©Revista da ABRALIN, v.6 n.1 p.61-93. Jan./jun. 2007

VERBAL MOVEMENT, CASE AND AGREEMENT*[1]

Rafael Bezerra NONATO
Universidade Estadual de Campinas

RESUMO

Chomsky (2000, 2001) delineia uma teoria de caso, concordância e movimento que relega o movimento de núcleos ao componente fonológico. Eu proponho revisões a essa teoria que resgatam à sintaxe o movimento de núcleos verbais, ligando-o explicativamente aos fatos de caso e concordância (de diversos sistemas ergativos e acusativos) e movimento de argumentos.

ABSTRACT

Chomsky (2000, 2001) delineates a theory ofcase, agreement and movement that leaves head mouement to phonoloyical computation. I propose changes to this theory that rescue head movement to the syntax, explanatorily connecting it to the facts of case and agreement (of different ergative and accusative systems) and argument movement.

PALAVRAS-CHAVE

Programa Minimalista, Sistemas de caso, Ergatividade, Movimento do núcleo.

---

[1] I would like to thank Filomena Sandalo, Jairo Nunes, Andrew Nevins, Clene Rodrigues, Sonia Cyrino and an anonymous reviewer for comments and discussion o tfis paper and related work. This research was funded by FAPESP and FEL

©Revista da ABRALIN, v.6 n.1 p.61-93. Jan./jun. 2007

KEYWORDS

Minimalist Program, Case Systems, Ergativity, Head mouvement

1. Introduction

In this paper I examine the morphology and word order of Bororo and propose changes to certain aspects of the theory of movement, agreement and case valuation argued for in Chomsky (2000) (Minimalist inquiries) and Chomsky (2001) (Derivation by Phase) - henceforth MIDP. I propose these changes in order to extend the theory to two important phenomena /62 it doesn't properly account for, namely, the existence of different types of case systems (ergative/accusative languages) and verbal head movement that is related to agreement/case valuation. My observations are based on data from Bororo[1] and complemented with data from languages with other case systems.

Chomsky (2000) does not try to account for head movement, particularly verbal movement. Chomsky (2001), on the other hand, leaves the problem to phonological computation, arguing that verbal movement does not create interpretive contrast. I do not understand the validity of his argument, since, for instance, whatever "interpretive contrast" there is between transitive and passive structures in languages such as English, no theory I know of attributes the DP movement in passives to phonological computation. Ir is widely accepted that this movement follows from the contrasting argument and case structures of passive and transitive clauses (cf Baker, Johnson & Roberts, 1989; and

Chomsky, 2001).[2] Verbal movement in Bororo is also contingent on the argument structure of the clauses: Bororo verbs raise to T only in intransitive unaccusative constructions, remaining in situ in transitive and unergative constructions. That, I will argue, relates to the agreement/case relations established in the language.

The theory of movement, agreement and case valuation I propose brings back to the fore the "distinctive feature" of Bittner and Hale (1996)'s case theory, the idea that a head's ability to assign (or value) case is determined by the syntactic relations in its domain, rather than by its syntactic category (the latter seems to be the received wisdom in rnost MIDP-based theories of ergativity e.g. Bobaljik, 1992; Woolford, 1997; and Legare 2005).

This paper is organized as follows: the relevant Bororo data is presented first (section 2),[3] and is followed by an account of its syntactic structure (section 3). After that, I show evidence that Bororo is an ergative active language (section 4) and engage in a discussion of what kind of explanation standard MIDP theory could give to syntactic phenomena of the language (section 5).

Finally, in section 6, I propose the changes in MIDP theory that extend its account to the verbal movement facts in Bororo, linking them to its /63 DP movement, agreement and case valuation facts. This new theory, as I show in section 7, also accounts for the case valuation facts of accusative, accusative active, non-active ergative, and other ergative active languages(in the sense of Bittner & Hale, 1996), and for Holmberg's Generalization (cf. Holmberg, 1999). In section 8 I present some final remarks.

2. The Bororo data

2.1 Intransitive verbs

In (1), (2), and (3), we notice that the verbs are preceded by a morpheme agreeing with the subject and followed by the temporal / negatíon/modal (henceforth TNM) morpheme. We can arguably regard the verbs in these sentences - *tu* 'to go' in (1), *aregodu* 'to arrive' in (2) and *butu* 'to fall' in (3) - as unaccusative verbs. To complete the exposition of the intransitive verbs I still need to present the unergatíve verbs, which I will do in section 2.3.3.

(1) Imi iture [4]

imi	i	tu	re
D	Agr	V	Mood [5]
'I'	ls	go	assertrve

'I went (away)'

(2) Sapir Bloomfield etaregodure

Sapir	Bloomfield	et	aregodu	re
N	N	Agr	V	Mood
		3p	'arrive'	assertive

'S. and B. arrived'

(3) Eko butumodukare

eko	Ø	butu	modu	ka	re
N	Agr	V	T	Neg	Mood
'piqui'(a fruit)	3s	'fall'	future	'nor'	assertive

'The piqui won't fall' /64

2.2. Transitive verbs

In (4), (5) and (6) we can still see the subject being followed by an agreement morpheme, which, in turn, is followed by TNM morphemes. The verb, though, takes a position after the TNM complex (in intransitive constructions, the verb was located between the agreement morpheme and the TNM rnorphemes). Preceding the verb in these transitive constructions, there is a morpheme agreeing with the internal argument.

(4) Bloomfield ure awagudoge ewido[6]

Bloomfield	u	re	awagu	doge	e	bito
N	Agr	Mood	N	Suf	Agr	V
	3s	assertive	'snake'	plural	3p	'kill'

'B. killed the snakes'

(5) Bloomfield umodukare pagi pawido

Bloomfield	u	modu	ka	re	pagi	pa	bito
N	Agr	T	Neg	Mood	D	Agr	V
	3s	future	'not'	assertive	we	lpi	'kill'

'B. won't kill us'

(6) Sapir ukare mea arego

Sapir	u	ka	re	mea	Ø	arego
N	Agr	Neg	Mood	N	Agr	V
	3s	'not'	assertive	cigarette	3s	'bring'

'S. didn't bring cigarette'

As we can see, verbs in Bororo take different linear positions depending on the argument structure of the sentence: they precede the TNM complex in unaccusatives and they follow the TNM complex in transitives. This is the main problem this language's analysis poses to a pure MIDP account. In section 3.3 I present evidence that these different verbal placements correspond to verb movement rather than affix hopping: the verb raises in unaccusatives and stays in situ in transitives. The rest of section 2 presents data relevant to determining the precise clausal structure of intransitive clauses. /65

2.3 The clausal structure of the intransitive constructions

Before attempting to propose a syntactic analysis to the sentences containing an intransitive verb, I need to be able to distinguish between unaccusative and unergative verbs, that is, between verbs whose only argument originates internally and verbs whose only argument originates as the external argument. This distinction will be very important for the discussion of the active systems (cf. section 7)

In section 2.3.1, I propose a diagnostics of unaccusativity based on the structure of *du* verbal derivation and c-selection by stative verbs.

©Revista da ABRALIN, v.6 n.1 p.61-93. Jan./jun. 2007

Some idiosyncratic Bororo verbal constructions (section 2.3.2) show that the relevant distinction doesn't correspond, in this language, to that found in most Indo-European languages. In section 2.3.3, it is shown that Bororoan unergative verbs pattern with transitive verbs in the sense of Hale & Keyser's (1992; 1993) theory. [7]

2.3.1 Diagnostic of unaccusativity

Bororo has a detransitivizing head *du* that can regularly derive intransitive verbs from transitive ones as we see in (7) and (8). These verbs will be important as a "measure" of unaccusativity, as I show below. The structures so derived have an interpretation similar to that of the inchoative constructions (9) of ergative verbs in English (shown in the causative construction in (10)).

(7) Sapir Bloomfield ewidodure

Sapir	Bloomfield	e	bito	du	re
N	N	Agr	V	v	Mood
		3p	'kill'	detrans	assertive

'S. and B. died'/66

(8) Sapir Bloomfield etaregodure[8]

Sapir	Bloomfield	et	arego	du	re
N	N	Agr	V	v	Mood
		3p	'bring'	detrans.	assertive

'S. and B. arrived'

(9) The ball rolled down the hill.

(10) John rolled the ball down the hill.

These derived intransitive verbs are unaccusative, since their only argument is the internal one. In more formal syntactic terms, *du* can be regarded as defective little-v (cf Chornsky, 2001).

Let us keep this in mind for a while and talk about another class of verbs. ln Bororo, stative verbs can take as argument a DP (11) or a verbal clause headed by *du* (12), but not a transitive clause (13). A *du*-clause is a vP, as I argued for, and a transitive clause, as commonly assumed, is a v*P.[9]

(11) Iwai pernegamodukare

i	bai	Ø	pemega	modu	ka	re
Agr	N	Agr	V	T	Neg	Mood
1s	'house'	3s	to be good'	future	'not'	assertive

'My house won't be good'

(12) Sapir Bloomfield etaregodu pemegare

Sapir	Bloomf.	et	arego	du	pemega	re
N	N	Agr	V	v	V	Mood
		3p	'bring'	detrains.	to be good'	assertive

'S. and B. arrived well'

(13) *Sapir ure mea arego pemegare

Sapir	u	re	mea	Ø	arego	pemega	re
N	Agr	Mood	N	Agr	V	V	Mood
	3s	Assert.	'cigarette'	3s	'bring'	'to be good'	Assert.

'S. brought the cigarettes in a good manner (well)'

(pragmatics: they could have become wet otherwise)

The preceding sentences show stative verbs selecting either for DPs or vPs, but not for v*Ps. If we take selection to be structural, c-selection by a stative verb can be used as a diagnostic of unaccusativity, An intransitive structure that admits being taken as an argument by a stative verb, as in (14) and (15), is a vP, and as such its verb is unaccusative. An intransitive structure that does not admit being taken as an argument by a stative verb, as in (16), is a v*P and contains, therefore, an unergative verb.

(14) Imi iwogu pemegare

Imi	i	wogu	pemega	re
D	Agr	V	V	Mood
'I'	1s	'to fish'	'to be good'	assertive

'I fish well'

(15) Eko butu pemegare

Eko	butu	pemega	re
N	V	V	Mood
'piqui'	'fall'	'to be good'	assertive

'The *piqui* fell (down) well'

(16) * Bloomfield ure tugeragu (ji) pemegare

B.	u	re	tu	kera	gu	ji	pemega	re
N	Agr	Mood	Agr	N	v*	Agr.P	V	Mood
	3s	assert.	3an	'hand'	'make'	3s. theme	'to be good'	assert.

"B. grasped it well' /68

2.3.2 Against a biased semantic determination of unaccusative verbs

In (17) we see that the verb 'to run' is transitive in Bororo - just like it is in the English sentence "I ran the horse back home" -, the intransitive construction in (18) being regularly derived via *du* from the morphologically more basic transitive form. The same phenomenon can be seen between the sentences (19) and (20) regarding the verb *gududo* 'to scream'.

(17) Sapir ure pagi parego

Sapir	u	re	pagi	pa	rego
N	Agr	Mood	D	Agr	V
	3s	assertive	we	lpi	'run'

'S. makes us run' (S. runs us)

(18) Pagi paregodure

pagi	pa	rego	du	re
D	Agr	V	v	Mood

	'we'	lpi	'run'	detrans.	assert.
	'We run'				

(19) Pagi pagudugo dure

pagi	pa	gudugo	du	re
D	Agr	V	v	Mood
'we'	1pi	'scream'	Detrains.	assertive
'we screamed'				

(20) Pagi pagudugodure

pagi	pa	gudugu	du	re
D	Agr	V	V	Mood
(we'	1pi	'scream'	detrans.	assertive
'We screamed'/69				

It is may be difficult for most speakers of Indo-European languages to accept that verbs with so "active" a content (for them) such as 'to fish', 'to scream' or 'to run' are unaccusative.[10] Nota de fim 10 Assuming that the diagnostic proposed in the last section is valid, that would only mean that my translations are not as accurate as I would like them to be *("traduttore, traditore",* as the saying goes): for instance, when we tested the verb 'wogu' (cf (14)), we found out it is unaccusative. It follows, thus, that this verb that I roughly translated as 'to fish' means something slightly different in Bororo. Since its argument is not external and, henceforth, not an agent, it could be better translated as 'to be in a state of fishing'.[11] Nota de fim 11 Such differences in categorization are

not rare at all among the world's languages, though (cf. Nichols, Peterson & Barne, 2004).

2.3.3 And ... the unergative verbs?

With the exception of (16), all the clauses employing intransitive verbs presented so far can be diagnosed (in the way shown in section 2.3.1.) as unaccusative.

But where are the other unergative verbs of this language? I delayed their presentation because they imply a little complication: Bororo, as Basque, does not display noun incorporation lexically,[12] which makes clauses employing unergative verbs have exactly the same final structure as transitive clauses, as shown in examples (21) and (22). [cf. Hale & Keyser's (1992; 1993) theory]

(21)

Umode	taredo				
u	modu	re	t	are	do
Agr	T	Mood	Agr	N	v*
3s	furure	assertive	3an	'jump'	'make'

'He will jump' /70

(22) Imode ikinorudo bope piji

i	modu	re	i	kinoru	do	bope	Ø	piji
Agr	'I'	Mood	Agr	N	v*	N	Agr	P
ls	future	asser.	ls	'freedom'	'make'	'devil'	3s	'from'

'I will escape from the bad spirit'.

The kind of anaphoric agreement found in (21) and (22) may seem to

constitute evidence of a reflexive predicate,[13] in which case the internal argument of the verb would not be a cognate noun, but the subject the verb agrees with. That would be correct if the anaphoric agreement was on the verb, not on the noun, as it in fact is. Such agreement marks on the noun are obligatory for certain classes of nouns. There are, moreover, unergative verbs that take nouns that do not accept agreement morphemes, in which case there can be only one agreement mark with the subject, namely, before TNM morphemes (cf (23)).

(23) Cemode boeto ei

ce	modu	re	boe	to	e	ji
Agr	T	Mood	N	V	Agr	P
1pe	future	assert.	'things'	'make'	3p	theme

'we will hit them' (idiomatic)

As unergative constructions present exactly the same structure as the transitive ones, I will not have to deal with them specifically for the rest of this article. The relevant case phenomena are the same as in transitive clauses.

3. The syntactic analysis

3.1 Intransitive unaccusative clauses

From what was discussed in section 2 and some standard MIDP assumptions, the derivation of an unaccusarive clause would run as follows: V first merges with its argument DP; the resulting VP[14] being merged with defective little-v, or, simply, v (in contrast to v* = v_{comp})

(24) (for the sake of clarity, I provide example glosses in English). /71

(24) [v [V DP]]

e.g.: [v ['go' 'I']]

As understood from the suffixed position of the overt v *du,* V raises to adjoin v. In order to escape to the edge of the phase, the DP moves to spec-v (cf. the evidence in Legate 1999 that vP is also a phase). The structure formed so far is merged with T (25).

(25) [T [DP$_i$ V$_j$-v [t$_j$ t$_i$]]]

e.g.: [T ['I'$_i$ 'go'$_j$ -v [t$_j$ t$_i$]]

The sole argument is then moved to spec-T, while V-v is raised to adjoin T.[15] The final LF/PF syntactic tree is (26).

(26) [DP$_i$ (V$_j$ - v$_k$) -T [t $_i$, t $_k$ [t$_j$ t $_i$]]]

e.g.:[T ['I' $_i$ ('go'$_j$-v)$_k$-T [t$_i$ t$_k$ [t$_j$ t$_i$]]]

3.2 **Transitive and unergative clauses**

According to some standard assumptions from MIDP framework and what was discussed in section 2, the rnost principled derivation for transitive and unergarive clauses would run as follows: V merges with its internal argument DP$_j$, the VP thereby formed being merged with v* (27).

(27) [v* [V DP$_i$]]

e.g.: [v* ['kill' 'snakes'$_j$]]]

The external argument D P e is merged into a specifier position of v*P and the internal argument DP_j is moved to a second specifier position, while V is raised to adjoin v* (28).

(28) $[DP_i\ [DP_e\ V_j\text{-}v^*\ [t_j\ t_i]]]$

e.g.: ['snakes'$_i$ ['Bloomfield'$_e$ 'kill'$_j$-v* [t_j t_i]]]

The v*P formed is merged with T, to whose specifier position the external argument DP_e is moved. The resultant LF/PF syntactic tree is (29). /72

(29) $[DP_e\ T\ [DP_i\ [t_e\ V_j\text{-}v^*\ [t_j\ \text{-}\ t_i]]]]$
e.g.: ['Bloomfield'$_e$ T [snakes'$_j$ [t_e 'kill'$_j$-v* [t_j – t_i]]]]

3.3 An affix hopping-based account

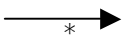
Another derivation cornpatible with the facts reviewed so far is for unaccusative clauses to undergo affix hopping with verb in situ instead of verb raising. In transitive and unergative clauses, in this account, some category X intervening between T and V and related to the presence of the internal argument would be blocking affix[16] hopping. Compare the alternative analysis for unaccusative clauses in (30) with the derivation I just proposed in section 3.1 (repeated below as (31) for clarity sake).

(30) $[DP_i\ t_k\ [t_i – V_j – v\ \text{-}\ T_k\ [t_j\ t_i\ ]]]$

(31) $[DP_i\ (V_j – v)_k\text{-}T\ [\mathbf{t}_i\ \mathbf{t}_k\ [t_j\ t_i]]]$

The alternative structure for transitive and unergative clauses, (32), is the same as the one I proposed, the only difference being at the explanatory level (remember that for the alternative analysis to work, affix hopping in transitive and unergative clauses would be blocked by an intervening category X related to the presence of the direct object).

(32) $[DP_e\ T\ [DP_i\ [t_e\ V_j\text{-}v^*\ [t_j\ t_i]]]]$



If this alternative analysis is on the right track, the linear displacement of the verb is illusory, and, as such, does not present anything interesting and new to us. However, as I show below, this analysis fails in its predictions.

Take the adverb *jao*[17] 'before' in (33). Either analysis supports the hypothesis it is a light-verb phrase adverb (since both analyses assign the same structure to transitive structures). /73

(33) $[_{TP}$ Imi ire $[v^*{}_P$ jao bai to]]

imi	i	re	jao	bai	Ø	to
D	Agr	Mood	Adv	N	Agr	V
"I'	1s	assert.	'before'	'house'	3s	'make'

'I have built a house before'

If we assume that *jao* 'before' takes the same position in transitive and intransitive clauses, the affix hopping-based analysis fails to account for the ungrammaticality of (34) and (35).[18] On the other hand, their

well-formed counterparts (36) and (37) are easily explained under the account I presented in section 3.1.

(34) *[$_{IP}$ Imi t [$_{yP}$ jao iture]]

imi	jao	i	tu	re
D	Adv	Agr	V	Mood
'I'	'before'	1s	'go'	assertive

'I went (away) before'

(35) *[$_{IP}$ Sapir Bloomfield t [[$_{vP}$ jao etaregodure]]

Sapir	Bloomfield	jao	et	aregodu	re
N	N	Adv	Agr	V	Mood
		'before'	3p	'arrive'	assertive

'S. and B. arrived before'

(36) [$_{IP}$ Imi iture [$_{vP}$ jao t]]

imi	i	tu	re	jao
D	Agr	V	Mood	Adv
'I'	1s	'go'	assertive	'before'

'I went (away) before'

(37) [$_{IP}$ Sapir Bloomfield etaregodure [$_{vP}$ jao t]]

Sapir	Bloomfield	et	aregodu	re	jao
N	N	Agr	V	Mood	Adv
		3p	'arrive'	assertive	'before'

'S. and B. arrived before'

With the failure of the alternative analysis sketched in this section to account but for the more straightforward data, we come back to the original analysis, where the most important difference between transitive/unergative and unaccusative clauses concerns verbal movement, not affix hopping. While the unaccusative verb moves to adjoin T, the transitive/unergarive one stays *in situ*.

4. What kind of case system is Bororo's?

The answer to this question does not come by very easily. Bororo does not have any overt morphological case marking. lts agreement facts show, however, the kind of parallelisms found in ergative active languages such as Basque and Georgian.

Bororo shows obligatory agreement with unaccusarive subjects (cf. (38) vs. (39)) and transitive objects (cf. (40) and (41) vs. (42) and (43)).

(38) Arigaodoge ewire

arigao	doge	e	bi	re
N	Suf	Agr	V	Mood
'dog'	plural	3p	'die'	assertive

'The dogs died'

(39) *Arigaodoge bire

arigao	doge	bi	re
N	Suf	V	Mood
'dog'	plural	'die'	assertive

'The dogs died'

(40) Cegi cere arigaodoge ewido

cegi	ce	re	arigao	doge	e	bito
D	Agr	Mood	N	Suf	Agr	V
'we'	1pe	assertive	'dog'	plural	3p	'kill'

'We killed the dogs'

(41) Cegire arigao doge ewido

cegi	re	arigao	doge	e	bito
D	Mood	N	Suf	Agr	V
'we'	assert.	'dog'	plural	3pl	'kill'

'We killed the dogs'

(42) *Cegi cere arigaodogebito

cegi	ce	re	arigao	doge	bito
D	Agr	Mood	N	Suf	B
'we'	1pe	assertive	'dog'	plural	'kill'

'We killed the dogs'

(43) *Cegire arigaodogebito

cegi	re	arigao	doge	bito
D	Mood	N	Suf	V
'we'	assertive	'dog'	plural	'kill'

'We killed the dogs'

Agreement is optional with transitive (cf. (40) and (41) and unergative subjects (cf. (44) and (45)).

(44) Imedu ure boeto ii

Imedu	u	re	boeto	i	ji
N	Agr	Mood	V	Agr	P
'man'	3s	assertive	'hit'	1s	theme

'The man hit me'

(45) Imedure boeto ii

Imedu	re	boeto	i	ji
N	Mood	V	Agr	P
'man'	assert	'hit'	1s	theme

'The man hit me'

Besides being optional, the agreement paradigms for the third person singular transitive und unergative subjects differ from that for the third person singular unaccusative subject and transitive object. For that person, the agreement morpheme is always *u* with transitive and unergative subjects, while for unaccusative subjects and transitive objects of the third person singular the agreement morpheme can be either *u* or null. [19]

Thus, the agreement facts show the subject of unaccusative verbs patterning with the object of transitive verbs, while the subject of unergative verbs pattern with the subject of transitive verbs. This characterizes an ergative active agreement system. As in a MIDP-based

account the agreement and case facts go hand in hand, these data also characterize an ergative active case system, with objects and unaccusative subjects nominative[20] and transitive and unergative subjects ergative.

5. MIDP Explanation

This section's goal is to present MIDP theory's limitations in explaining the data from Bororo. The most obvious of them is that the computational system MIDP proposes cannot derive the different verbal placements in Bororo sentences. A less obvious limitation is that even if we came up with an independent explanation for the different verbal placement and needed only to explain the DP movement, we would have to assume Bororo was an accusative language to get the right word order, contrary to fact. Chomsky (2001: 6) says that in ergative languages the case valuer in intransitive sentences is v, not T. As MIDP does not supply us with a way of explaining obligatory DP movement to T in ergative languages even after its case feature would have been deleted by v, it becomes impossible to derive even the basic (and rigid) word order of an ergative language like Bororo.

In the face of these issues, and in order to show the workings of MIDP theory, we chose here to incorrectly assume that Bororo is an accusative language and derive the sentences using me computational system MIDP proposed.

The DP movements would be explained in the following manner: in unaccusative constructions, after T is merged with vP, T's set of unvalued[21] □-features matches the DP's valued ser of □-features[22] (46).
/77

(46) [T$_{[\square :? \text{ (EPP)}]}$ [DP$_j$ $_{[\square :3s; \text{ CASE:?}]}$ V$_j$ - v [t_j t_i]]]

[T [‘T’$_i$ ‘go’$_j$ -v [t_j t_i]]]

Since the DP is active (its case feature is unvalued), the operation Agree holds between T and DP, whose set of □ -features values and deletes T's set of □ -features, T valuing DP's case feature as nominative and deleting it (as a kind of "exchange currency"). The DP is, moreover, moved to spec-T, deleting T's EPP feature (47).

(47) [DP$_i$ $_{[\square :3s; \text{ CASE:nom}]}T_{[\square :3s(\text{EPP})]}$[$t_iV_j$ – v [t_j t_i]]]

['I' T [t_i 'go'$_j$ - v [t_j t_i]]]

In transitive and unergative constructions, after v* is merged with the VP and DP$_e$ is merged into the structure, v*’s unvalued set of □ -features matches DP$_j$'s set of □ -features (48).

(48) [DP$_{e[\square :3s; \text{ CASE:?}]}$ [v* $_{[\square :?(\text{EPP})]}$ [V DP$_{i[\square :3s; \text{ CASE:?}]}$]]]

[‘‘Bloomfield’$_e$ [v* [‘kill’ ‘snakes’]

As DP$_i$ is active (its case feature is unvalued), the operation Agree holds between v* and DP$_i$, whose ser of □ -features values and deletes v*'s set of □ -features, v* valuing DP$_i$’s case feature as accusative and deleting it in return. DP$_i$ is, moreover, moved to spec-v*P, deleting v*'s EPP

feature (49).

(49) [DP$_i$[□ :3s; ~~CASE:acc~~] [DP $_e$[□ :3s; CASE:?] [v*[~~□ :3s(EPP)~~][V t_j]]]]
['snakes'$_i$ ['Bloomfield'$_e$ [v* ['kill' t_i]]]]

Then T is merged with the structure and its unvalued set of □-features matches DP$_e$'s valued ser of □-features (50) (DP$_i$ does not cause any intervening effect, since both DPs are in v*'s minimal domain). /78

(50) [T[~~□ :?(EPP)~~] [DP$_i$[~~□ :3s;CASE:acc~~] [DP$_e$[~~□ :3s; CASE:?~~][v*[~~□ :3d(EPP)~~]-[Vt_i]]]]]
[T ['snakes'$_i$ ['Bloomfield'$_e$ [v* ['kill' tj]]]]]

Agree holds between T and DP$_e$, valuing and deleting T's set of □-features and valuing DP$_e$'s case feature as nominative and deleting it. Moreover, DP$_e$ moves to spec-TP in order to delete T's EPP feature (51).

(51) [DP$_e$[□ :3s; ~~CASE: nom~~] T[~~□ :3s (EPP)~~][DP$_i$[~~□ :3s; CASE:acc~~] [t_e [v*[~~□ :3s(EPP~~)]Vt_i]]]]
[['Bloomfield'$_e$ T ['snakes'$_i$ [t_e [v* ['kill' t_i]]]]]

In MIDP's framework, head-movement is regarded as belonging to the phonological computation. It is argued that as there is no interpretive difference between languages where the verb raises and languages where it does not, the raising would be caused by morphological characteristics of the affixed syntactic terminals. Bororo is, however, a language where the verb raises in unaccusative, but not in transitive/unergative constructions. Besides, it is an ergative active language, as shown, and not an accusative language, the only case in which MIDP computational system could derive Bororo rigid word

order. The changes I propose to MIDP framework in the next section account for DP and verbal movement by linking them with agreement and case valuation phenomena.

6. Accounting for the verbal movement

As I concluded in last section, MIDP framework left us with the problem of explaining Bororo verbal movement and its relation to the sentential transitivity and case system, since it couldn't account for the relation between DP movement and verbal movement. This is an issue I will address while I formalize an aspect of the theory of case valuing left unclear in MIDP framework, namely, the relevant features of the case valuers.

In MIDP the uninterpretable case feature of a DP is valued as nominative (or ergative) if the relevant agree relation holds between it and /79 T and as accusative (or absolutive) if it holds between it and v* (the specific choice between nominative/accusative or ergative /absolutive is parametric – cf. Bobaljik, 1992; Chomsky, 2001: 6). As the characteristics of lexical items are encoded in terms of their features, I would expect that at some point in the derivation there were a feature in T and v* indicating what case they value. In MIDP this move is not made, probably because, since case features possibly can't be interpretable, it would equal to admitting the existence of a valued uninterprerable case feature somewhere. This is exactly what I want, so I will need to dissolve the equivalence valued = interpretable, as similarly assumed in Pesetsky & Torrego (2004). In MIDP it was the unvalued uninterpretable features that made a lexical item active for agreement

purposes. If I dispense with the equivalence between valuedness and interpretability, I need also to modify the activity condition slightly. Let us assume that a lexical item is active for agreement purposes when it has an uninterpretable feature (whether valued or not) that has not been deleted in the course of the derivation.

By only giving T and v* valued uninterpretable case features we are still left with the problem of the verb's role. Let us try something slightly different: assume that it is the verb that determines what cases will be valued by T and v*, In this case, Let V, then, have valued uninterpretable case features and T/v* unvalued uninterpretable case features.[23] For whatever reason, no language seems to allow an argument with accusative case if there is no argument with nominative (absolutive) case.[24] In order to incorporate that generalization into the theory, I assume that if a verb hosts one case feature, it is norninative. If it hosts two, the second case feature is accusative.

With these assumptions, a version of the Agree operation as presented in MIDP framework is enough to explain Bororo's and other languages' (such as English) verbal movement and, as I will show, the operation of languages with different case systems (morphological ergative, ergative active, accusative and accusative active).

Note that the lexical entry of a verb would independently need to state whether it is capable of assigning case, if we assume an account in terms of /80 case valuation for the difference between verbs such as 'ask' and 'wonder' (cf. Pesetsky 1982). Even though both verbs similarly s-select for questions, only 'ask' may take both DPs and CPs as internal argument, as shown in (52)-(55). This account is preferable than one

based on c-selection (as in Grimshaw, 1981), since such a descriptive account could not explain why there are not verbs that, s-selecting for questions, c-select only for DPs, but not for CPs.

(52) He asked what time it was.
(53) He asked the time.
(54) He wondered what time it was.
(55) * He wondered the time.

Finally, I assume feature valuation is in fact feature sharing (as in the cited work by Pesetsky & Torrego). With this, the system does not need to resort to two different mechanisms of case valuation: in the goal as a reflex of □-features matching with the probe and in the probe as agreement with the goal's case feature. I also assume, together with Pesetsky and Torrego, that EPP is not a feature, but a property of a feature, satisfied by movement of the goal to a position closer to the probe (adjunction to the probing head if the goal itself is a head or to its specifier position, in accordance with the uniformity condition on chains (cf. Chomsky, 1995, sec. 4.1, (17)).

Let us see now how the mechanics of MIDP system changes with my proposal. Consider (25), the final structure of the unaccusative sentences, repeated below as (56).

(56) $[DP_i\ (V_j - v)_k\ - T\ [t_i\ t_k\ [t_j\ t_i]]]$.
$['I'_i\ ('go'- v)_k - T\ [t_i\ t_k\ [t_j\ t_i]]]$.

For now, I will not be interested in discussing the adjunction of V to v. Let us take a look at the derivation from the point T is merged with

the structure (57). /81

(57) [T[□ :?[ ]):CASE:?[ ](EPP)] [DP$_i$[□ :3s[ ]]:CASE:?[ ]] V$_j$[CASE: nom[ ]] –v [t$_j$ t$_i$]]]

[T [‘I’$_1$ ‘go’ - v [t$_j$ t$_i$]]]

T has an unvalued uninterprerable case feature and a complete set of unvalued uninterpretable □ -features. These features probe the domain of T. T's unvalued uninterpretable case feature and unvalued uninterpretable □ -features match the DP's unvalued uninterpretable case feature and valued interpretable □ -features (58).

(58) [T [□ :?[ ]; CASE:?[ ](EPP)] [DP$_i$[□ :3s[ ]; CASE:?[ ]] V$_j$ [CASE: nom[ ]] –v[t$_j$ t$_i$]]]

[T [‘I’$_i$ ‘go’$_j$ - v [t$_j$ t$_i$]]]

Agree holds between these features, making them instances of a single occurrence (I mark the brackets following the instances of a same feature with the same number). T's □ -features get valued and deleted, but not its case-feature (since the DP's case feature also does not have a value) (59).

(59) [T[~~□ :3s~~[10] CASE:?[11](EPP)] [DP$_i$[[□ :3s[10]; CASE:?[11]] V$_j$ [CASE:nom[ ]] - v[t$_j$ t$_i$]]]

[T [‘I’$_i$ ‘go’$_j$ - v [t$_j$ t$_i$]]]

Since T's case feature is still unvalued, it further probes T's domain, matching the uninterpretable nominative case-feature in V-v (60).

(60) [T[~~□ :3s~~[10] CASE:?[11](EPP)] [DP$_i$ [[□ :3s[10]; CASE:?[11]] V$_j$ [CASE: nom[ ]] - v[t$_j$ t$_i$]]]

[T [‘I’$_i$ ‘go’$_j$ - v [t$_j$ t$_i$]]]

Agree holds between them, making them instances of the same feature. The uninterpretable case-features in T and in DP_j get a nominative value (since both of them and the valued case feature of V-v are instances of the same feature now) and all three case features delete (61).

(61) [T [□ :3s[10]; ~~CASE:nom~~[11](EPP)] [DP_j [□ :3s[10]; ~~CASE:nom~~[11]] V_j[~~CASE:nom~~[11]] –v[t_j t_i]]
[T ['T'$_i$ 'go'$_j$ -v [t_j t_i]]] /82

T's case feature has an EPP property. In order to delete it, both V-v and DP_j move (62). V-v adjoins T and DP_i goes to Spec-T due to the uniformity condition for chains (cf Chomsky, 1995, sec. 4.1, (17)).

(62) [DP_i[□ :3s[10];~~CASE:nom~~[11]] (V_j[~~CASE:nom~~[11]] –v)$_k$ -T[□ :3s[10]; ~~CASE:nom~~[11]](EPP)] [$t_i$$t_k$ [t_j t_i]]]
['T'$_i$ ('go'$_j$-v)$_k$ -T [t_i t_k [t_j t_i]]]

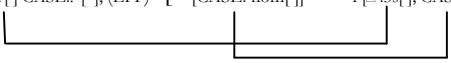
Consider now the transitive structure (29), repeated below as (63):

(63) [DP_e T [DP_i [t_e V_j-v* [t_j - t_i]]]]
['Bloomfield'$_e$ T [snakes'$_e$ V_j- v* [t_j – t_i]]]]

I will begin by taking a look at the point in the derivation where v* is merged into the structure and selects the external argument, at which point we have [DP_e v* [V_j DP_i]]. v* has an unvalued uninterpretable case feature and a set of unvalued uninterpretable □-features. These features probe v*'s domain. The first match could be either between v* and V-v or between v* and DP. (since both v* and DP_i are in the same

minimal domain). As matching with DP_j maximally matches all the probing features (cf. Chomsky, 2001), this becomes the first match (64).

(64) [DP_e[□ :3p;CASE:?[ ]] [v^*[□ :?[ ] CASE:? [ ]; (EPP) [V[CASE: nom[ ]] DP_i [□ :3s[ ]; CASE:?[ ]]]]



['Bloomfield'$_e$ [v* ['kill' 'snakes']]]

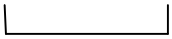
Agree holds between these features, turning them into instances of the same feature. As a result, v*'s set of □-features get a value and are deleted (65).

(65) [DP_e[□ :3p; CASE:?[ ]][10] V[~~□ :3s~~[10]; CASE:?[11](EPP)][V[CASE:nom[ ]] DP_i -[□ :3s[10]; CASE:?[11]]]]

['Bloomfield'$_e$ [v*['kill' 'snakes']]]

Since v*'s case feature is still unvalued, it further probes v*'s domain, matching the uninterpretable nominative case-feature in V (66). /83

(66) [DP_e[□ :3p;CASE:?[ ]] [v^*[~~□ :3s~~[10];CASE:?[11](EPP)] [V[CASE:nom[ ]] DP_i[□ :3s[10]; CASE:?)]]]]



['Bloomfield'$_e$ [v* ['kill' 'snakes']]]

Agree holds between them, making them instances of the same feature. The uninterpretable case-features in v* and in DP_j get a nominative value (since both of them and the valued case feature of V-v are now instances of the same feature) and all three case features delete (67).

(67) [DP_e[□ :3p;CASE:?[ ]][v^*[~~□ :3s~~[10]; ~~CASE: nom~~ [11](EPP)][V[CASE:nom[11]]DP_i[□ :3s[10]~~CASE:nom~~[11]]]]

['Bloomfield'$_e$ [v* ['kill' 'snakes']]]

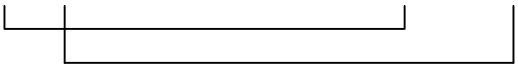
v*'s case feature has an EPP property. In order to delete it, both V and DP_i move. [25] V adjoins v* and DP_i goes to Spec-v* (68).[26]

(68) $[DP_{i[\square:3s[10];\sout{CASE:nom}[11]]}\ [DP_{e[\square:3p;CASE:?[\,]]}\ V_k\ [\sout{CASE:nom}[11]]\text{-}v^*_{[\square:3s[10];\ \sout{CASE:nom}[11](EPP)}\ [t_k\ t_i]]]]$

['snakes'$_i$ ['Bloomfield'$_e$ ['kill'$_k$-v* [t_k t_i]]]

The next step is to merge T with the structure so far formed. T has an unvalued uninterpretable case feature and a set of' unvalued uninterpretable □-features. These features probe T's domain. The first match is between T and DP_e (69) (DP_j is inactive but can't intervene, since it is in the same minimal domain as DP_e).

(69) $T_{[\square;?[\,];CASE:?[\,](EPP)]}\ [DP_{i[\square:3s[10];\ \sout{CASE:nom}[11]]}\ [DP_{e[\square:3p[\,];\ CASE:?[\,]]}\ [V_{k[\ldots]}\ldots\text{-}v^*\ _{[\ldots]}$



T ['snakes'$_i$ ['Bloomfield'$_e$ ['kill'$_k$ - v* [t_k t_i]]]

Agree holds between T's □-features and DP_e's □-features, making them instances of the same feature. As a result T's set of uninterpretable □-features get a value and delete (70).

(70) $T_{[\sout{\square};\sout{3s}[20];CASE:?[21](EPP)]}[DP_{i[\square:3s[10];\sout{CASE:nom}[11]]}[DP_{e[\square:3p[20];\ CASE:?[21]]}[V_{k[\ldots]}\text{-}v^*_{[\ldots]}\ldots$

T ['snakes'$_i$ ['Bloomfield'$_e$ ['kill'$_k$ –v* [t_k t_i]]] /84

Neither DP 's case feature nor T's case feature can delete, since both are unvalued. In some languages, such as English and Portuguese, T's case feature would probe T's domain further, matching a second case feature hosted by V-v* (since the first was deleted after v agreed with V, it is inactive). By way of agreement, the case features in T, D P e and V-v*

would turn into instances of this second case feature. In this way, T's and DP_e's case features would get valued and all three case features would delete. In Bororo, that does not happen, since its verbs do not host a second case feature.

The assumption that languages like Bororo have verbs hosting at most one case feature, while languages like English can have verbs hosting two case features is crucial. That constitutes the parameter between accusative and ergative languages, and, as I will show in section 7, allows us to predict many case systems and case-related phenomena.

DP_e can't be caseless, though. I propose it gets ergative case by some kind of last resort mechanism. In many ergative languages with overt case marking, such as Hindi, the ergative case mark is phonologically equivalent to an adposition marking the agent of passives. It can also be the case that the ergative is a case lexically attributed by v (cf. Legate, 2005). Whatever the source of its case, DP's case feature being an instance of T's case feature, this last also gets a value and delete. Finally, the EPP property associated with T's case feature is deleted through the movement of DP_e (71).

(71) $[DP_{e[\square:3p[20],\sout{CASE:erg}[21]]}T_{[\square:3s[20];\sout{CASE:erg}[21](EPP)]}[DP_{i[\square:3s[10];\sout{CASE:nom}[11]}[t_e[V_{k[\ldots]}\text{-}v^*$

['Bloomfield'$_e$ T ['snakes', [t_e ['kill'$_k$-v* [t_k t_i]]]

For this theory, the parametric difference between an ergative language like Bororo and accusative languages like English or Portuguese is that Bororo's verbs host only one case feature, nominative. It can be used either to value v*'s case feature in transitive and unergative sentences or T's case feature in unaccusative constructions. After that, it

is deleted, and V becomes inactive for agreement purposes. English verbs can have two case features, being thereby able to value both v*'s and T's case features. /85

In the framework just outlined, a verb moves to adjoin T in a language like English or Portuguese if its case feature agrees with a case feature in T that has an EPP property. In a language like Bororo, as T does not get to agree with V, the EPP property T might have is satisfied by movement of the external argument only.

7. Different case systems and case-related phenomena

The system I presented above allows us to account for the four case systems represented in Table 1 and also predicts Holmberg Generalization as I will show in the next sections.

Table 1: Case Systems[27] Nota de fim 27

Case System	**Agr-Pat-V**	**Agr-V**	**Pat-V**	**Example languages**
Accusative	*NOM-ACC*	*NOM*	*NOM*	*English, Portuguese*
Accusative active	*NOM-ACC*	*NOM*	*ACC*	*Acehnese, Eastern Porno*
Ergative	*ERG-NOM*	*NOM*	*NOM*	*Dyirbal, Samoan*
Ergative Active	*ERG-NOM*	*ERG*	*NOM*	*Gororo, Basque, Georgian*

7.1 Ergative languages

Languages whose verbs can only host one case feature are ergative. The value of this sole case feature is universally nominative. The ergative

is, also universally, the case value attributed to the external argument of transitive sentences by some kind of last resort mechanism - in ergative languages such as Hindi, the ergative case mark is equivalent to the adposition marking the agent of passives; or perhaps the ergative may be a case lexically attributed by v (cf. Legate, 2005). The difference between non-active ergative languages, such as Samoan, and ergative active languages, such as Bororo, is that only the last mark the subject-of an unergative sentence as ergative (cf. Table 1). /86

In non-active ergative languages, the case of the subject is nominative also in unergative constructions. That happens because, in these languages' unergative predicates, there is incorporation of the noun to a light verb prior to the steps in the derivation relevant to case valuation (which I will call Hale and Keyser's *light-verb incorporation parameter*), and so, for case valuation purposes, the ergative predicates pattern with the unaccusative predicates (i.e., there is only one argument that needs to have its case valued).

7.2 Ergative active languages

In these languages, as in Bororo, there is no incorporation in unergative constructions prior to the case valuation steps in the derivation. As such, the case value of the verb is transferred via v* to the cognate internal argument of the unergative light verb, and its agent must receive ergative case as a last resort further up in the structure.

7.3 Accusative languages

In these languages, verbs in transitive constructions host a second

case value, accusative. As in a stack, this value is the first to be matched by by v*. By the time T probes its domain in search of a case value, V still has one active case feature to be matched, whose value is nominative.

The parameter distinguishing ergative and accusative languages is, therefore, that in accusative languages the transitive verbs host a second case feature, which is universally valued as accusative.

7.4 Accusative active languages

In accusative active languages, the subject of unaccusative verbs are marked as accusative. That can be derived directly if, exactly as in Bittner & Hale (1996), we assume that in these languages the unaccusative constructions involve an expletive subject. As such, the internal argument of unaccusative verbs receives the accusative case, the nominative case being attributed, via T, to the expletive subject. /87

7.5 Holmberg's generalization

The mechanics of the computational system I proposed in this paper predicts Holmberg's Generalization. Movement to v or T is normally in order to satisfy an EPP property of a case feature. Except in a situation when ergative case is assigned to the external argument as a last resort, the case feature either in T or in v agrees both with an argument and a verb. Therefore, in order to satisfy its EPP property, both the argument and the verb must move at the same time. This account still leaves space for the well documented cases of movement of only the argument: it is triggered by agreement with □-features on T or v* (remember the V

does not have □ -features).

8. Final remarks

The framework I presented in this paper accounts for the verbal movement facts in Bororo by linking them to the language's case valuation and agreement facts. At the same time, this account predicted the existence of other ergative systems and, with an additional parametric accusative case feature, also the accusative systems. In addition, it also provides an explanation for Holmberg's Generalization.

The thesis of substantive minimality (the idea that a language theory that covers more data with fewer stipulations is closer to the reality of mental processes) (cf. Chomsky, 1995) receives support from the framework I proposed here, since this framework has achieved an extension of the empirical account (predicting some well-known phenomena instantiated in real languages und so far unaccounted for by the theory) without adding further technology to MIDP theory. Assuming some kind of cage-related features in case valuers should not count as further technology, since it is only a formalization for a stipulation in MIDP framework, i.e. that T values nominative/ ergative and v*-values accusative/absolutive. Besides, as I showed in section 6, assuming case-features in verbs seems necessary for independent reasons. Moreover, the framework /88 dispensed with the stipulated equivalence between interpretability and valuedness and with the mechanism of case valuation as "exchange currency" (as also assumed in Pesetsky & Torego, 2004).

Though this work does not explain the actual existence of structural case features, MIDP's characterization of structural case as a kind of "exchange currency" for □-features valuation does not seem to help either. I leave this problem as I found it and hope it will receive a principled explanation in future work (maybe structural case corresponds to an interpretable feature present somewhere, as argued in Pestesky & Torrego, 2004).

References

BAKER, Mark; JOHNSON, Kyle; ROBERTS, Ian. Passive arguments raised. *Linguistic Inquiry,* n. 20, p. 219-251,1989.

BITTNER, M.; HALE, K. The structural determination of case and agreement *Linguistic Inquiry,* v. 27, n. 1-68, 1996.

BOBALJIK, Jonathan. *Nominally absolutive is not absolutely nominative.* Proceedings of WCFFL XI, UCLA, 1992.

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

CHOMSKY, Noam. Minimalist Inquiries: the framework. In:_ MARTIN, Roger; MICHAELS; David; URIAGEREKA, Juan (*Ed.*) *Step by step.* Essays on minimalist syntax in honor of Howard Lasnik. Cambridge, Mass.: 2000. p. 89-155. /92

CHOMSKY, Noam. Derivation by Phase. In: KENSTOWICZ, Michael (Ed.). *Ken Hale.* A Life in Language. Cambridge Mass: The MIT Press, 2001.

GRlMSHAW, Jane. Form, function, and the language acquisition device. In: BAKER, C. L.; MCCARTHY, J. (Ed.). *The logical problem of Language acquisition.* Cambridge, Mass: MIT Press, 1981.

HALE, Ken; KEYSER, Samuel Jay. The syntactic character of thematic structure. ln: ROCA, Iggy M. (Ed.). *Thematic structure:* its role in the grammar. Berlin: Foris, 1992.

HALE, Ken; KEYSER, Samuel Jay. On argument structure and the lexical expression of syntactic relations. In: HALE, Ken; KEYSER, Samuel Jay(Ed.). *The view from Building 20:* Essays in linguistics in honor of Sylvain Bromberger. Camdrige, Mass.: MIT Press, 1993.

HOLMBERG, Anders. Remarks on Holmberg's Generalization. *Studia Linguistica,* n. 53, p. 1-39, 1999.

KAUFMAN, Terrence. Language History in South America: What I Know and How to Know More. In PAYNE, Doris (Ed.). *Amazonian Linguistics:* Studies in Lowland South American Languages. Austin: University of Texas Press, 1990.

LECHNER, Windried. *Interpretive effects of head movement.* 2007. Ms. Online version: <http://ling.aufnetllingbuzz/@WdPzkQEtMhyINAsU>.

LEGATE, Julie Anne. *Verb Phrase Types and the Notion of a Phase.* MIT, 1999 . Ms.

LEGATE, Julie Anne. Split Absolutive. In: JOHNS, Alana; MASSAM Diane; NDAYIRAGIJE, Juvenal. *Ergativity.* Kluwer, 2005.

NICHOLS, Johanna; PETERSON, David; BARNES, Jonathan Transitivizing and detransitivizing languages. *Linguistic Typology,* n. 8, p.

49-211, 2004.

NONATO, Rafael. *Um estudo descritivo da língua bororo:* implicações para a teoria lingüística. Master Thesis. Unicamp, São Paulo, Brazil.

(Forthcoming) PESETSKY, David. *Paths and categories.* Doctoral Dissertation, MIT, 1982.

PESETSKY, David: TORREGO, Esther. *The Syntax of Valuation and the Interpretability of Features.* MIT/Mass, UMass/Boston, 2004. Ms.

RODRIGUES, Aryon Dall'Igna. *Línguas brasileiras, para o conhecimento das línguas indígenas.* São Paulo: Edições Loyola, 1986.

SWADESH, Morris. *Mapas de clasificación lingüística de México y las Américas.* México: UNAN, 1959.

WOOLFORD, Ellen. Four-way Case Systems Ergative, Nominative, Objective, and Accusative. *Natural Language and Linguistic Theory,* n. 15, p. 181-227, 1997.

Notes

[1] Bororo is an Indigenous language spoken by around 700 people living in 5 villages near the city of Rondonópolis, State of Mato Grosso, Brazil. It is the last living language of the Bororoan family (the others, according to Kaufman (1990) were Umutina - whose last speaker died recently -, Otukina, and an alleged dialect called Western Bororo). The Bororoan family is classified as part of the Macro-Je branch by some authors (cf. Rodrigues 1986), and as part of the Macro-Tupian branch by others (cf. Swadesh 1959).

[2] See Lechner (2007) for other arguments that verbal movement does create interpretive contrast.

[3] The data used in this paper was collected during three field work travels, made in 2004 and 2005, and from the Field Work Methods class of Evelin 2005. I would like to thank my consultant, Dario Brame, from Gomes Carneiro village.

[4] In this paper I use a writing system similar to that used by native speakers, since not much phonetic precision is required for discussing the phenomena we are interested in.

[5] I employ the following abbreviations and conventions: 1 = first person, 2= second person, 3 = third person, s = singular, p = plural, i = inclusive, e =exclusive, an = anaphoric, D = determiner, N = noun, Agr = agreement head, V = verbal head, P = postposition head, T = tense head, Mood = mood head, Neg = negation head, v = defective little-v head, v* = complete little-v head, nom = nominative, acc = accusative, erg = ergative, Suf = suffix.

[6] The modification of the verb *bito* into *wido* is the result of a phonological rule activated by the object agreement morpheme.

[7] Following Hale & Keyser (1992; 1993), unergative verbs are actually composed of a light verb and an internal argument (as transitive verbs). In languages such as Portuguese and English, at some point in the derivation this internal argument of the unergarive verbs in incorporated into the light verb. In more transparent languages, such as Basque (cf. Hale & Keyser, 1992; 1993) and Bororo (as I argue) this incorporation process isn't complete.

[8] It is interesting to note rhat one of the intransitive verbs I presented in section 2.1, In sentence (2), *aregodu* 'to arrive', is actually formed from the detransitivization of a transitive verb, *arego* 'to bring', as seen in (8).

[9] By vP and v*P I mean, as in Chomsky 2001, respectively, a structure whose head, defective little-v, introduces unaccusative or passive constructions, being unable to introduce an external argument in its specifier (vP), and a structure headed by complete little-v, which introduces an external argument in its specifier (v*P).

[10] An anonymous reviewer suggested that intransitive verbs derived via *du* from transitive verbs such as "to run (someone)" and "to scream (someone)" are not necessarily unaccusative. However, by the definition proposed in section 2.3, that verbs whose only argument originates internally are unaccusative and verbs whose only argument originates as the external argument are unergative, intransitive verbs derived from transitive verbs with the exclusion of the external argument are necessarily unaccusative.

[11] An-anonymous reviewer suggested that, "since 'to be in a state X' can't be intentional (...) if it happened that there is a difference between real "state predicates" and the alleged "unaccusatives" as far as compatibility with intention goes, we would have to be suspicious about the analysis that says that the subject of "to fish" is a theme, and not an agent". The examples (i) and (ii) below show that this test does not work either in Bororo, or in English - as /90 seen in the glosses -, if intention is expressed by a dependent clause. In Bororo, contrary to English, this is the only way to express intention adverbially, inasmuch as Bororo does not have a simple adverb expressing intention.

(i) Pegare [aidukare dutabo]

Ø	pega	re	[Ø	aidu	ka	re	du	tabo]
Agr	V	Mood	Agr	V	Neg	Mood	C	P
3s	'to be sick'	assert.	3s	'want'	'not'	assert.	'that'	'with'

He was sick without wanting to be

(ii) Uwogure [aidukare dutabo]

u	wogu	re	Ø	[aidu	ka	re	du	tabo]
Agr	V	Mood	Agr	V	Neg	Mood	C	P
3s	'to fish'	assert.	3s	'want'	'not'	assert.	'that'	'with'

"He was (in a state of) fishing withour wanring to be"

[12] Lexical incorporation, in the framework established in Hale & Keyser (1992 and 1993)

is incorporation in L-syntax (essentially the lexicon), prior to syntactic computation.

[13] I thank an anonymous reviewer for that observation.

[14] I will be using the usual descriptive terminology throughout, tough assuming a bare phrase structure or not makes no difference [O the thesis defended in this paper.

[15] By T I am referring here to the morphological complex of Tense, Negation and Mood morphemes.

[16] I thank Jairo Nunes for this observation.

[17] The choice over the adverb is irrelevant save from the pragmatic viewpoint, since the same positions in the sentence are available to all adverbs (c.f Nonato (forthcoming)

[18] These sentences are grammatical only if the subject is interpreted as topical. Since in this case the subject is not in the specifier of TP anymore, TP adverbs can intervene between it and the verb (but not the light-verb adverbs relevant to the point under discussion).

[19] The choice will be lexically determined by the specific verb, and is rarely optional. The only verb we know of that accepts both options is *tu* 'to go'. /91

[20] I could as well call their case absolutive, which I equate with nominative in my theory, but I prefer to make do with fewer terms.

[21] In MIDP framework, unvalued features are always unínterprerable.

[22] For expository reasons, valued □ -features will be given a contingent value of *3s'*. The notation for unvalued features is '?'.

[23] In an earlier version of the theory that assumed case checking instead of case attribution, verbs had a feature indicating whether they could assign case (cf. Chomsky 1995, sec. 1.4.3)

[24] For the case of accusative active languages, cf. section 7.4.

[25] The uniformity condition for chains is at play here in the same fashion as in the intransitive sentence.

[26] It is unclear whether DP, merges before or after DP_i's movement. As the outcome wí11 not matter to us here - both specifiers are in the same minimal domain – I will not address the issue, which is also left open in Chomsky (2000: 137) and is not even mentioned in Chomsky (2001).

[27] Adapted from Bittner & Hale (1996).