The particle '*ke*' as a differential object and subject marker in Ka'apor

A partícula '*ke*' como estratégia de marcação diferencial de sujeito e objeto em Ka'apor

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Abstract: The main purpose of this article is to show that the Ka'apor language exhibits both direct object marking (DOM) and differential subject marking (DSM). This research demonstrates that the particle *ke* is responsible for triggering these systems, since it is used when agent subjects are semantically affected by the event described by the verb and when objects are high on the animacy scale. In this sense, the DOM mechanism in Ka'apor is regulated by both the animacy and definiteness scales. With regard to DSM, I hypothesize that it emerges as an example of a markedness reversal, since affectedness is not a typical property of subjects, but only of objects. As a result, DSM in Ka'apor is characterized by the fact that only subjects which resemble typical patient objects are overtly case-marked by the particle *ke*.

Keywords: Dative. Ergative. Nominative. Differential marking. Ka'apor.

Resumo: O objetivo deste artigo é demonstrar que a língua Ka'apor exibe tanto marcação diferencial de objeto, doravante DOM, como marcação diferencial de sujeito, doravante DSM. O próposito é demonstrar que a partícula *ke* é a responsável por acionar esses dois sistemas, visto que é utilizada quando sujeitos são semanticamente afetados pelo evento e quando objetos ocupam uma posição alta na escala de animacidade. Nesse sentido, o mecanismo de marcação diferencial de objeto em Ka'apor é regulado tanto pela escala de animacidade como pela escala de definitude. Já em relação à marcação diferencial de sujeito, a hipótese assumida é a de que DSM emerge como o reflexo de uma marcação reversa, no sentido de que afetação não é uma propriedade semântica prototípica de sujeitos, mas somente de objetos. Em suma, a marcação diferencial de sujeito é acionada quando sujeitos apresentam as propriedades semânticas que são típicas de pacientes.

Palavras-chave: Dativo. Ergativo. Nominativo. Marcação diferencial. Ka'apor.

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INTRODUCTION

According to Duarte (2014, p. 100), "Ka'apor is spoken by about 1,000 people who live in the state of Maranhão, in northern Brazil. This language belongs to the Tupí-Guaraní family, Tupí Stock". The main purpose of this paper is to show that Ka'apor exhibits both direct object marking, henceforth DOM, and differential subject marking, hereafter DSM. This paper will also show that the particle ***ke*** is responsible for triggering these systems, since it signals that subjects are semantically affected by the event and that objects are high in the animacy scale. Another aim is to identify what abstract Case[1] this particle encodes both in DSM and DOM systems. In line with these assumptions, the theoretical hypothesis to be explored in this paper is that this particle is used to convey animacy and definiteness on the one hand, and the semantics of affectedness on the other hand. In line with this proposal, the theory to be developed is that this particle plays a strong role in determining when the object is high in the animacy and definiteness scale, whereas lack of the association with agenthood is what determines the differential subject marking for both transitive and unergative subjects. The analysis is based on theories about subject and object differential marking, such as the ones developed by Aissen (2003), Butt (2003, 2006), Butt and King (1991, 2004), Comrie (1989), Croft (1988, 1990), Givón (1976) and Woolford (2000), among others.

The article is subdivided into nine sections. Section "Theoretical assumptions" presents the theoretical backgrounds that will support the analysis. Section "Some relevant grammatical properties of Ka'apor" provides an overview of some grammatical properties of Ka'apor language. Section "What kind of case does ***ke*** convey?" demonstrates that ***ke*** can in fact be interpreted as a morphological instantiation of inherent dative Case. Sections "The animacy dimension" and "The definiteness dimension" outline the way DOM is triggered when the object is high both in the animacy hierarchy and in the definiteness scale. Section "Differential subject marking" explores the way that DSM is expressed when the subject corresponds to an affected agent in the argument structure of unergative and transitive verbs. Section "What happens when both DSM and DOM compete?" addresses the three grammatical patterns in which both DSM and DOM may cooccur. Section "On the grammatical status of ***ke***" presents an analysis on the grammatical category to which this particle belongs. The final section concludes the paper.

THEORETICAL ASSUMPTIONS

In this article I will be adopting the Differential Case Marking Theory, henceforth DCMT, as is originally proposed by Butt and King (1991, 2004) and Butt (2003, 2006). The core of this theoretical assumption is that semantic factors seem to be at the root of most case alternations among languages. Butt (2006), for instance, assumes that case systems are better understood if one takes semantic parameters into account. "One piece of evidence in favor of this analysis is the fact that there is a tendency among languages to use case alternations, both in subjects and in objects, in order to express semantic contrasts" (Duarte, 2014, p. 104). In Urdu, for instance, the semantic interpretation of the subject leads to a differential subject marking, henceforth DSM. For this reason, the ergative Case {=ne} marks that the subject is an agent with control and that it acts on purpose, whereas the dative Case {=ko} indicates that it does not have control over the action. In this sense, Butt (2006, p. 71) states that "[…] only the want modality is expressed with an ergative subject, whereas the dative can express both necessity and desire". Compare the examples below:

[1] In this paper, abstract Case will be spelled out with capital letter, while morphological case will remain with lowercase letter. See details on the difference between abstract Case and morphological case in Ura (2001).

(1) *nadya=ne* *zu* *ja-na* *he*
Nadya.F.SG=ERG zoo.M.SG.OBLIQ go-INF.M.SG be.PRES.3.SG
'Nadya wants to go to the zoo.'

(2) *nadya=ko* *zu* *ja-na* *he*
Nadya. F.SG=DAT zoo.M.SG.OBLIQ go-INF.M.SG be.PRES.3.SG
'Nadya has to go to the zoo.' (Butt; King, 2004, p. 2)

In (1), the ergative Case serves to indicate that the subject performs a greater control over the action, whereas the dative Case in (2) denotes that the subject has no control. In this sense, the meaning of volition/wanting is directly obtained when the subject is marked with the ergative Case, whereas the meaning of necessity/desire is achieved by marking the subject with dative. In sum, these examples point out that the ergative is associated with control over an action, whereas the dative is typically associated with goals and experiencers. According to this theory, if an ergative language exhibits a differential subject marking, the ergative Case tends to be used to mark agents, whereas the dative Case is triggered to mark the affected agent.

Ka'apor exhibits a similar pattern as the one above, since the particle ***ke*** marks subjects with low control, whereas prototypical agents remain unmarked. However, Ka'apor differs from Urdu and other ergative languages in that it is not an ergative-absolutive language, since it follows a nominative-accusative system. In such a Case system, it is the nominative Case that marks prototypical agents, whereas the dative Case is used on affected subjects to indicate the DSM. Details of this Case alternation system in Ka'apor will be addressed in sections "The definiteness dimension" and "Differential subject marking".

As to DOM, I will be assuming the proposal advocated by Aissen (2003, p. 435) and by Butt and King (2004), according to which, in a differential object Case marking system, the higher in prominence a direct object is, "[…] the more likely it is to be overtly case-marked […]". In line with this view, there are two dimensions along which prominence is assessed cross-linguistically: the animacy and definiteness dimensions. These dimensions can be expressed by two distinct scales, as follows:

(3) Relevant hierarchies for licensing object marking
a. Definiteness/specificity scale:
personal pronouns > proper name > definite NP > indefinite specific NP > non-specific NP
b. Animacy scale:
human > animate > inanimate

According to Aissen (2003), the scales[2] above make clear cross-linguistic predictions. They entail, for instance, that the high position objects tend to be more marked than the ones that occupy the lower positions in the two scales.

[2] Aissen (2003, p. 436-439) posits that higher ranked direct objects tend to be more marked than the lower ranked ones. Also, "If any inanimate objects are case-marked in a language with DOM, then at least some animate objects will be case-marked; […] then at least some definite objects will be marked, etc. […] The intuition is that high prominence which motivates DOM for objects is exactly the prominence which is unmarked for subjects. Thus, it is those direct objects which most resemble typical subjects that get overtly case-marked. Because of the association of subjects with agenthood, on the one hand, and topicality on the other hand, animacy and definiteness are unmarked properties for subjects (Keenan, 1976). But they are not unmarked properties for objects. In fact, they seem to be marked properties for objects, in part perhaps because of the pressure to maximally differentiate subject and object. Thus, exactly what is marked for objects is unmarked for subjects, and vice versa - an instance of what has been termed markedness reversal".

In line with this, animate, definite or specific objects tend to be more often marked by means of a case marker than the ones that are inanimate, indefinite or non-specific. I will also follow the assumptions of Comrie (1989) and Croft (1988, 1990) and Enç (1991) and Duarte (2014) and Ngunga et al. (2016) that animacy, definiteness and specificity features play a major role regarding the activation of differential object marking across languages. One of the classical examples cited in the literature is the Case alternation in Urdu in the sense that the accusative alternates with nominative in order to encode a semantic distinction related to specificity/animacy. As such, when the accusative morpheme {=ko} appears on the object, it denotes specificity/animacy. This is the situation in the contexts below, where the morpheme {=ko} is a marker of specificity. Note that the occurrence of the ko-marked NP 'the car' presupposes that it is known to exist previously in the discourse. Compare the examples (a) and (b) below.

(4a) *nadya=ne* *gar-i* *cala-yi* *hɛ*
Nadya.F.SG=ERG car-F.SG.NOM drive-PERF.F.SG be.PRES.3.SG
'Nadya has driven a car.'

(4b) *nadya=ne* *gar-i=ko* *cala-ya* *hɛ*
Nadya.F.SG=ERG car-F.SG=ACC drive-PERF.F.SG be.PRES.3.SG
'Nadya has driven the car.' (Butt; King, 2004, p. 7-8)

It is important to call to the reader's attention that the concept of specificity and definiteness does not coincide semantically. Based on this, I will assume, hereafter, that specific DPs may be interpreted as familiar to the speaker, but they are not necessarily definite. In line with this view, the referents of specific D/NPs are 'weakly linked' in a previously established conversation, whereas definite D/NPs must be tied to a 'strongly linked' discourse.

With this theoretical background in mind, I will propose that the DOM mechanism in Ka'apor is quite similar to the one exhibited by Urdu above, insofar as it is regulated both by the animacy scale and by the definiteness scale. Ka'apor DSM mechanism is also similar to Urdu in that it is constrained by volition and agentivity, on the one hand, and by lack of control, on the other hand. Based on these assumptions, I will be assuming that DOM in Ka'apor is better explained if we adopt a two-dimensional approach in which animacy and definiteness play an important role in determining whether or not objects will be marked by the particle ***ke*** within the clause. Before examining the two subsystems, the aim in the next section is to give a general overview of the grammatical aspects of the Ka'apor language that will be relevant to the theoretical analysis to be developed in the subsequent sections.

SOME RELEVANT GRAMMATICAL PROPERTIES OF KA'APOR[3]

In an unmarked situation, one may argue that prototypical agent subjects of transitive and intransitive action verbs do not receive the Case marker ***ke***, as opposed to themes and affected objects that may be marked with this particle. Compare the examples below.

[3] I refer the reader to Lopes (2009) and Cabana (2015) for a more comprehensive description on the Ka'apor Language.

TRANSITIVE VERB

(5) *a'erehe taru Nexi ke Ø-jo'ok*
For this reason Taru Nexi CM 3-pick up
'For this reason, Taru picked up Nexi.' (Kakumasu, 1986, p. 327)

(6) *ihẽ ne ke a-kutuk-ta*
I you CM I-poke-FUT
'I will poke you.' (Silva, 2001, p. 40)

INERGATIVE VERBS

(7) *jane ja-jengar ja-in*
we we-sing we-are
'We are singing.' (Caldas, 2001, p. 47)

(8) *jane ja-pikũj mi ?*
we we-row PROB
'Did we row?' (Silva, 2001, p. 11)

(9) *ihẽ a-je'eng a-in*
I I-speak I-be.sitting
'I am speaking.' (Silva, 2001, p. 12)

As the data above indicate, agents under control of the action are not marked with the particle ***ke***. However, theme and affected objects, whose referents are humans, specific and definite, may be marked with this particle. Additionally, affected agent subjects that are not a prototypical agent, but an external argument whose θ-role is hybrid in nature, are marked by the particle ***ke***. More to the point, although this argument is selected by an action verb, it is affected by the event. This led Duarte (2014, p. 109) to posit that "[…] this external argument corresponds to what Saksena (1980) describes as being the affected-agent in languages such as Hindi […]".[4] In the examples below, the presence or absence of [ke] encodes contrasts such as volition/purpose versus necessity/obligation/affectedness.

(10a) *Maíra ke Ø-wata*
Maíra CM 3-walk
'Maíra walked.' [With some effort] (Duarte, 2014, p. 109)

[4] Saksena (1980, p. 821 apud Duarte, 2014, p. 109) assumes that affected agents "[…] undergo a change of state physically (as in the activity expressed by running) or psychologically (as in the activity of studying). In other words, these agents have some of the properties that one typically expects of patients. These agents are not only doers (performers of their activities) but also doees (recipients of these same activities)".

(10b) *Maíra Ø-wata*
Maíra 3-walk
'Maíra walked.' [Voluntarily] (Duarte, 2014, p. 109)

(11) *a'e ke i-py ke Ø-tukwa*
he AFET NC-foot AFET 3-hit
'He has hurt his own foot.'

(12) *ihẽ a-tukwa myrape r-ehe*
I 1SG-hit table C-at
'I have hit the table.'

(13) *a'e ta ke u-'u-ta moj ke tĩ*
3 PL CM 3-eat-FUT cobra CM REP
'They will eat the snake.' [The result is that they will be affected by having eaten it]

(14) *ne ihẽ Ø-mi'u ke re-'u tĩ*
you my C-food CM 2SG-eat REP
'You usually eat my food.' ['You usually eat it voluntarily.']

As to the agreement system, it is observed that only transitive and intransitive subjects trigger agreement on the verb, since objects are not cross-referenced on the verb stem by personal prefixes. In order to facilitate the understanding of the agreement pattern that is established between the subject and the verb in the predicates, Table 1 shows the complete set of the personal pronouns and the subject prefixes that appear on the verb stem. Note that there is no set of agreement affixes for cross-referencing objects.

Table 1. Personal Markers. Source: Duarte (2014, p. 105).

Personal Pronouns		Subject Agreement Prefixes	
ihẽ	'I'	a-	'I'
ne	'you$_{singular}$'	ere-	'you$_{singular}$'
jane	'we'	ja-	'we'
pehẽ	'you$_{plural}$'	pe-	'you$_{plural}$'
a'e	'he/she'	u-	'he/she' – used in monosyllabic stems
		Ø-	'he/she' – used in stems with more than one syllable

The fact that the set of agreement prefixes above encodes the intransitive and transitive subjects thus signals that verb agreement follows the nominative-accusative alignment. In conclusion, one may argue that transitive and intransitive subjects are cross-referenced by means of the same set of personal markers. Furthermore, observe that the third person prefix is realized by two allomorphs: (u- ∞ ø-). The allomorph (ø-) is restricted to contexts where the verb stem is composed of more than one syllable. Compare the examples below:

INTRANSITIVE

(15)

ihẽ	**a-**por	'I jump'
ne	**ere-**por	'you jump'
jane	**ja-**por	'we jump'
pehẽ	**pe-**por	'you jump'
a'e	**u-**por	'he jumps'

TRANSITIVE

(16)

ihẽ	**a-**mu'e	'I teach (someone)'
ne	**ere-**mu'e	'you teach (someone)'
jane	**ja-**mu'e	'we teach (someone)'
pehẽ	**pe-**mu'e	'you teach (someone)'
a'e	**Ø-**mu'e	'he teaches (someone)'

As to the verbal morphological template, it is notable that the subject agreement, the reflexive voice and the causative morpheme precede the verb stem, whereas the negation suffix and the tense suffix follow it. Additionally, no other morpheme may intervene between the root and causative prefix {*-mu-*}, since they must be adjacent to each other, as the Table 2 below indicates.

Table 2. Linear order of verbal morphemes. Source: Duarte (2014, p. 119), added with the column named suffix 2.

PREFIX 1		PREFIX 2	PREFIX 3	VERBAL ROOT	SUFFIX 1	SUFFIX 2
Subject agreement		Reflexive	Causative		Negation	Tense
a-	'I'	ju-	mu-	lexical stem	-'ym	-ta
re ~ ere ~ e-	'you'					
ja-	'we'					
pe-	'you'					
u- ∞ Ø-	'they'					

In root clauses, subjects and objects tend to occur before the verb, whereas tense/aspectual particles and auxiliaries obligatorily follow the predicate, thereby producing the [SOV-tense/aspect] and [SOV-Aux] word order possibilities, as is indicated by the following examples.

SOV-Aux

(17) *ta'in h-okwen ke Ø-nupã u-'am*
child 3-door AFET 3-knock 3-be standing up
'The child is knocking at her door (standing up).'

SOV-tense

(18) *a'e tatu ke u-'u-ta*
he armadillo AFET 3-eat-FUT
'He will eat armadillo.'

SOV-aspect

(19) *ne ihẽ ke re-mu-sak 'y*
you me AFET 2-CAUS-see PERF
'You got me to see (it)'.

Although the SOV is the more general word order in narratives and spontaneous speech, we also find other linear order possibilities, such as VSO-Aux and SVO-Aux. The reason for this syntactic variation is a topic that needs to be addressed in future research. Compare the examples below.

VSO-Aux

(20) *Ø-mahem arapuha himi'u o-ho*
3-find deer food 3-go
'The deer will find some food.'

SVO-Aux

(21) *ihẽ a-py'a- katu ne r-ɛhɛ a-ʃɔ*
I 1-think-INTS you C-about 1-be
'I am thinking about you a lot.'

In temporal/conditional subordinate clauses, the complementizer ***rahã*** 'when, if' is systematically placed at sentence-final position. As a consequence, it appears after the predicate, thereby producing (at least) two word order possibilities, such as the [SOV-C] and [OSV-C]. In these clauses, the verb and its core arguments precede the complementizer particle, as follows:

(22) *ne ihẽ ke re-nupã rahã ihẽ a-ho-ta*
You I CM 2SG-hit when I 1SG-go-FUT
'If you hit me, I will go away.'

(23) *kaka ke kurumĩ u-'u rahã*
cocoa AFET child 3-eat when

a'e h-ã'ĩm ke Ø-matyr
he 3-nut AFET 3-gather
'When the child ate the cocoa, he gathered the cocoa seeds.'

After presenting this short overview of some aspects of the Ka'apor grammar, the next sections aim to investigate the intricate system of DOM and DSM. Let us then start with the grammatical status of the particle ***ke***, since its syntactic-semantic distribution will be crucial to determining the differential marking system in root and subordinate clauses.

WHAT KIND OF CASE DOES *ke* CONVEY?

Taking into consideration the fact that objects and subjects can be identically case-marked with ***ke***, I will follow the analysis presented in Duarte (2014), according to which this particle is a morphological spell-out of an abstract Case that is used to mark animate and definite objects and affected transitive subjects with reduced control. Let us further assert that it corresponds to a dative Case in the sense of Woolford (1997, 2006), as it is semantically oriented, rather than a structural Case. Strong evidence in favor of this proposal comes from the fact that the occurrence of ***ke*** is highly predictable, inasmuch as it can be associated with a fixed semantic interpretation. It is typically related to the semantics of animacy and definiteness, when in object position, and to the semantics of affectedness when it appears enclitic to unergative and transitive subjects. Another piece of evidence is that, in addition to marking objects and affected agent subjects, it is also possible to find ***ke*** marking goals in ditransitive verbs, as follows:

(24) *a'e ta Ø-ma'e Ø-jukwa-há ihẽ ke pe Ø-me'ẽ*
3 PL G-thing C-kill-NOML I DAT to 3-give
'They gave me poison.'

Based on the data above, one may be tempted to postulate that ***ke*** originates as a dative Case, initially marking goal arguments, and that it then extends further to mark theme/patient arguments as well as agents with low control.

Another piece of evidence is the tendency among languages to use case alternations, both with subjects and with internal arguments, in order to express semantic contrasts. This is, for instance, the situation in Urdu, where the dative alternates with the ergative, and in Bengali, where the genitive alternates with the nominative.[5] For instance, since there is no dative available in Bengali grammar, the genitive is used to cover the meaning of affectedness. Butt (2006, p. 74) calls our attention to the fact that "[…] Bengali uses genitive case where other languages tend to employ the dative […]". Thus, in Bengali, the nominative acts as the default marker for agents, whereas the genitive is used to express an argument that has reduced control over the action, as follows:

(25a) *ami tomake cai*
I.NOM you.ACC wants
'I want you.' (Klaiman, 1980, p. 279)

[5] Butt (2006, p. 84) proposes that the dative may be interpreted both "[…] as a goal (place) and, in contrast to another case marker, as an agent with reduced control over the action. […]. In Urdu, the dative contrasts with the ergative. In Bengali, the genitive contrasts with the nominative. Given that Bengali has no ergative case, the nominative acts as the default marker for agents; and the genitive in contrast with the nominative indicates reduced control over the action".

(25b) *amar tomake cai*
I.GEN you.ACC wants
'I need you.' (Klaiman, 1980, p. 279)

Interestingly, the same case alternation appears in Ka'apor, since the dative Case, instantiated by the particle ***ke***, alternates with the unmarked nominative subject, both in unergative and transitive sentences, as repeated below:

(26a) *Purutu ke Ø-ahem*
Purutu DAT 3SG-shout
'Purutu shouted.' (Duarte, 2014, p. 109)

(26b) *Purutu Ø Ø-ahem*
Purutu NOM 3SG-shout
'Purutu shouted.' (Duarte, 2014, p. 109)

(27a) *a'e ke u-'u-ta pypyhu ke tĩ*
he DAT 3SG-eat-FUT owl CM REP
'He is going to eat the owl.' (Duarte, 2014, p. 110)

(27b) *a'e Ø tatu ke u-'u-ta*
he NOM armadillo CM 3-eat-FUT
'He will eat the armadillo.' (Duarte, 2014, p. 110)

Based on these data, it thus seems quite plausible to postulate that Ka'apor exhibits the same case alternation as Hindi, Urdu and Bengali. However, as Ka'apor is not an ergative language like Urdu and Hindi, it will be the unmarked nominative that alternates with the dative to indicate prototypical agents with a high degree of control over the action. Based on these assumptions, Duarte (2014, p. 113) assumes "[…] that the inherent dative Case, which is expressed by the enclitic particle ***ke*** in Ka'apor, bears the following semantic interpretations […]":

(28) (a) ***ke*** marks arguments that are goals (beneficiaries) in ditransitive verbs;

(b) In the DSMs, the dative will be used to encode an agent with reduced control, whereas the nominative will indicate a prototypical agent;

(c) In DOM contexts, the dative has the role of indicating that the object is definite and, in some contexts, that it is higher on the animacy scale, whereas the accusative is the default unmarked case that is used to express indefiniteness of objects.

Based on the above assumptions, Duarte (2014) points out that, in many languages, distinct syntactic functions are often expressed by homophonous case markers. This occurs in Urdu for example, where the case marker ***ko***

is used for marking the dative.[6] In other languages, the markers of instrumentals and ergatives or of instrumental and genitives also tend to be form-identical. Based on the empirical data examined thus far and on the differential marking theories, we may postulate that the same situation also holds in Ka'apor, since ***ke*** covers different syntactic slots, resulting in a complex system of DOM and DSM. Therefore, it seems quite reasonable to assume that ***ke*** is in fact an instantiation of the inherent dative Case that engages in competition with the unmarked nominative and accusative Case. This encoding of a system of semantic contrasts is thus consistent with that in languages such as Hindi, Urdu and Bengali,[7] among others'.

THE ANIMACY DIMENSION

As to the animacy dimension, recall that subjects tend to be more associated with animate referents than objects. Because of this, animate objects tend to be more marked than animate subjects crosslinguistically, since this semantic property is not an unmarked property for objects. This explains the reason why Ka'apor grammar requires extensive case-marking for human personal pronouns when they are in the syntactic position of direct object. For this reason, I will assume henceforth that one of the roles of DOM in Ka'apor is to disambiguate subject from object in transitive action predicates, especially when they compete for the slots of the core syntactic functions. In such contexts, when the object corresponds to a (human) animate NP, it must be obligatorily case-marked with the particle ***ke***, as follows:

(29) *Tuti* *ke* *Xa'e* *Ø-jukwa*
Tuti CM Xa'e 3-kill
'Xa'e killed Tuti.' (Kakumasu, 1986, p. 351)

(30) *Mataru* *Xa'e* *ke* *Ø-nupã* *tĩ*
Mataru Xa'e CM 3-hit REP
'Mataru hit Xa'e again.' (Kakumasu, 1986, p. 351)

In addition to the contexts shown above, first and second person human pronouns obligatorily have overt case-marking whenever they occur in the object position. Based on this, the generalization seems to be that personal pronouns will be obligatorily case-marked with the particle ***ke***, inasmuch as they are intrinsically definite. This in turn signals that Ka'apor is a language that always case-marks personal pronouns, thereby denoting an intricate DOM system. This grammatical pattern is in line with the theoretical assumption that human NPs and first and second personal pronouns tend to be grammatically marked cross-linguistically, since they outrank all other elements in the animacy and definiteness scale. This in part explains why they are the most susceptible arguments to trigger DOM in Ka'apor. Compare the following examples.

[6] See Butt (2006) for a detailed analysis on Urdu Case system.

[7] Notice that under Butt's (2006, p. 84-85) proposal, "This is expected as part of language change when new case markers enter the language or engage in competition in a system of semantic contrasts […]". According to Butt's theory, "[…] if a Case marker can express both low control (affectedness) and the dimension of place and path, then this Case marker can take over the semantic space of the accusative as well as the dative, thus resulting in homophony of the accusative and dative […]".

(31) *apo pehẽ ihẽ ke pe-harõ-ta*
now 2PL 1SG CM 2PL-wait-FUT
'Now you will wait for me.' (Caldas, 2009, p. 327)

(32) *ihẽ ne ke a-pyhyk 'y*
1SG 2SG CM 1SG-take IMIN
'I will take you.' (Caldas, 2009, p. 327)

In sum, we can conclude that the two subsystems shown above are directly determined by the animacy scale. The fact that human NPs and personal pronouns require overt marking is, after all, a reflection of the pervasive pressure to maximally differentiate subject and object in Ka'apor, especially when they are animate or first- or second-person pronouns.[8]

THE DEFINITENESS DIMENSION

In contrast to the contexts shown in the previous section, there are cases in which DOM is required in Ka'apor, even when the absence of case marking would not lead to any ambiguity. In such contexts, the object is not high on the animacy scale, but it is highly prominent on the definiteness scale, since its referent is clearly definite in the immediate pragmatic context. Compare the examples (a) and (b) below:

(33a) *ihẽ 'ok ke a-peir ĩ*
I house CM 1SG-sweep PERF 2
'I have swept the house.' (Silva, 2001, p. 10)

(33b) *ihẽ 'ok a-peir*
I house 1SG-sweep
'I (usually) sweep house.' (Silva, 2001, p. 10)

(34a) *a'e 'ok ke Ø-mujã*
3 house CM 3SG-make
'He has made the house.' (Silva, 2001, p. 39)

(34b) *ihẽ 'ok a-mujã*
1 house 1SG-make
'I have made a house.' (Silva, 2001, p. 39)

(35a) *a'e i-ky ke Ø-ji'ok*
3 NC-louse CM 3-take/extract
'He has taken out somebody's louse (a definite one).' (Silva, 2001, p. 37)

[8] I refer the reader to Cabana (2015) for a similar analysis regarding the animacy scale.

(35b) *ihẽ i-ky a-ji'ok 'y*
1 NC-louse 3-take/extract PERF
'I have taken out a louse (from somebody's head).' (Caldas, 2001, p. 27)

(36a) *ihẽ narãj ke a-pirok*
I orange CM 1SG -peel
'I have peeled the orange.' (Silva, 2001, p. 38)

(36b) *Ø-pirok narãj tĩ*
3SG -peel orange REP
'He peeled an orange (an indefinite one).' (Silva, 2001, p. 38)

Even human NPs in object position may remain morphologically unmarked, if they are indefinite and non-specific, as the example below illustrates.

(37) *t-a'yr Ø-pyhu-katu i-paj tĩ*
G-son 3SG-respect-INTS NC-father REP
'Son respects his father a lot.' (Caldas, 2001, p. 7)

Based on the contrast shown above, the generalization we can make is that the particle ***ke*** marks only definite objects, regardless of whether they are human, animate or inanimate. Hence, it seems plausible to state that case-marking of definite NPs in Ka'apor is not optional, but obligatory. This in turn explains why the pronouns for first and second persons, as well as [+definite] human, animate and inanimate NPs are all obligatorily case-marked, whereas [-definite] NPs cannot be case-marked, regardless of whether they correspond to animate or inanimate objects. In this sense, Ka'apor differs from Hindi, for example, where case-marking of animates is also possible for indefinites. As such, the presence of the case marker {***-ko***} is obligatory with human-referring definite objects as well as with human-referring indefinite ones, as follows:

(38a) *Aurat bacce-ko bulaa rahii hai.*
woman child-ACC calling PROG is
'The woman is calling a child.'

(38b) *?Aurat baccaa bulaa rahii hai.*
woman child calling PROG is
'The woman is calling a child.' (Comrie, 1989, p. 133)

In sum, Ka'apor DOM is largely restricted to contexts in which objects are either first and second person or definite NPs. Therefore, we could make the following generalization about Ka'apor DOM:

(39) Local first and second human pronouns and definite NPs always outrank other NPs with respect to the definite scale.

DIFFERENTIAL SUBJECT MARKING

In addition to marking objects, it is also possible to find contexts in which the particle ***ke*** marks the subject of agentive verbs (in principle, a situation the reader might have thought to be impossible). The examples below illustrate clear cases of differential subject marking. Interestingly, in these examples, the particle ***ke*** can become enclitic to the subject of unergative verbs. According to Duarte (2014, p. 109), "In such contexts, the subject does not correspond to a prototypical agent, but to an argument whose θ-role is hybrid in nature. In other words, although the subject is an argument of an action verb, it does display some degree of affectedness […]". As such, this argument corresponds to what Saksena (1980) describes as being the affected agent in languages such as Hindi. Notice that the presence or absence of ***ke*** in the examples below serves to encode contrasts such as volition/purpose *versus* necessity/obligation. Thus, in the (a) example, the meaning is that the subject performed the action with some affectedness; in (40a), it is inferred that something (a stone, a knife, a chair, etc.) might have fallen on Purutu's foot, so that he did not have a chance to avoid it. However, the agentive meaning is obtained when the subject does not co-occur with the particle ***ke***, as in (40b). In such contexts, since ***ke*** is omitted, the affectedness interpretation cannot be inferred.

(40a) ***Purutu ke Ø-ahem***
Purutu CM 3SG-shout
'Purutu shouted.' [With some affectedness] (Duarte, 2014, p. 109)

(40b) ***Purutu Ø-ahem***
Purutu 3SG-shout
'Purutu shouted.' [On purpose] (Duarte, 2014, p. 109)

Similar semantic alternation is also found in transitive constructions. For example, the verb ***-'u*** 'eat' can select an affected agent or an agent. Then, below in (41a), the subject has control over the action of eating, and as a consequence, ***ke*** need not appear. Thus, the action of eating armadillo suggests that the agent does it gladly and without being forced. In (41b), on the other hand, the subject is an affected participant, since in the Ka'apor culture, to eat owl always involves being affected. Thus, sentence (41b) is a clear context where the subject of an action transitive verb, although being an agent, is also affected by the event. As a consequence, it must be marked with ***ke***, in order to encode that the transitive subject is an affected agent, that is, it is not a prototypical agent subject.

(41a) ***a'e tatu ke u-'u-ta***
he armadillo CM 3-eat-FUT
'He will eat the armadillo.' (Duarte, 2014, p. 110)

(41b) ***a'e ke u-'u-ta pypyhu ke tĩ***
he CM 3SG-eat-FUT owl CM REP
'He is going to eat the owl.' (Duarte, 2014, p. 110)

Given these data, we can arrive at the conclusion that the affected agents share a common semantic system: they are all the recipients of some causing event and constitute the goal toward which the action is directed. More precisely, these agents have some of the properties that one typically expects of patients and goals, as they are not only agents but also patients of the event represented by verbs such as 'shout' and 'eat', among others.

Based on the data examined thus far, we can conclude the following: since affectedness is the unmarked property of objects, the subjects of action verbs will always be case-marked with the particle ***ke*** when these subjects are not directly associated with agenthood. Notice that a markedness reversal system emerges in such contexts due to the fact that affectedness must be interpreted as an unmarked property for definite objects. Markedness here means that the subject receives a differential morphological marking to encode that, although the subject occupies an external syntactic position of a transitive action verb, it is not a prototypical agent but an affected agent. In line with this, I will propose another scale/dimension in relation to the DSM, since the prototypical agent subject is not case-marked, but the affected/patient agents are. This favors a view of DSM in Ka'apor that is not related to DOM. The reason has to do with the fact that DSM does not make direct reference to multiple dimensions, to both animacy and definiteness, but only to the affectedness dimension. In this sense, the complex case system found in objects that are [+definite]/[+animate] cannot be extended to DSM in Ka'apor. Thus, my hypothesis is that DSM is required in contexts in which the subject is associated with lower agenthood. In other words, whenever subjects of unergative and transitive verbs exhibit the affectedness properties of objects, they will be obligatorily case-marked with ***ke***. Pursuing this line of reasoning, one can assume that DSM in Ka'apor emerges as an example of a markedness reversal, since affectedness is not a typical property of subjects, but of objects. Thus, DSM in Ka'apor is determined by the fact that it is only those subjects which resemble typical patient objects that get overtly case-marked by ***ke***. Thus, we can state that the affected agent subject of unergative and transitive verbs may be overtly case-marked by means of the case marker ***ke***.

WHAT HAPPENS WHEN BOTH DSM AND DOM COMPETE?

In contexts where the subject is an affected agent rather than a prototypical agent, there are at least three grammatical patterns observed.

The first occurs when the subject is higher than the object in the animacy scale. In such contexts, the affected agent subject is obligatorily case-marked by the particle ***ke***. This grammatical possibility is exemplified in the example (42), where the animate subject, being affected by the event of mashing manioc, receives the case-marker ***ke***. Note that the object remains unmarked, since its referent is indefinite and inanimate. As a consequence, one may predict that the DSM emerges when the subject corresponds to an affected agent and is higher than the object in the animacy scale.

$$[NP_{human/affected/ke} > NP_{indefinite/affected/\emptyset}]$$

(42) ***ihẽ*** ***ke*** ***u'i*** ***a-karãj***
1 CM manioc flour 1SG-mash
'I mashed manioc (in order to produce cassava flour).'

Additionally, DSM and DOM can simultaneously co-occur in the same sentence in contexts in which the object is definite and the affected agent subject is pronominal. Thus, in the sentences below, although the objects are lower

than the subjects on the animacy scale, they are both case-marked by the particle ***ke***. Thus, this semantic property shows that the particle ***ke*** can case-mark both the subject and the object simultaneously, thereby producing both DSM and DOM, as is shown in the following sentences:

$$[NP_{human/affected/human/ke} > NP_{definite/affected/non\text{-}human/ke}]$$

(43) *ne* *ke* *u'i* *ke* *re-karãj-ta*
2SG CM manioc CM 2SG-mash-FUT
'You will mash a specific amount of manioc (in order to produce cassava flour).'

(44) *a'e* *ke* *i-py* *ke* *Ø-tukwa*
he CM NC-foot CM 3-hit
'He has hurt his own foot.'

(45) *a'e* *ta* *ke* *u-'u-ta* *moj* *ke* *tĩ*
he ASS CM 3SG-eat-FUT snake CM REP
'They will eat the snake.'

(46) *a'e* *ke* *u-'u-ta* *pypyhu* *ke* *tĩ*
he CM 3SG-eat-FUT owl CM REP
'He will eat the owl.'

The third pattern involves contexts in which the subject and the object are both high in the animacy scale; for example, both of them could be overtly realized either as first or second person pronouns or as animate human NPs. In such environments, a reversed system emerges in such a way that only the subject is case-marked. Thus, the generalization observed is that subjects and objects cannot both be case-marked when they are prominent in the animacy hierarchy. In such context, the subject will have preference over the object, as follows:

$$[NP_{human\ person\ pronoun/affected/ke} > NP_{definite/human\ person\ pronoun/Ø}]$$

(47) *ne* *ke* *ihẽ* *re-mu-pu'am* *'y*
you CM I 2SG-CAUS-get up PERF 1
'You made me get up.' (Silva, 2001, p. 51)

Note that the semantic interpretation of the subject in the examples above is ambiguous, since it corresponds to an affected agent. Therefore, in (47), the subject is affected because the action of making someone get up involves physical effort.

In sum, one can conclude that it is the lack of the association with prototypical agenthood that leads to the occurrence of DSM system in Ka'apor. In this sense, affectedness is not the unmarked property for transitive subjects; from this fact we derive an explanation for why affected agent subjects of verbs of activity are systematically case-marked with the particle ***ke***. This thus explains why affected agent subjects are formally marked with the same particle that is used to encode objects.

The reason for the emergence of this differential subject and object marking has to do with the fact that affectedness is the unmarked property for objects, whereas definiteness and agenthood is the unmarked pattern for subjects.

ON THE GRAMMATICAL STATUS OF *ke*

Based on distribution of *ke* presented thus far, one may conclude that this item belongs to the class of Case particles due to the following reasons: (i) it is syntactically dependent on the noun phrase over which it has grammatical scope and (ii) it can only occur in a post-nominal position, usually after adjectives and plural markers. Evidence in favor of this proposal relates to the fact that it has a fixed position within the D/NP, a property that clearly differs *ke* from affixes, adverbs and quantifiers. This is reinforced by the fact that it cannot be moved to other syntactic position nor be floated away from the noun phrase that it modifies. In this sense, I will claim that *ke* is a functional particle with clear semantic denotation and a fixed position in the sentence. Thus, it cannot be categorized as an inflectional affix, since grammatical inflection in Ka'apor usually occurs at the left position in the morphological template of noun roots. This is reinforced by the fact that the morphemes related to person agreement in nouns systematically occur as prefixes. This is the situation below, in which the prefix {r} encodes that the possessor is immediately adjacent to the noun root, whereas the prefix {h-} indicates that the third person possessor has been omitted from the noun phrase, as follows:

(48a) *ihe r-ena*
my C-village
'My village.'

(48b) *h-ena*
NC-village
'His village.'

Another piece of evidence regards the fact that adjectives and plural particles can interpolate between *ke* and the noun, a situation that clearly signals that the canonical word order is {Noun+Adjective+Plural Marker+*ke*} within the nominal domain. This in turn indicates that this particle really forms a phonological word with the NP to which it phonologically adjoins. Compare the examples below in which the head of the NP co-occurs with the adjective *panɛm* 'unlucky' and the plural marker *ta*:

(49) *sawaʔɛ ta*
man PL
'Men.'

(50) *sawaʔɛ panɛm*
man unlucky
'Unlucky man.'

(51) *sawaʔɛ panɛm ta*
man unlucky PL
'Unlucky men.'

Note that, when the particle ***ke*** appears in the phrases above, it must be obligatorily following the adjective and the quantifier, thereby signaling that it must follow the noun, the adjective and the plural marker, as is exemplified below:

(52) *sawaʔɛ panɛm ta kɛ*
man unlucky PL CM
'Unlucky men.'

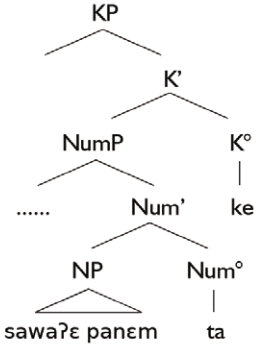
Additionally, when the universal quantifier ***upa*** 'all' combines with the nominal phrase above, it must be positioned after ***ke***, thereby indicating that it occupies a higher position in the extended functional structure of the D/NP, as follows.

(53) *sawaʔɛ panɛm ta kɛ upa*
man unlucky PL CM all
'All unlucky men.'

In sum, one may conclude that, as ***ke*** occupies an intermediate position in the phrases above, it clearly indicates that it cannot be analyzed as a suffix, but as a Case particle, since affixes cannot occur far away from the root it must adjoin to. More to the point, adjectives and plural marker particles cannot interpolate between affixes and the stem.

Based on these empirical assumptions, I will propose that ***ke*** is a morphological realization of the abstract Case that transitive subjects, direct objects and goals receive in the course of the syntactic derivation. Following Bittner and Hale's (1996) and Baker's (2012) theory, according to which KP is the Case functional extension of D/NP projection, I will assume that the particle ***ke*** heads such a Case projection. In line with this theory, I will propose that NPs marked with the enclitic particle ***ke*** exhibit the syntactic structure depicted in the diagram below:

(54)



CONCLUDING REMARKS

In conclusion, this paper shows that the DOM mechanism in Ka'apor is regulated both by the animacy scale and by the definiteness scale. This phenomenon is better explained if we adopt a two-dimensional approach, according to which animacy and definiteness play an important role in determining whether or not objects will be marked within clauses. In this regard, Ka'apor grammar requires extensive case-marking for personal pronouns and for human non-pronominal

objects. Thus, one of the roles of DOM in Ka'apor is to disambiguate subject from object in transitive action predicates, especially when they compete for the syntactic slots within the vP argument structure. As such, only definite objects are case-marked, regardless of whether they are human, animate or inanimate. Thus, it seems plausible to propose that case-marking of definite NPs is obligatory in Ka'apor rather than optional. This in turn explains why the local persons (first and second), definite human/animate NPs and definite inanimate NPs are case-marked by ***ke***, whereas indefinites cannot be case-marked, regardless of whether they correspond to either animate or inanimate objects.

Additionally, it is shown that the particle ***ke*** can mark the subject of agentive verbs whenever it does not correspond to a prototypical agent, but instead to an argument whose theta role is hybrid in nature. More to the point, one can conclude that, since affectedness is the unmarked property of objects, subjects will be always case-marked with the particle ***ke***, when they are not directly associated with agenthood. A further conclusion is that DSM occurs as an example of a markedness reversal, since affectedness is typical of objects but not of subjects. In other words, the affected agent subject of unergative and transitive verbs will always be overtly case-marked by means of the case marker ***ke***. Furthermore, this particle can be interpreted as a morphological spell-out of an abstract Case that is used to mark animate and definite objects and affected transitive subjects with reduced control.

In line with this theory, I assume that, due to its multifunctional status, the particle ***ke*** corresponds to a dative Case in the sense of Woolford (1997, 2000, 2006) in that it is a semantically oriented Case, assigned to core arguments in the v-VP domain. In sum, it is a type of inherent Case that fits well in the paradigm of inherent Case theory as proposed originally by Woolford (2006), since this Case is directly related to the following semantic properties:

(a) affectedness of subject of unergative and transitive verbs;
(b) definiteness/animacy of the referent of the argument in object position.

ABBREVIATIONS

1	first person
2	second person
3	third person
ACC	accusative case
AFET	affected argument
ASS	plural marker
AUX	auxiliary
C	a relational prefix that signals the adjacency of the internal argument in relation to its head
CAUS	causative prefix
CM	case marker
DAT	dative case
ERG	ergative case
F.SG	feminine singular
FUT	future tense
G	generic
GEN	genitive case
IMIN	a particle that conveys the future tense
INF	infinitive
INTS	intensifier suffix
M.SG	masculine singular
NC	a relational prefix that signals that there is no adjacency of the internal argument in relation to its head
NOM	nominative case
NOML	nominalizer suffix
NP	noun phrase
OBLIQ	oblique case
OSV	object-subject-verb
PERF	perfective aspect
PERF 1	perfective aspect 1
PERF 2	perfective aspect 2
PL	plural marker
PRES	present tense
PROB	probability
PROG	progressive aspect
REP	particle in final sentence position that indicates repetition of the action performed by the subject
SG	singular
SOV	subject-object-verb
SVO	subject-verb-object
VSO	verb-subject-object

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