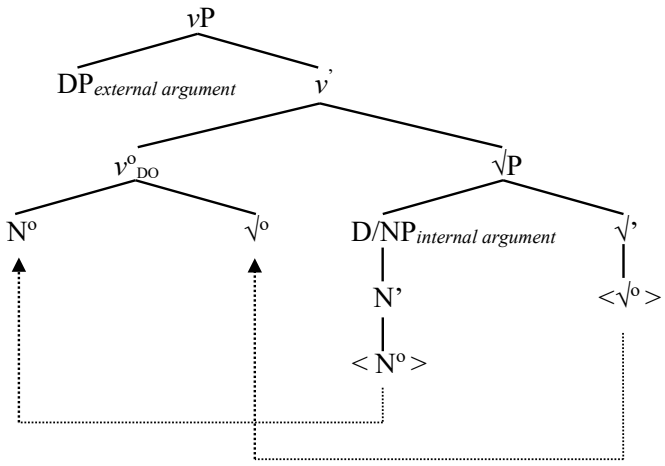
[5] According to Chomsky (1981), Move α associates two structural representations. Any category can be moved to any position, leaving a trace in its original position. This movement, however, is restricted by universal principles.

[6] Abbreviations: ABS: Absolutive Case; APASS: antipassive morpheme; APPL: applicative morpheme; ART: article; C: prefix which marks the adjacency of its complement; CAUS: causative morpheme; COLL: collective; CONT: progressive aspect; DEI: deictic element; DESID: desiderative; ERG: Ergative Case; FUT: future; IND: indicative; IMIN: iminentive aspect prefix; IMP: imperative; INSTT: instative affix; INTRANS: intransitive; ITER: iterative aspect; NC: prefix which marks the non-adjacency of its complement; NEG: negation; NOM: Nominative Case; NOML: nominalizer; OBL: oblique; PASS: past; PART: particle; PRF: perfective aspect marker; PROG: progressive aspect; PSP: postposition; RED: reduplication; REL: relative; SG: singular; TRANS: transitive.

[7] Mapuche or Mapudungun is the language of the Mapuche people, an Amerindian people who inhabit parts of Chile and Argentina. This language is currently spoken by approximately 440,000 speakers at different levels of proficiency.

one which is equivalent to an intransitive structure. We describe the process in (1c):

(1c)



It stands to reason, however, that there are instances of head incorporation to a verbal predicate in which no valence change occurs. This is illustrated in the Greenlandic[8] data below:

(2a) *tuttu-p* ***neqa****-a-nik* *neri-vunga*
reindeer-REL meat-3SG-INS eat-1SG.IND
'I ate reindeer meat.'

(2b) *tuttu-p* ***neqi****-tor-punga*
reindeer-REL meat-eat-1SG.IND
'I ate reindeer meat.' (Sadock 1980:305)

In (2a), the verbal predicate *neri*[9] 'to eat' consists of a non-incorporated transitive structure which selects the subject, morphologically realized in the suffix {*-vunga*}, and the object, the genitive phrase *tuttup neqaanik* 'reindeer

[8] Greenlandic (Kalaallisut) is an Eskimo-Aleut language spoken by Greenlandic native peoples.

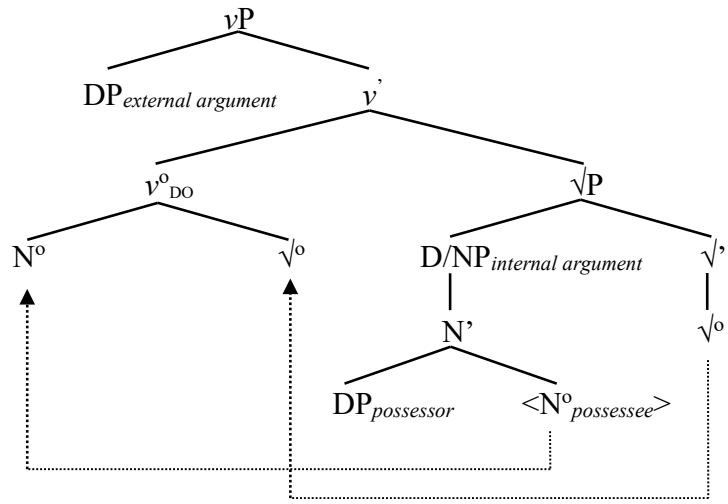
[9] Noticeably, *neri* 'to eat' is an independent verb, while {*tor-*} is a prefix that emerges in incorporations, which shares the same meaning, 'to eat'. Examples (i) and (ii) below support this claim:

(i) *ammassak-nik* *marluk-nik* ***neri****-vunga*
sardine-INS two-INS eat-1SG.IND
'I ate two sardines.'

(ii) *marluk-nik* *ammassan-****tor****-punga*
two-INS sardine-eat-1SG.IND
'I ate two sardines.' (Pavey 2010: 213)

meat'. When the verb incorporates the possessee in (2b), the possessor *tuttu* 'reindeer' assumes a direct object function. This is a typical example of a type of noun incorporation referred to as possessor stranding (Baker 1988). It is important to notice that, at the end of this process, the syntactic configuration preserves the valence of the transitive structure. This is due to the fact that the head of the genitive phrase (possessee) moves to the v^o head, resulting in the stranding of the possessor, as in the tree structure below:

(2c)



Additionally, there is a variation of possessor stranding in which the genitive phrase – whose N^o head moves to the v^o head position – is the subject of an intransitive predicate instead of its object. In this case, the possessor stranded assumes the subject function. As an example, consider the following data from the Kambera language[10]:

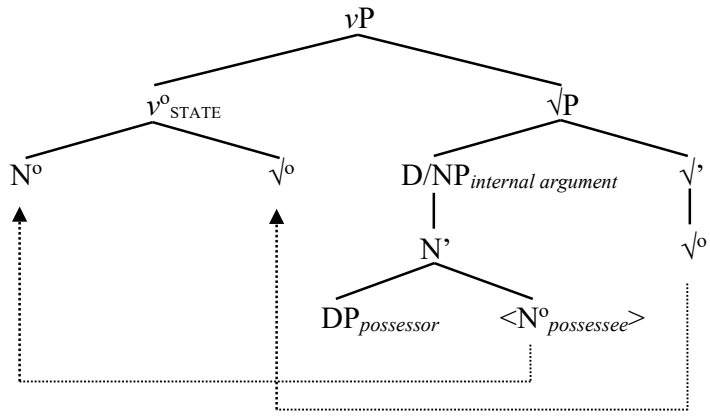
(3a) *mabaha-nanya-ka* *na* ***eti*-*na*** *na* *maramba* *numa*
be.humid-3S.CONT-PRF ART liver-SG ART king DEI.3S
'This king felt satisfied.'
(Lit.: This king's liver (was) wet.)

(3b) *mabaha-**eti**-nanya-ka* *na* *maramba* *numa*
be.humid-liver-3S.CONT-PRF ART king DEI.3S
'This king felt satisfied.'
(Lit.: This king (was) liver-wet.) (Klamer 1998: 305)

[10] Kambera is a Malayo-Polynesian language, with approximately 150,000 users, spoken in the east of the Sumba island (Nusa Tengara Timur province), east Indonesia.

We can observe that in (3a) the verbal predicate *mabaha* 'to be wet' is an intransitive structure that selects the subject, the genitive phrase *na etina na maramba numa* 'this king's liver', which contains the possessee DP *eti* 'liver'. In (3b), the noun incorporation of the possessee *eti* 'liver' results in the stranding of the possessor *maramba* 'king', which assumes the subject function, as illustrated below:

(3c)



In the following section, we analyze the noun incorporation in the Tenetehára language.

2. Noun Incorporation in the Tenetehára language

According to Castro (2007, 2013, 2017) and Duarte and Castro (2010), there are at least two types of noun incorporation in Tenetehára: (i) valence-reducing noun incorporation and (ii) non-valence-reducing noun incorporation[11]. Both types are described in the following subsections.

2.1 Valence-reducing noun incorporation

According to the above authors, Tenetehára valence reduction cases of transitive verbs in contexts of internal argument incorporation are those indicated in (4ab, 5ab) below:

(4a) *u-pyhyk awa* ***pira*** *a'e*
3-catch man fish 3
'The man caught the fish.'

[11] For more details about the grammar of the Tenetehára language, see Duarte (1997, 2002, 2003, 2007, 2013), Castro (2007, 2017), Silva (2010) and Camargos (2013, 2017) and others.

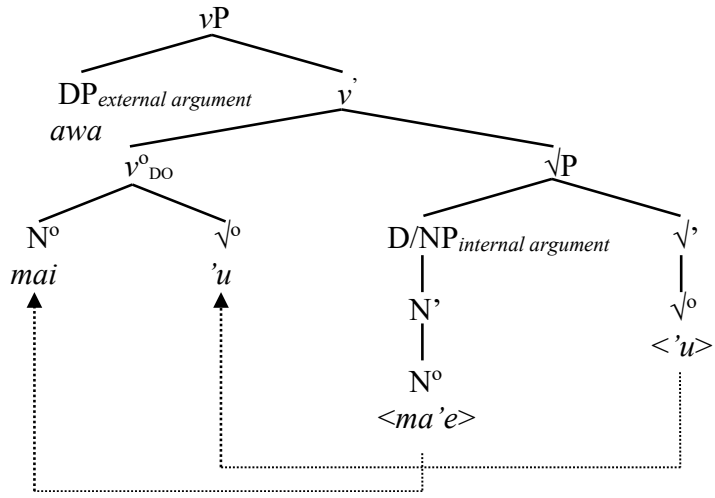
(4b) *u-**pira**-pyhyk awa a'e*
3-fish-catch man 3
'The man fished.'

(5a) *u-'u-tete-a'u awa **ma'e** a'e*
3-eat-INTS-AUM man thing 3
'The man ate many things.'

(5b) *u-**mai**-'u-tete-a'u awa a'e*
3-thing-eat-INTS-AUM man 3
'The man ate a lot.'

In (4a) and (5a), the transitive verbs *pyhyk* 'to catch' and *'u* 'to eat' select the external argument *awa* 'man' and the internal arguments *pira* 'fish' and *ma'e* 'thing', respectively[12]. In (4b) and (5b), however, we see that the internal arguments are incorporated into the matrix verb, deriving the intransitive predicates *pirapyhyk* 'to fish" and *mai'u* 'eat (something)'. These reflect the data in the Mapudungun language (1ab). In the examples above, we can argue that, when the internal argument incorporates into the transitive verb, it becomes unergative (Hale and Keyser 1993; Bobaljik 1993; Laka 1993). This phenomenon is illustrated in the structure below, which describes (5b):

(5c)



Examples (6-9) show instances of noun incorporation in which dyadic predicates become intransitive. These intransitive constructions are attested

[12] In the examples in (5ab) *tete-a'u* is an intensive aspect particle and has scope over the verbal predication. Therefore, its realization in (5b) does not imply the existence of a direct object.

by Rodrigues (1953: 135) in relation to the Old Tupí, when he affirms that some verbal themes can be intransitivized by noun incorporation of its object.

(6a) *o-poz awa **pira** a'e*
3-feed man fish 3
'The man fed the fish.'

(6b) *u-**pira**-poz awa a'e*
3-fish-feed man 3
'The man fished.'

(7a) *w-eityk awa **pina** a'e*
3-throw man hook 3
'The man threw the hook.'

(7b) *u-**pina**-eityk awa a'e*
3-hook-throw man 3
'The man fished.'

(8a) *o-'ok awa **pina** a'e*
3-pull man hook 3
'The man pulled the hook.'

(8b) *u-**pina**-'ok awa a'e*
3-hook-pull man 3
'The man pulled the hook (with no fish).'

(9a) *o-wàn kuzà **pira** a'e*
3-wrap woman fish 3
'The woman wrapped the fish.'

(9b) *u-**pira**-wàn kuzà a'e*
3-fish-wrap woman 3
'The woman baked-fish (wrapped in banana tree leaves on the fire).'

Additionally, in (10-18), we provide examples of noun incorporation in which the non-incorporated counterpart is degraded by native speakers. The examples below consist of constructions which are probably in the process of lexicalization.

(10) *u-**'y**-'u-tete-a'u awa a'e*
3-water-eat-INTS-AUM man 3
'The man drank-water.'

(11) *u-**kawi**-'u-tete-a'u awa a'e*
3-cauim-eat-INTS-AUM man 3
'The man drank-cauim (a type of distilled liquor made from yuca).'

(12) *o-**po**-e'eg kuzà o-po ø-pupe a'e*
3-hand-signal woman 3CORR-hand C-with 3
'The woman waved (signal-hand) with her hand.'

(13) *u-**ty**-apyw awa yrykaw ø-wi a'e*
3-water-take man river C-from 3
'The man took water from the river (a traditional fishing technique).'

(14) *u-**zuru**-peka kuzà a'e*
3-mouth-open woman 3
'The woman yawned.'

(15) *u-**'y**-ahaw awa a'e*
3-river-cross man 3
'The man crossed-river.'

(16) *u-**'y**-pykuz awa a'e*
3-river-move man 3
'The man rowed.'

(17) *u-**àz**-gyryw~gyryw awa a'e*
3-teeth-grit~ITER man 3
'The man gritted-teeth.'

(18) *u-**eny'i**-yryk awa a'e*
3-spittle-drip man 3
'The man drooled.'

It is important to stress that, in the examples above, verbs incorporate non-agentive, non-human, non-referential and thus non-individuated internal arguments. It may be the case that this [+non-individuated] formal feature is what probably triggers noun incorporation in these contexts. Assuming this analysis, we consider that the [+/-non-individuated] grammatical feature is connected with the speaker's perception of the constitutive nature of referents, which can be interpreted as individuated or non-individuated

(Langacker 1987; Mufwene 1984; Mithun 1984; Wierzbicka 1988). In this sense, according to Wisniewski et al. (2003: 586):

> For example, physical objects are prototypical individuals in being discrete, bounded entities that are separate from other aspects of the world. Substances are prototypical non-individuated entities in being continuous, unbounded, and arbitrarily divisible (e.g. mud divided into any-sized portion is still mud). Not surprisingly, physical objects are almost always labelled with count nouns (e.g., a cat, a computer, a coffee cup) and substances with mass nouns (e.g., clay, honey, jelly).

Besides that, we need to consider that several constructions with noun incorporation, as exemplified above, occur in events that refer to cultural actions and traditional activities, such as fishing, *caium* (a drink) making, and fish-wrapping in banana tree leaves, for instance[13]. These claims support Mithun's (1984: 856) proposal that these morphosyntactic environments express "the name of an institutionalized activity or state".

In instances where the internal arguments of transitive verbs are human, referential and thus individuated, noun incorporation is degraded in Tenetehára, as we can see in the ungrammatical examples below:

(19a) *w-exak awa **kuzà** a'e*
3-see man woman 3
'The man saw the woman.'

(19b) **u-**__**kuzà**__**-exak awa a'e*
3- woman-see man 3
'The man saw-woman.'

(20a) *u-pyhyk awa **maraka** a'e*
3-catch man maracá 3
'The man caught the maracá.'

(20b) **u-**__**maraka**__**-pyhyk awa a'e*
3-maracá-catch man 3
'The man caught-maracá.'

[13] "Since incorporated objects are non-referential, and thus non-individuated, these constructions are generally used to describe activities or events whose patients are neither specific nor countable–e.g. habitual, ongoing, or projected activities; those done by several people together; or those directed at a non-specific part of mass" (Mithun 1984:850).

In (19a) and (20a), the transitive verbs *exak* 'to see' and *pyhyk* 'to catch' select the DPs *kuzà* 'woman' and *maraka* 'maracá', respectively. In (19b) and (20b), these morphosyntactic processes of incorporation of the internal arguments do not result in grammatical sentences, since these arguments correspond to referents that are prototypically individual.

In the next subsection, we investigate the syntactic environments of noun incorporation where the verbal predicate does not undergo valence reduction.

2.2 Non-valence-reducing noun incorporation

We now investigate syntactic structures in which noun incorporation does not result in verbal valency reduction, which is referred to by Baker (1988) as possessor stranding. While the verb incorporates the possessee, the possessor stranded assumes the object function in transitive predicates (§2.2.1) and the subject function in intransitive predicates (§2.2.2).

2.2.1 Non-valence-reducing incorporation in transitive predicates

Verbal valence shows no change when noun incorporation occurs in contexts of possessor stranding. In such instances, the internal argument is a genitive phrase, whose possessee incorporates to a transitive verb, resulting in a structure with no change in verbal valence, as in the examples below:

(21a) *o-'ok awa miar i-àkàg a'e*
3-take.off man animal 3-head 3
'The man took off the animal's head.'

(21b) *u-**zàkàg**-ok awa miar a'e*
3-head-take.off man animal 3
The man decapitated the animal.'

(22a) *u-hez kuzà kwaharer h-**uwa** a'e*
3-wash woman boy 3-face 3
'The woman washed the boy's face.'

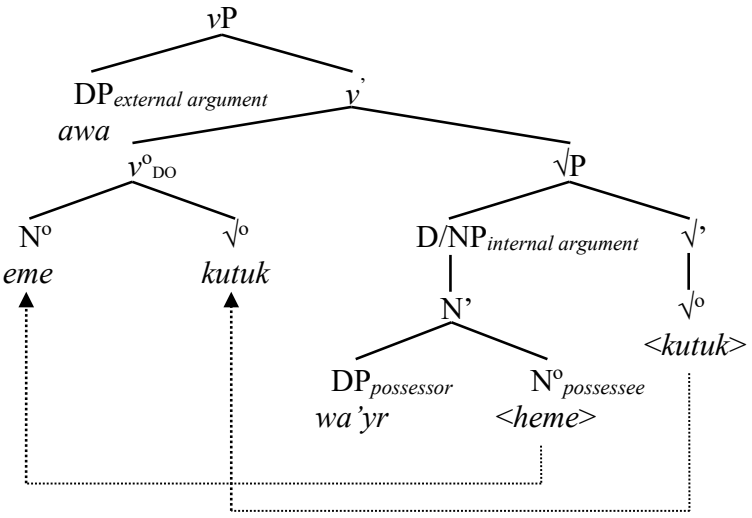
(22b) *u-**(u)wa**-hez kuzà kwaharer a'e*
3-face-wash woman boy 3
'The woman face-washed the boy.'

(23a) *u-kutuk awa w-a'yr* ***h-eme*** *a'e*
3-pierce man 3CORR-son 3-lip 3
'The man pierced his (own) son's lip (to insert a lip plate).'

(23b) *w-**eme**-kutuk awa w-a'yr a'e*
3-lip-pierce man 3CORR-son 3
'The man pierced-lip his (own) son (to insert a lip plate).'

In (21a), (22a) and (23a), the transitive verbs *'ok* 'to take off', *hez* 'to wash' and *kutuk* 'to pierce' select the syntactic objects *miar iàkàg* 'animal's head', *kwaharer huwa* 'the boy's face' and *wa'yr* heme 'his (own) son's lip', respectively. In (21b), (22b) and (23b), however, we observe that the syntactic process of incorporation of the possessee *àkàg* 'head', *uwa* 'face' and *eme* 'lip' to the heads of the vPs still generate the transitive verbs *zàkàgok* 'to take off-head', *uwahez* 'to wash-face' and *emekutuk* 'to pierce-lip'. In these cases, the possessee argument – the head of the possessive phrase – moves from their base position to v^o, incorporating into the verb by a head-to-head movement. Thus, elements that take the possessor role assume the syntactic function of objects. Notice, however, that data here correlates to Greenlandic examples in (2). The syntax involving this process can be better explained via the abstract structure proposed in (23c), which corresponds to (23b).

(23c)



Based on the examples presented above, we argue that, since only part of the internal argument is incorporated into the verb during the noun incorporation process, resulting in the stranding of the possessor, the

number of arguments remains unchanged, which does not trigger valence reduction. These two syntactically distinct processes illustrate a context of noun incorporation into a verb that is in consonance with Baker's (1988) theoretical framework.

Notice that the incorporated noun heads in the examples above are inherent possessees of the possessor complements in the genitive phrases. Therefore, we can claim that possessor stranding in Tenetehára seems to be intrinsically connected to non-alienable possession. It is important to note that, according to Velázquez-Castillo (1995: 689), "They [body-part terms] lack individuation because they are normally conceptualized in relation to their [possessor], that is, they are not totally distinct from their [possessor]". We hypothesize that non-valence-reducing incorporation is possible in Tenetehára, since the possessee has the [+non-individuated] formal feature and this formal feature is what probably triggers noun incorporation in these contexts. In alienable possession, on the other hand, the possessee is not part of the possessor: they are completely distinct from each other despite the relationship between them. Therefore, the possessor and the possessee both have individuation, which makes noun incorporation unlikely, as illustrated in the ungrammatical examples below:

(24a) *u-kwaw he=r-u Ẑahy i-**mem** a'e*
3-know 1SG=C-father Zahy 3-husband 3
'My father knows Zahy's husband.'

(24b) **u-**__**men**__**-kwaw he=r-u Ẑahy a'e*
3-husband-know 1SG=C-father Zahy 3
'My father knows Zahy's husband.'

(25a) *w-exak Ẑahy he=r-u i-**taiho** a'e*
3-see Zahy 1SG=C-father 3-mother.in.law 3
'Zahy saw my father's mother-in-law.'

(25b) **u-**__**taiho**__**-exak Ẑahy he=r-u a'e*
3-mother.in.law-see Zahy 1SG=C-pai 3
'Zahy saw my father's mother-in-law.'

In the next subsection, we analyze contexts of noun incorporation of elements generated in the internal argument position into intransitive predicates without verbal valence reduction.

2.2.2 Non-valence-reducing noun incorporation in unaccusative predicates

In possessor stranding, some Tenetehára active and inactive unaccusative[14] verbs also allow possessee incorporation[15]. In these cases, only a part of the internal argument (i.e., the possessee) incorporates into verb.

It is important to notice that the inactive unaccusative verbs trigger the agreement prefixes with the internal argument, generating the (Ergative-) Absolutive system in the language. In our analysis, this provides evidence that this argument in the subject function is generated in the internal argument position.

(26a) *i-pàri* *kwaharer* *h-**eha*** *a'e*
3-deformed boy 3-eye 3
'The boy's eye is deformed.'

(26b) *h-**ehà**-pàri* *kwaharer* *a'e*
3-eye-deformed boy 3
'The boy is cross-eyed.'

(27a) *h-ahy* *kwaharer* *h-**ye*** *a'e*
3-hurt boy 3-stomach 3
'The boy's stomach hurts.'

(27b) *h-**ye**-ahy* *kwaharer* *a'e*
3-stomach-hurt boy 3
'The boy has a stomachache.'

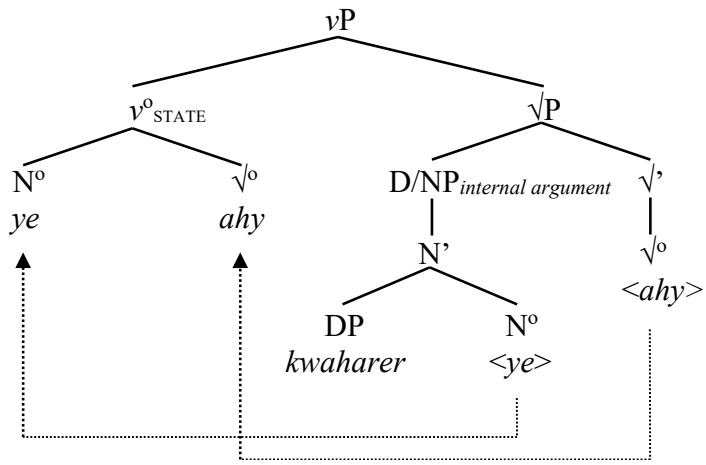
In (26a) and (27a), the inactive unaccusative verbs *pàri* 'to be deformed' and *ahy* 'to hurt' select the genitive phrases *kwaharer heha* 'boy's eye' and *kwaharer hye* 'boy's belly' as subjects, respectively. In (26b) and (27b), however, we observe the syntactic process of possessee incorporation, by a

[14] Although not enough formal properties have been identified to distinguish unergative and unaccusative verbs in Tenetehára, we assume that intransitive verbal predicates in this language are subdivided into unergative verbs, when their subject is an agent (external argument), and unaccusative verbs, when their subject is patient or theme (internal arguments). Furthermore, we also propose that unaccusative verbs in Tenetehára are further subdivided into two other subclasses: (i) inactive unaccusative verbs for stative and essive meaning and (ii) active unaccusative verbs, which denote change of state.

[15] After noun incorporation, the possessor element that was not incorporated moves up to subject syntactic position.

head-to-head movement, of the heads *eha* 'eye' and *hye* 'stomach' to the head of the *v*P. This creates the complex structures *ehàpàri* 'to be deformed-eye' and *yeahy* 'to hurt-stomach'. The possessee moves from their base position to the verbal head. Furthermore, once incorporation has occurred, the possessor functions as the clausal subject. Examples of such phenomenon are comparable with the Kambera data in (3). As in other instances, the [+non-individuated] formal feature in the possessee is responsible for triggering noun incorporation to the head of the *v*P. The movements required in this derivation are illustrated in the syntactic structure below (27c), which corresponds to sentence (27b):

(27c)



In the examples below, we analyze the incorporation of possessee in the active unaccusative verbs, which correspond to change of state verbs. In these instances, the alteration in the verbal agreement prefixes contrasts with the previous examples. The relationship between the agreement prefixes and their head argument signals the Nominative-Accusative system.

(28a) *u-hem* *kwaharer* *h-**uwi*** *a'e*
3-come.out boy 3-blood 3
'The boy's blood came out.'

(28b) *i-**huwi**-hem* *kwaharer* *a'e*
3-blood-come.out boy 3
'The boy bled.'

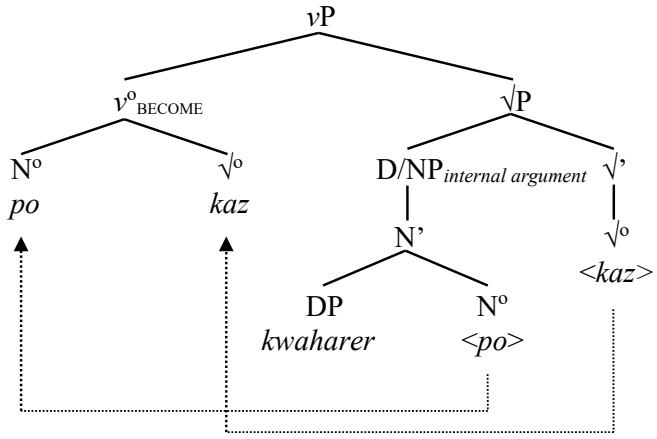
(29a) *u-kaz* *kwaharer* *i-**po*** *a'e*
3-burn boy 3-hand 3
'The boy's hand burned.'

(29b) *i-**po**-kaz* *kwaharer* *a'e*
3-hand-burn boy 3
'The boy burned-hand.'

Notice that in (28a) and (29a) the active unaccusative predicates *hem* 'to come out' and *kaz* 'to burn' select an argument in the syntactic subject role: *kwaharer huwi* 'boy's blood' and *kwaharer ipo* 'boy's hand'. In (28b) and (29b), however, we observe the incorporation of the possessee *uwi* 'blood' and *po* 'hand'. Therefore, the possessor *kwaharer* 'boy' functions as the clausal subject in both sentences.

It is important to note that, in the noun incorporation of subjects of active unaccusative verbs, the argument must be generated in the internal argument position, similarly to what can be noted with inactive unaccusative verbs. If the argument is generated in the external argument position, noun incorporation is impossible – as in unergative verbs, for example – since it is located above the head of the *v*P. Therefore, since incorporation can only occur from lower to higher positions, external arguments cannot undergo such process. These assumptions corroborate the important minimalist premise that one structure is not derived from the other; instead, both are independent. Therefore, active unaccusative verbs may be derived with internal arguments. Based on this claim, we propose that sentence in (29b) is derived in (29c).

(29c)



In the following section, we analyze contexts in which the incorporated noun does not occur immediately to the left of the verb. In particular, we present contexts in which the applicative morpheme {*eru-*} and the causative

morpheme {*mu*-} occur between the nominal and the verbal nodes. As we will observe, in noun incorporation, monoargumental predicates which are transitivized via {*eru*-} and {*mu*-} follow the same pattern as the previously discussed transitive verbs. Therefore, in §3, we aim to provide evidence for noun incorporation to verbs which are transitivized through applicative and causative morphemes.

3. Noun incorporation in predicates derived via applicative and causative morphemes

Transitive predicates originated from valence-increase expedients via transitivizers, such as {*eru*-} and {*mu*-}, can undergo noun incorporation much like simple transitive verbs. We first analyze the applicative morpheme {*eru*-}.

3.1. Noun incorporation in applicative constructions

According to Vieira (2010), for Guarani, and Castro (2013) and Camargos (2017), for Tenetehára, the applicative morpheme {*eru*-} instantiates the functional head that, once adjoined to intransitive verbs, introduces a syntactic argument with a comitative thematic role. This can be observed below:

(30a) *u-hapukaz kuzàtài a'e*
3-scream girl 3
'The girl screams.'

(30b) *w-**eru**-hapukaz kuzàtài zawar a'e*
3-APPL-scream girl dog 3
'The girl screams with the dog (on her lap).'

In (30a), the unnacusative verb *hapukaz* 'to scream' selects the internal argument *kuzàtài* 'girl'. In (30b), however, we observe an expedient of verbal valence increase when the prefix {*eru*-} is attached to the verbal predicate. This applicative construction behaves like a transitive verb that selects the DP *zawar* 'dog' as its direct object.

Sentences below are examples which were primarily transitivized via the applicative morpheme {*eru*-} and whose internal argument (a

possessive phrase) allows possessee incorporation to a verbal predicate much like the case of simple transitive predicates. In these instances, the [+non-individuated] feature is the formal expedient responsible for the noun incorporation, as the following examples illustrate:

(31a) *u-puze awa ywy r-ehe a'e*
3-drag.self man ground C-in 3
'The man dragged himself on the ground.'

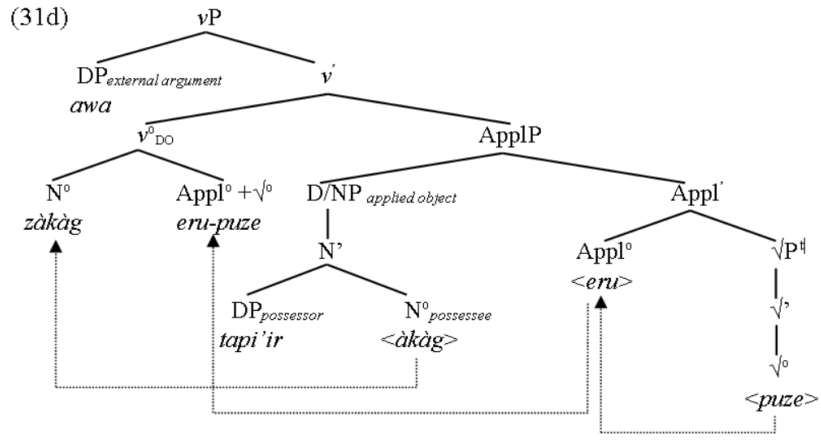
(31b) *w-**eru**-puze awa tapi'ir i-àkàg ywy r-ehe a'e*
3-APPL-drag.self man tapir 3-head ground C-in 3
'The man dragged himself on the ground with the tapir's head.'

(31c) *u-**zàkàg-eru**-puze awa tapi'ir ywy r-ehe a'e*
3-head-APPL-drag.self man tapir ground C-in 3
'The man dragged himself on the ground with the tapir's head.'

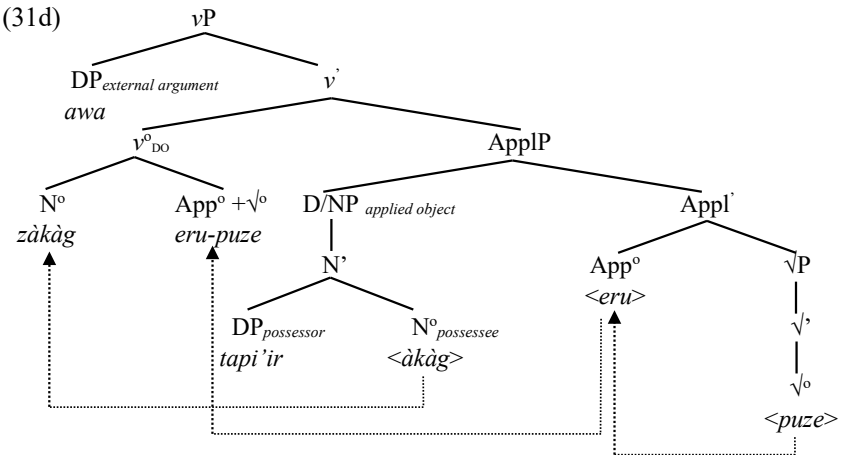
In (31a), we observe the unergative verb *puze* 'to drag oneself', the subject *awa* 'man' and the locative *ywy rehe* 'on the ground'. In (31b), the predicate *puze* 'drag oneself' takes the morpheme {*eru-*}, in order to introduce the applied object *tapi'ir iàkàg* 'tapir's head', which displays comitative semantic properties. Finally, in (31c), the possessee, *iàkàg* 'its head (the tapir's head)', is incorporated into transitive predicate *erupuze* 'to drag oneself with' producing the predicate *zàkàgerupuze* 'to drag head with'.

The derivation of (31c), including its relevant projections and movements, is represented in the abstract syntactic structure in (31d) below:

(31d)



(31d)



In the following subsection, we provide evidence that the objects in predicates transitivized via the causative morpheme {*mu-*} may also undergo incorporation.

3.2. Incorporation in verbal predicates through causative derivation

The Tenetehára causative morpheme {*mu-*} causativize intransitive predicates, transforming these into transitive verbs, as we can observe in the examples below:

(32a) *u-pirik* *'y* *a'e*
3-drip water 3
'The water dripped.'

(32b) *u-**mu**-pirik* *kuzàtài* *'y* *a'e*
3-CAUS-drip girl water 3
'The girl dripped the water.'
(Lit.: The girl made the water drip.)

In (32a), the unaccusative verb *pirik* 'to drip' only projects the internal argument *'y* 'water'. However, in (32b), the agent argument *kuzàtài* 'girl' is introduced in the derivation due to the realization of the causative morpheme {*mu-*}. At the end of the derivation process, the causative morpheme produces a transitive verbal predicate.

In the data below, we provide evidence that the causativization with the morpheme {*mu-*} generates syntactic structures capable of undergoing noun

incorporation. In these syntactic environments, the possessee generated in the internal argument position incorporates into verb without changing its transitivity. This is due to the fact that the possessor, also generated in the internal argument position, functions as the clausal object. As in the previous case, the [+non-individuated] formal feature is the driving force of this type of incorporation.

(33a) *w-awak tapixi kyhaw ø-pupe a'e*
3-turn rabbit hammock C-in 3
'The rabbit turned in the hammock.'

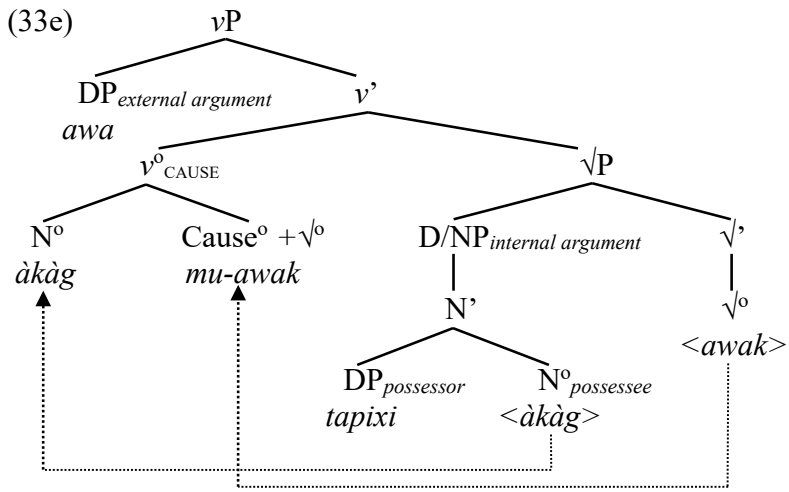
(33b) *u-**mu**-awak awa tapixi kyhaw ø-pupe a'e*
3-CAUS-turn man rabbit hammock C-in 3
'The man turned the rabbit in the hammock.'

(33c) *u-**mu**-awak awa tapixi i-àkàg kyhaw ø-pupe a'e*
3-CAUS-turn man rabbit 3-head hammock C-in 3
'The man turned the rabbit's head in the hammock.'

(33d) *w-àkàg-**mu**-awak awa tapixi kyhaw ø-pupe a'e*
3-head-CAUS-turn man rabbit hammock C-in 3
'The man turned-head the rabbit in the hammock.'

In (33a), the unergative verb *awak* 'to turn oneself' selects the subject *tapixi* 'rabbit', the locative phrase *kyhaw pupe* 'in the hammock' is also present. In (33b), however, the causative morpheme {*mu-*}, which derives transitive verbs, is affixed to the predicate, generating the causative transitive verb *muawak* 'to turn'. This newly generated predicate projects two nuclear arguments: *awa* 'man', which is introduced in the subject position with the agent semantic property, and *tapixi* 'rabbit', which occupies the object position and takes on the thematic role of affected. In (33c), we observe another transitive structure with the subject *awa* 'man' and the object *tapixi iàkàg* 'rabbit's head'. Finally, in (33d), we can conclude that the possessee *iàkàg* 'its head (the rabbit's head)' incorporates into transitive predicate *muawak* 'to turn, generating the transitive verb *àkàgmuawak* 'to turn-head'. In (33e) below, we propose a configuration to account for the derivation in (33d):

(33e)



In the following section, we investigate the reflexive construction with the prefix {*ze-*} and its relationship with noun incorporation.

4. Reflexive constructions with noun incorporation

According to Castro (2007, 2017), the reflexive morpheme{*ze-*} affixes to transitive verbs causing verbal valence reduction. Castro and Camargos (2018) argue that due to its reflexive nature, the prefix indicates that the subject performs and is affected by the action expressed in the verb. Thus, the morpheme {*ze-*} indicates that the subject and the object are co-referents, consisting of an anaphor which is subject to Condition A of the Binding Theory[16]. These claims are corroborated by the following examples:

(34a) *u-hyw* *kuzà* *kwaharer* *a'e*
3-clean woman boy 3
'The woman cleaned the boy.'

(34b) *u-ze-hyw* *kuzà* *a'e*
3-REFL-clean woman 3
'The woman cleaned herself.'

In (34a), we observe that the transitive verb *hyw* 'to clean' selects two arguments: the subject *kuzà* 'woman' and the object *kwaharer* 'boy'.

[16] In the Generative Theory, Condition A states that "An anaphor must be bound in a local domain" (Chomsky 1995: 96).

However, in the example (34b), the affixation of the morpheme {*ze-*} generates a reflexive structure. In this case, the subject becomes the agent of an action that reflects on itself.

As previously discussed, noun incorporation, which results in the complex formation, is possibly triggered by the [+non-individuated] formal feature. Therefore, examples in (35) and (36) allows us to observe that the reflexive morpheme {*ze-*} will be triggered if the incorporated noun is the inherent possession of the subject. The scenario is the opposite when we analyze examples that illustrate no valence reduction. In these cases, as the possession of the incorporated head refers to the object, we observe no {*ze-*} morpheme emergence.

(35a) *u-hyw* *kuzà* *u-py'a* *a'e*
3-clean woman 3CORR-belly 3
'The woman cleaned her own belly.'

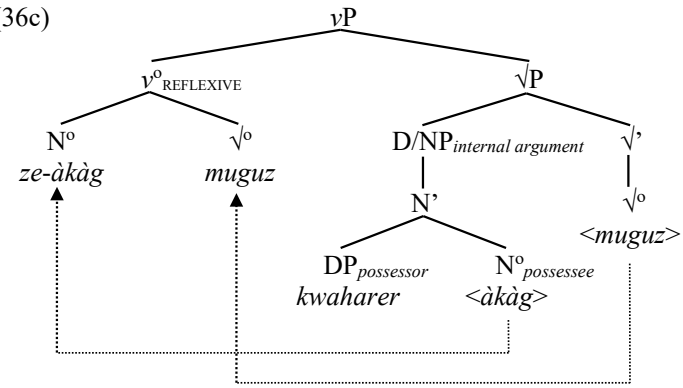
(35b) *u-ze-py'a-hyw* *kuzà* *a'e*
3-REFL-belly-clean woman 3
'The woman her own cleaned-belly.'

(36a) *u-muguz* *kwaharer* *w-àkàg* *a'e*
3-comb boy 3CORR-head 3
'The boy combed his own head.'

(36b) *u-ze-àkà-muguz* *kwaharer* *a'e*
3-REFL-head-comb boy 3
'The boy his own combed-head.'

Notice that in (35a) and (36a) the transitive predicates *hyw* 'to clean' and *muguz* 'to comb' select two nuclear arguments: the subjects *kuzà* 'woman' and *kwaharer* 'boy', and the objects *upy'a* 'her own belly' and *wàkàg* 'his own head'. In (35b) and (36b), however, we observe noun incorporation and the emergence of the morpheme {*ze-*} prefixed to the verb, indicating that this consists of a reflexive construction. Such behavior corroborates our hypothesis that the trigger for noun incorporation is the [+non-individuated] formal feature. In (36c) below, we propose a simplified configuration to account for the derivation in (36b):

(36c)



In the following section, we summarize our theoretical analysis of the noun incorporation phenomenon in relation to the Minimalist Program (cf. Chomsky 1993, 1995).

5. The Tenetehára data within a minimalist perspective

Based on Baker's (1988) analysis of noun incorporation, in this section we propose that the findings in the study lay the foundation for further investigation of the noun incorporation syntactic phenomenon within a minimalist approach (cf. Chomsky 1993, 1995). Despite the striking differences between the Government and Binding Theory, adopted by Baker (1988), and the Minimalist Program, one of Baker's (1988) major contributions must be acknowledged: noun incorporation is possible because of head movement.

According Assmann et al. (2012), the Baker's (1988) analysis fails to account for all the patterns of noun incorporation in the Mohawk language, although it provides an elegant explanation of the several processes of change in grammatical functions across languages. Therefore, despite being incompatible with some of the theoretical assumptions of the Minimalist Program, Baker's (1988) claims must not be discarded.

Baker (1988) does not provide a detailed explanation as to what triggers noun incorporation but indicates that it may be a morphophonological feature of the noun head. However, within a framework in which morphology is syntactic and post-syntactic (Halle and Marantz 1993), such trigger is not possible. Besides that, Chomsky (1993, 1995) proposes that derivations are motivated by formal features inherent to the lexical items. Based on this assumption, our hypothesis is that the driving force that triggers

incorporation is a formal feature located in the noun head. In the Tenetehára, specifically, what motivates the incorporation of a noun head to a verb head is the [+non-individuated] feature, as discussed in this study. Therefore, it is important to stress that, because of this formal feature, some constructions may present distinctive syntactic derivations.

In the Tenetehára language in particular, this formal feature is inherent to the non-individuation. This is mainly due to the fact that verbs incorporate non-agentive, non-human, non-referential and thus non-individuated internal arguments. In addition, in the non-alienable possession (mostly body parts), since the possessees are normally conceptualized in relation to the possessor, they also lack individuation.

Furthermore, our proposal is based on the Mithun's (1984) analysis for Tupinambá, since some examples of the Tenetehára language have behavior analogous to the Tupinambá data provided by Mithun (1984:856). For simplification purposes, contrast the parallel examples below:

Tenetehára		**Tupinambá**	
(37a)	*a-pina-eityk* 3-hook-throw 'I fished.'	(37b)	*a-pisá-eytɨk* I-fishnet-throw 'I net-throw.'
(38a)	*a-kawi-'u* 1-cauim-eat 'I drank-cauim[17].'	(38b)	*a-ka-'ú* I-kawi-ingest 'I drink kawi.'
(39a)	*a-mai-'u* 1-thing-eat 'I ate.'	(39b)	*a-ma'é-'ú* I-NONHUMAN-ingest 'I eat non-human objects.'

Therefore, we hypothesize that noun incorporation is possible in Tenetehára, since the argument has the [+non-individuated] formal feature which is what probably triggers noun incorporation in these contexts. Furthermore, the Tenetehára data allows us to make important generalizations pertaining to the noun features responsible for moving the phonological material from an NP head to the v^o position.

[17] A type of distilled liquor made from yuca.

6. Final remarks

The aim of this paper was to develop an analysis that accounts for the process of noun incorporation in the Tenetehára language within the Minimalist Program (Chomsky 1993, 1995). Therefore, we proposed a theoretical-descriptive analysis that explains the noun incorporation process in Tenetehára. Based on the assumptions of the Minimalist Program, we attempted to identify the formal features that motivate noun incorporation in this language. We conclude that the driving force responsible for incorporation of noun heads to the *v*P heads are the [+non-individuated] formal feature. It is, however, of great importance to stress that constructions may present distinctive syntactic derivations because of this formal feature.

References

Assmann, Anke, Doreen Georgi, and Philipp Weisser. 2012. A Minimalist analysis of possessor advancement Baker (1988) revisited. *Proceedings of ConSOLE XIX*. Leiden, South Holland.

Baker, Mark C. 1988. *Incorporation: A Theory of Grammatical Function Changing*. Chicago: University of Chicago Press.

Bobaljik, Jonathan. 1993. *Ergativity and Ergative Unergatives*. MIT working papers in linguistics 19:45-88.

Camargos, Quesler Fagundes. 2013. Estruturas causativas na língua Tenetehára: uma análise minimalista. Master's dissertation, Federal University of Minas Gerais.

Camargos, Quesler Fagundes. 2017. Aplicativização, causativização e nominalização: uma análise unificada de estruturas argumentais em Tenetehára-Guajajára (Família Tupí-Guaraní). PhD thesis, Federal University of Minas Gerais.

Castro, Ricardo Campos, and Quesler Fagundes Camargos. 2018. Estruturas causativas, reflexivas, recíprocas e anticausativas na língua Tenetehára-Guajajára (Família Tupí-Guaraní). *Revista Cadernos de Estudos Linguísticos da Universidade Estadual de Campinas* 60(3):669-690.

Castro, Ricardo Campos. 2007. Interface morfologia e sintaxe em Tenetehára. Master's dissertation, Federal University of Minas Gerais.

Castro, Ricardo Campos. 2013. O epifenômeno da alternância de valência na língua Tenetehára (Tupí-Guaraní). *Revista da Anpoll* 34:347-91.

Castro, Ricardo Campos. 2017. Morfossintaxe Tenetehára (Tupí-Guaraní). PhD thesis, Federal University of Minas Gerais.

Chomsky, Noam. 1981. *Lectures on Government and Binding*. Berlim and New York: Mouton de Gruyter.

Chomsky, Noam. 1993. A Minimalist Program for Syntactic Theory. In Ken Hale & Samuel Jay Keyser (Eds.), *The View from Building 20*, (pp. 1-52). Cambridge: The MIT Press.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge: The MIT Press.

Duarte, Fábio Bonfim, and Ricardo Campos Castro. 2010. Incorporação nominal, inergatividade e estrutura causativa em Tenetehára. In Ana Suelly Arruda Cabral & Aryon Dall'Igna Rodrigues (Eds.), *Línguas e Culturas Tupí*. Brasília and Campinas: Curt Nimuendajú, pp. 43-62.

Duarte, Fábio Bonfim. 1997. Análise gramatical das orações da Língua Tembé. Master's dissertation, University of Brasília.

Duarte, Fábio Bonfim. 2002. Negação e movimento do verbo na língua Tembé. In Ana Suelly Arruda Cabral & Aryon Dall'Igna Rodrigues (Eds.), *Línguas indígenas brasileiras: fonologia, gramática e história*. Belém: UFPA, pp. 374-84.

Duarte, Fábio Bonfim. 2003. Ordem dos constituintes e movimento em Tembé: minimalismo e anti-simetria. PhD thesis, Federal University of Minas Gerais.

Duarte, Fábio Bonfim. 2007. *Estudos de morfossintaxe Tenetehára*. Belo Horizonte: FALE/UFMG.

Duarte, Fábio Bonfim. 2013. Tenetehára: a predicate fronting Language. *The Canadian Journal of Linguistics* 57(3), 359-86.

Hale, Ken, and Samuel Jay Keyser. 1993. *Aspect and the syntax of argument structure*. Cambridge: The MIT Press.

Halle, Morris, and Alec Marantz. 1993. Distributed Morphology and the Pieces of Inflection. In Ken Hale & Samuel Jay Keyser (Eds.), *The View from Building 20*, (pp. 111-176). Cambridge: The MIT Press.

Klamer, Marian. 1998. *A Grammar of Kambera*. Berlim and New York: Mouton de Gruyter.

Laka, Itzar. 1993. Unergatives that assign ergatives, unaccusatives that assign accusatives. *MIT working papers in linguistics* 18:149-172.

Langacker, Ronald W. 1987. Nouns and verbs. *Language* 63(1), 53-94.

Mithun, Marianne. 1984. The evolution of noun incorporation. *Language* 60(4), 847-894.

Mufwene, Salikoko S. 1984. The count/mass distinction and the English lexicon. In David Testen & Veena Mishra (Eds.), *Parasession on lexical semantics*. Chicago: Chicago Linguistic Society, pp. 200-221.

Pavey, Emma L. 2010. *The Structure of Language: An introduction to grammatical Analysis*. Cambridge: Cambridge University Press.

Rodrigues, Aryon Dall'Igna. 1953. Morfologia do Verbo Tupi. *Revista Letras* 1:121-152.

Sadock, Jerrold M. 1980. Noun Incorporation in Greenlandic: A Case of Syntactic Word Formation. *Language* 56(2), 300-319.

Salas, Adalberto. 1992. *El mapuche o araucano: fonología, gramática, y antología de cuentos*. Madrid: Editorial MAPFRE.

Silva, Tabita Fernandes. 2010. História da língua Tenetehára: contribuição aos estudos histórico-comparativos sobre a diversificação da família Tupí-Guaraní do tronco Tupí. PhD thesis, University of Brasília.

Vieira, Márcia Maria Damaso. 2010. Os núcleos aplicativos e as línguas indígenas brasileiras. *Revista de Estudos da Linguagem* 18(1), 141-64.

Wisniewski, Edward J., Christopher A. Lamb, and Erica L. Middleton. 2003. On the conceptual basis for the count and mass noun distinction. *Language and Cognitive Processes* 18:583-624.