Locative adverbs in the subject position in Brazilian Portuguese

Advérbios locativos na posição de sujeito no português brasileiro

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Abstract: This article examines the syntactic and semantic properties of locative adverbs in Brazilian Portuguese to verify whether they occupy the subject position. We observe that adverbs can occupy the subject position as well as locative NPs. We propose that, contrary to full DPs, adverbs do not bear the number feature inherently, manifesting only the person feature. Following Baker (2003), we propose that locative adverbs bear a referential index. The conclusion is that locative adverbs in subject position are generated as VP adverbs or locative arguments, bearing the following formal features: [+deictic] and [+ (3rd) person].

Keywords: locative adverbs; position of the subject; Brazilian Portuguese.

Resumo: Este artigo examina as propriedades sintáticas e semânticas dos advérbios locativos no português brasileiro para verificar se eles ocupam a posição de sujeito. Observamos que advérbios podem ocupar a posição de sujeito assim como NPs locativos. Propomos que, contrariamente aos DPs plenos, advérbios não carregam o traço de número inerentemente, manifestando somente o traço de pessoa. Seguindo Baker (2003), propomos que advérbios locativos possuem índice referencial. A conclusão é a de que esses advérbios na posição de sujeito são gerados como advérbio de VP ou argumento locativo, carregando os traços formais: [+dêitico] e [+ (3ª) pessoa].

Palavras-chave: advérbios locativos; posição do sujeito; português brasileiro.

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1 Introduction

In this work, we discuss the relationship between locative adverbs and their corresponding locative NPs and PPs, examining their syntactic properties and the hypothesis that they occupy the subject position in Brazilian Portuguese (BP). We formulate the following questions: do locative adverbs occupy the subject position in BP? What are the syntactic and semantic factors responsible for licensing adverbs in the subject position? What factors restrict the presence of other adverbs in this position?

To discuss those issues, in sections 2 and 3, we turn to studies that examine locative inversion and the so-called bare-NP adverbs. In section 4, we consider studies that discuss and examine the possibility of locative PPs occupying the subject position in BP and the hypothesis of the locative NP in this position. Those studies are relevant to this work because of the possibility that phrases that share distributional properties may share categorical properties, as evidenced in (1).

(1) Brazilian Portuguese

a. Nessa casa bate sol.
   In-this house hit3SG sun
   ‘This house gets a lot of sunlight.’

b. Essa casa bate sol.
   This house hit3SG sun
   ‘This house gets a lot of sunlight.’

c. Aqui bate sol.
   Here hit3SG sun
   ‘This house gets a lot of sunlight.’

In section 5, we analyze the locative adverb in the subject position in BP. And, finally, we make our final considerations in section 6.

2 Locative inversion and subject position

In a lexical-functional analysis, Bresnan (1994) investigates structures of English and Chichewa, one of the Bantu languages of Central and Eastern Africa, which involve a preposed locative phrase and a postposed subject. Such structures, illustrated by the English data below, are known as locative inversion (LI).
According to the author, locative inversion – as in (2b), (3b) e (4c) – is associated with a theme-locative argument structure. The semantic role of the theme universally alternates between object and subject positions. The theme is the syntactic object of an active transitive verb and the syntactic subject of a passive transitive verb. So, in languages with locative inversion, intransitive verbs have a theme argument as the subject, but allow it to appear in the post-verbal position in LI, in addition to selecting locatives as arguments. Verbal intransitivity, according to Bresnan (1994), is a condition for LI. In Chichewa, intransitive verbs like -\textit{li} (to be), \textit{khala} (to sit) and \textit{bwera} (to come) allow LI, while transitive verbs like \textit{peza} (to find), \textit{thamangitsa} (to pursue) and \textit{tumiza} (to send) do not. Although LI practically only happens with intransitive verbs, not all intransitive verbs allow LI, according to Bresnan (1994).

LI can occur in cases where the subject can be interpreted as the theme of location, change of location or direction expressed by the locative. Thus, intransitive verbs in Chichewa like -\textit{li} (to be), \textit{khala} (to sit) and \textit{bwera} (to come) satisfy the characteristic of having a locative subject. For the author, Chichewa provides evidence that the locative is the grammatical subject in LI. The author points out three properties that commonly lead to the validation of the grammatical subject in languages: the agreement between the subject and the verb, the control of the subject, and the raising of the subject. She explains that finite verbs in Chichewa have a mandatory “subject prefix”, which agrees in gender, number, and person with the grammatical subject. In cases of locative inversion, agreement with the locative is mandatory, as shown in the following data\(^1\).

\(^1\) Regarding the glosses, we refer the reader to the basic clarifications in Bresnan (1994: 76-77): “the locative class markers 16, 17, and 18 of nouns (but not verbs and adjectives) are glossed as particles rather than prefixes in this and subsequent examples, in accordance with the results of Bresnan and Mchombo 1993. (...) Chichewa has
Chichewa (BRESNAN, 1994, p. 93)

a. **Pa** m-sikā-pa pá bādw-a nkhonya.

16 3-market-16.this 16.SUBJ.IM.FUT-be-born-FV 10.fist

‘At this Market a fight is going to break out.’

b. **Ku** mu-dzi ku na-bwēr-ā a-lēndo.

17 3-village 17.SUBJ-REC.PST-come-FV 2-visitor

‘To the village came visitors.’

c. **M** nkhalāngo mw a-khal-ā mi-kângo.

18 9.forest 18.SUBJ-PRF-remain-FV 4-lion

‘In the forest have remained lions.’

The lack of any of the three prefixes in those examples would make the sentences ungrammatical. Those prefixes are indistinguishable from the other subject-verb agreement prefixes. Therefore, LI in Chichewa satisfies the first of the generalizations for the grammatical subject: the finite verb necessarily agrees with the subject. As for control of attributive VPs, Chichewa has infinitive verbal forms that can be used as an attributive modifier of NPs, like the participle in English.

Chichewa (BRESNAN, 1994, p. 93)

a. m-sodzi [VP w-ó-ík-á nsómbá pa m-pando]_{vp}

1-fisherman 1-ASC.INF-put-FV 10.fish 16 3-chair

‘A fisherman putting fish on a chair.’

b. nsómbá [VP z-ó-ík-idw-á pá m-pando]_{vp}

0.fish 1 0-ASC.INF-put-PASS-FV 16 3-chair

‘Fish being put on a chair.’

The author notes that the agent role is assigned to DP’s head in (6a), and the patient role, to DP’s head in (6b), thus the agent is the subject of the verb in the active form, and the patient is the subject of the verb in the passive form. Furthermore, the verb carries a prefix that agrees with the controller of the gender class: it agrees with ‘fisherman’ in (6a) and with ‘fish’ in (6b). When the locative inversion occurs in a NP with eighteen noun classes, which are denoted by Arabic numerals in the glosses, including a class 1A; Roman numerals are used for first and second person; and the following abbreviations are also used: NEG= negative, SG= singular, SUBJ= subject, OBJ= object, PROG= progressive, PRF= present perfect, REC PST= recent past, IM FUT= immediate future, PRS HAB= present habitual, APPL= applicative, PASS= passive, FV= final vowel, POSS= possessive pronoun, ASC= associative, and INF= infinitive.”.
an attributive VP, the locative role can be assigned to the controller and the adnominal prefix shows locative agreement, as in (7).

(7) Chichewa (BRESNAN, 1994, p. 94)

m-nkhalangó [VP m-ó-khál-á mi-kângo]VP
18-9.forest 18-ASC.INF-live-FV 4-lion
‘In the forest where there lions live.’

Thus, for the author, those facts indicate that LI satisfies the second grammatical generalization about the subject in Chichewa: the controlled argument of the attributive VP is the subject. The third and last generalization concerns the raising of the subject. In Chichewa, the locative can be raised with a certain class of raising verbs, demonstrating that it is the grammatical subject.

(8) Chichewa (BRESNAN, 1994, p. 95)

Ku mu-dzi kw-a-yamba __ ku-gwá mvûla.
17 3-village 17.SUBJ-PRF-start __ INF-fall 9.rain
‘It has started raining in the village.’ Lit. ‘At the village has started to fall rain.’

Thus, Bresnan (1994) argues that the evidence of agreement, control and raising converge to identify, in LI, the locative as the grammatical subject in Chichewa.

3 Bare-NP adverbs and case assignment

Larson (1985) examines noun phrases that can function as adverbial modifiers, without accompanying prepositions or any other indicator of adjunct status. These are called bare-NP adverbs, as illustrated in the following examples:

(9) a. I saw John [NP that day] or [NP someplace you’d never guess].

b. John was headed [NP that day].

c. Max pronounced my name [NP every way imaginable]. (LARSON, 1985, p. 595)

According to the author, modern English exhibits bare-NP adverbs in a variety of semantic functions, including temporal and locative modifiers. Many NPs that refer to a point or period of time can function as temporal modifiers, for example: NPs headed by common names that refer to units in calendars such as days, months, and years; NPs that refer to an annual calendar interval or that function as proper names for periods of time; NPs headed by the common noun time; the temporal form then and the deictic now, yesterday, today and tomorrow.
On the surface, bare-NP adverbs take the form of a simple NP and may be accompanied by several determinants identical to those found in canonical cases of NPs arguments: *some, every, a, the*, etc. They can also be modified by restrictive relative clauses. Furthermore, *bare-NP adverbs* can occupy positions normally filled only by NPs:

(10) a. Every morning’s lecture. (LARSON, 1985, p. 598)
    b. The lecture every morning.

    b. The refusal yesterday.

Since the genitive specifier position is only available for NPs, *every morning* and *yesterday* are, for the author, NPs in adverbial usage. Seeking to improve the analysis of *bare-NP adverbs*, the author recalls a characteristic of NPs: they need Case. He then proceeds to consider the sentence below:

(12) John hit the ball over the fence [NP that day]. (LARSON, 1985, p. 606)

According to the author, *that day* has no potential Case attributor, so the expectation is for the sentence to be ungrammatical; however, it is well formed. He then suggests that *bare-NP adverbs* have a special way of receiving Case: assignment occurs via a special feature [+F], which is carried by these names. This feature is inherited by any NP that has such N as its head, and assigns Oblique Case to the NP (LARSON, 1985, p. 607). This NP Case marking ability [+F] allows these NPs to take Case and satisfy the Case Filter in the absence of an external Case attributor, such as a verb or a preposition. So, what distinguishes NPs that can function as *bare-NP adverbs* is an intrinsic feature, with lexically determined Case marking.

For the author, the relative freedom of syntactic position observed in relation to *bare-NP adverbs* can be attributed to Case Theory. Inherently receiving Case, or not needing Case, these elements are not bound to occur adjacent to some [-N] or [+Tense] ruler; therefore, within the VP, for example, *bare-NP adverbs* can be freely reordered with other independent Case categories, such as PPs (LARSON, 1985, p. 607). The author also considers cases involving the following structures:
According to Larson (1985), the NPs [+F] *that day* and *few places with a view* occur as subjects of sentences in (13a-b) and as verbal objects in (13c-d). Given the hypothesis that NPs [+F] inherently receive Oblique Case and given that Nominative Case and Accusative Case are assigned to the subject and object positions, respectively, the expectation is that these examples would be ungrammatical due to a Case clash; however, these sentences are well formed. So, the author proposes that the assignment of Case by feature [+F] is optional. This implies that although the feature [+F] is present in the subject and object NPs in (13), the Oblique Case needs not be assigned and, therefore, there is no Case clash. In summary, Larson (1985) concludes that NPs that carry feature [+F] occur in argument position, so [+F] cannot itself be considered a Case marker: if so, there would be a Case clash, once NP [+F] occurs in the position in which the Nominative Case is assigned.

Although Larson’s study is very interesting empirically and theoretically, we consider that the solution of the Case conflict in terms of optionality in the occurrence of the feature [+F] faces a current theoretical problem. How would it be possible to anticipate the position in which *bare-NP adverbs* occur, to define the presence or absence of the feature [+F]? Given that this possibility does not currently exist, we will reinterpret this analysis and look for a workaround for this problem with BP data in section 5.

4 LI and subject-topics in BP

Pilati (2006) observes that VS clauses are restricted in distribution in BP. She argues that this order should be analyzed as a type of LI, in view of the following syntactic characteristics: (i) they are frequent with unaccusative verbs (14a-b); (ii) they generally manifest locative or temporal PPs on the left, with (locative or temporal) deictic interpretation (14c-d), a position that, hypothetically, can be null and anaphorically connected, also occurring in the presence of discursive elements and
focus operators, as só (only), também (too); (iii) present restrictions to transitive verbs, occurring in concomitant narratives\(^2\) and idioms (14e-f):

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(14) \quad \text{Brazilian Portuguese}
\]

a. Aqui chegaram as cartas. (PILATI, 2006, p. 195)

*Here arrived the letters. ‘Letters arrived here.’*

b.* Aqui avermelhou o urubu. (PILATI, 2006, p. 195)

*Here turned.red the vulture

‘Here turned red the vulture.’*

c. Neste hotel dormiu a Maria. (PILATI, 2006, p. 139)

*In this hotel slept the Mary

‘Mary slept in this hotel.’*

d.* Em hotéis dormiu a Maria (PILATI, 2006, p. 139)

*In hotels slept the Mary

‘Mary slept in hotels.’*

e. Arriscou o chute Diego Tardelli. (PILATI, 2006, p. 20)

*Risked the kick Diego Tardelli

‘Diego Tardelli risked the kick.’*

f. Hoje tomou posse o novo ministro da Cultura. (PILATI, 2006, p. 20)

*Today took office the new Minister of Culture

‘Today the new Minister of Culture took office.’*

Based on Bresnan’s (1994) observation that discursive factors interfere with the distribution of LI in Chichewa (and English), Pilati (2006) demonstrates that these factors are present in the VS structures of BP, due to the requirement of a (locative and temporal) deictic element, or of null deictic recovered anaphorically. The author also observes that the presence of (locative and temporal) deictic can be inferred in structures with VS order of BP in which the deictic does not occur on the left, but it is possible to assign a deictic interpretation, as represented by the contrast between the sentences (15a) and (15b):

\(^2\) According to Pilati (2006, p. 200, translated): “the discursive context of these clauses makes it evident that the interpretation of the locative PP is deictic, as these clauses describe events that occur almost concomitantly with the narration, and it is not necessary for the speaker to verbally express neither the place (which is the soccer field) nor the moment in which the events are taking place (since the narration is concomitant).”
This deictic interpretation, related to the moment of enunciation or to a specific place whose reference is shared by the interlocutors, is also found in the VOS structures, in which the so-called concomitant narratives occur, as in (14c). In the analysis of V(OS) structures in BP as cases of LI, Pilati (2006) postulates that the (locative or temporal) deictic element is linked to the subject position. Therefore, the author proposes the following structures, for the V(OS) order in BP:

a) Possibilities of ordering with unaccusative verbs, e.g.: *Aqui chegaram as cartas/proloc* *Chegaram as cartas* (‘Here/proloc arrived the letters’).

(16) Brazilian Portuguese (PILATI, 2006, p. 213)

b) Derivation with unergative verbs, e.g.: *Hoje ligou a Maria/proloc* *Ligou a Maria* (‘Today/proloc called Maria’).
Pilati (2006) points out that the adverb ‘Hoje’ would occupy the same position as pro if it was realized in (17). The same statement is valid for the data in (18).

c) Possibilities of ordination with transitive verbs in coinciding narratives or in sentences with light verbs, e.g.: Hoje tomou posse o novo ministro/pro loc Tomou posse o novo ministro (‘Today/pro loc the new minister took office’).

According to Pilati (2006), other transitive verbs cannot present LI for a syntactic reason. Their object receives Accusative Case within the vP, and blocks the possible probe-goal relationship between T and Loc, as in (19).
Pilati (2006) explains that (19) is ungrammatical because there must not be an inactive syntactic object, which has already valued its features, between the probe and the goal. The presence of this inactive element blocks the combination between the probe and the goal in terms of Defective Intervention. She concludes her study noting that the hypothesis that BP VS structures license a null pronoun with locative reference in the pre-verbal position also accounts for other aspects of BP grammar, such as the weakening of the verbal agreement system (cf. DUARTE, 1993) and the appearance of structures referred to as subject-topic (cf. PONTES, 1987).

The hypothesis of the presence of locative PP in the subject position in BP was investigated by Avelar and Cyrino (2008, 2009), Avelar (2009) and Avelar, Cyrino and Galves (2009). According to these authors, LI in BP can be a contribution from languages of the Bantu family (see the characteristics mentioned in the analysis by Bresnan (1994) for Chichewa), given the situation of linguistic contact in the colonization period in Brazil. The authors analyze structures like (20):

(19) Brazilian Portuguese (PILATI, 2006, p. 215-216)

a. *Tomou água o novo ministro.
   Took3SG water the new minister

b. TP
   T'
   Tomou1-vp-T
   Took
   vP
   o novo ministro
   the new Minister
   v
   VP
   ÁGUA
   water
   t1
   Loc

   V'
Brazilian Portuguese (AVELAR; CYRINO; GALVES, 2009, p. 207)

a. Naquela loja vende muitos livros.
   in-that shop sell3SG many books

European Portuguese/* Brazilian Portuguese: ‘In that shop, (s)he sells books.’
*EP/BP: ‘That shop sells many books.’

b. Naquela fazenda planta todo tipo de legume.
   in-that farm plant3SG all kind of vegetable

EP/*BP: ‘In that farm, (s)he plants all kinds of vegetables.’
*EP/BP: ‘In that farm, one plants all kinds of vegetables.’ Or: ‘In that farm, all kinds of vegetables are planted.’

The authors’ initial hypothesis is that, in the absence of the external argument, the locative PP can check the EPP in [Spec-TP]. The authors explain that the locative inversion covers the cases in which locative constituents, which are commonly taken as non-argumental, occur in the position identified as the grammatical position of the subject. However, they emphasize that natural languages behave heterogeneously regarding the properties that involve the phenomenon, distinguishing themselves in terms of agreement properties and the specificity of the argument structure that licenses the inversion.

Analyzing the properties of agreement, the authors point out the possibility of a verb being able to agree with the locative constituent in a pre-verbal position in Chichewa3:

Chichewa (AVELAR; CYRINO, 2009, p. 59)

a. Ku-mu-dzi ku-na-bwér-á a-lendô-wo
   17-3-village 17SB-REC PST-come-IND 2-visitor-2-those
   ‘To the village came those visitors.’

b. M-mi-têngo [vp mw-a-khal-a a-nyāni.]
   18-4-tree 18SB-PERF-sit-IND 2-baboons
   ‘In the trees are sitting baboons.’

Regarding the argument structure that licenses locative inversion, Avelar and Cyrino (2009) point out the existence of locative inversion in a wider variety of constructions, as exemplified by Kinyarwanda (Bantu),

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3 Data (21) is from Bresnan and Kanerva (1989, p. 1-3, examples (1b) and (4a)).
which allow locative inversion with unergative and transitive verbs in so far as agent and theme do not occur together in the same sentence⁴:

(22) Kinyarwanda (AVELAR; CYRINO, 2009, p. 60)

a. kw’ íisóko ha-Ø-guz-w-e   ibi-intu   bi-taandátu.
in  market 16-PST-buy-PAS-PRF 8-thing 8-six
‘At the market were bought six things.’

b. Mu cyûmba ha-Ø-rii-r-iye   umwáana.
in room 16-PST-eat-APL-PRF 1:child
‘In the room, there ate a child.’

Comparing the argument structures that license LI in Bantu languages, Avelar and Cyrino (2009) demonstrate that BP allows LI in constructions with unergative and transitive verbs, as observed in languages such as Kinyarwanda. Thus, in the authors’ analysis, the data below are the result of a derivation in which the locative PP is realized in the grammatical position of the subject, in [Spec-TP]:

(23) LI with unaccusative verbs in Brazilian Portuguese (AVELAR; CYRINO, 2009, p. 61)

Na casa da Maria chegou algumas cartas.
in-the house of-the Mary arrive3SG some letters
‘Some letters arrived at Maria’s house.’

(24) LI with unergative verbs in Brazilian Portuguese (AVELAR; CYRINO, 2009, p. 61)

Naquele quarto dormiu várias pessoas.
in-that room slept3SG several people
‘In that room several people slept.’

(25) LI with ergativized transitive verbs in BP (AVELAR; CYRINO, 2009, p. 61)

Naquele bairro aluga casa de todos os preços.
in-that neighborhood rent3SG houses at all the prices
‘In that neighborhood houses are rented at all prices.’

(26) LI with transitive and unergative verbs without theme and/or agent in BP (AVELAR; CYRINO, 2009, p. 61)

Nas cidades do interior não sequestra tanto como nas
in-the cities of-the interior not kidnap3SG as much

⁴ Data (22a) and (22b) are respectively from Salzmann (2004, p. 51), and Polinsky (1992, p. 298).
grandes capitais.

big capitals

‘In small towns there are not as many kidnappings as in the big capitals.’

Avelar and Cyrino (2009) present two tests demonstrating that the locative PP is in Spec, TP in (23) to (26). With the first test, the authors demonstrate the obligatory nature of the locative PP when the subject is post-verbal, in contrast to the optionality of this constituent when the argument subject is pre-verbal:

(27) Brazilian Portuguese (AVELAR; CYRINO, 2009, p. 62)

a. (Naquele quarto) várias pessoas dormiram.

(in-that room) several people slept_{3PL}

‘In that room several people slept.’

b. * (Naquele quarto) dormiu várias pessoas.

(in-that room) slept_{3SG} several people

Avelar and Cyrino (2009) conclude that the obligatory nature of the locative PP can be adequately explained if we assume that the locative satisfies the EPP condition in contexts where the subject is post-verbal, as in (27b). This situation can also be compared to what occurs in (28a-b), where the presence of the locative licenses the structure in which the subject is not grammatically present.

(28) Brazilian Portuguese (AVELAR; CYRINO, 2009, p. 62)

a. (Naquela loja) todos os tipos de livro vendem.

(in-that store) all the kinds of books sell_{3PL}

‘All kinds of books are sold in that store’

b. *(Naquela loja) vende todos os tipos de livro.

(in-that store) sell_{3SG} all the kinds of books

Therefore, the authors emphasize the need to assume that the locative is in [Spec-TP], or the obligation of the locative PP in terms of EPP satisfaction cannot be addressed. In a note, the authors note that locative PPs can save sentences also if they are in final position:

5 Note that the contrast in (27) and (28) is originally cited in Pilati (2006) to indicate the restrictions on the occurrence of the VS order in BP, as well as to support the hypothesis that such constructions in BP are realized in a locative inversion configuration.
(29) Brazilian Portuguese (AVELAR; CYRINO, 2009, p. 62)

a. Vende muitas coisas naquela loja.

sell3SG a-lot-of stuff in-that store

‘A lot of stuff is sold in that store’

In contrast with the data above, the authors analyze the following data:

(30) Brazilian Portuguese (AVELAR; CYRINO, 2009, p. 62)

a. (ele) não quis almoçar hoje, o Roberto

(he) didn’t want to-have-lunch today the Roberto

‘Roberto didn’t want to have lunch today’

b. (ela) vai comprar um carro novo, a Maria

(she) is-going to-buy a car new the Maria

‘Maria is going to buy a new car’

c. (elas) comeram a comida toda, as crianças

(they) ate the food all the children

‘The children ate all the food’

They argue that, in (30), the data show that subjects can be licensed in a final position if they are interpreted as a topic by a personal pronoun prepended to the verb. Comparing with the data in (30), the authors note that the locatives in final position can also be in co-occurrence with pronominal adverbial elements prepended to the verb (31), which reinforces the authors’ hypothesis that locative PPs can guarantee the acceptability of the sentence when they enter the position typically occupied by the argument subject.

(31) Brazilian Portuguese (AVELAR; CYRINO, 2009, p. 62)

a. (lá) vende muitas calças, naquela loja

(there) sell3SG a-lot-of pants in-that store

‘That store sells a lot of pants.’

b. (aí) grava todo tipo de filme, nesse meu DVD

(there) record3SG all kinds of movies on-this my DVD

This DVD set of mine can record all kinds of movies’
c. *(lá*) trabalha vários amigos meus,
(there) work\textsubscript{3SG} several friends of-mine,
naquela loja
in-that store

‘Many friends of mine work at that store.’

This fact reveals the similarity between locatives and nominal subjects regarding the obligation to be moved to [Spec-TP] in raising constructions. Based on this fact, the authors claim that the locative PP can satisfy the EPP condition also in these structures:

(32) Brazilian Portuguese (AVELAR; CYRINO, 2009, p. 63)

a. *Parece na casa da Maria chegar muitas cartas.
seem\textsubscript{3SG} at-the house of-the Maria to-arrive many letters
b. Na casa da Maria parece chegar muitas cartas.
In-the house of-the Maria seem\textsubscript{3SG} to-arrive many letters

‘It seems that a lot of letters arrive at Maria’s house.’

(33) Brazilian Portuguese (AVELAR; CYRINO, 2009, p. 63)

seem\textsubscript{3SG} in-that mall to-work a-lot-of people
b. Naquele shopping parece trabalhar muita gente.
In-that mall seem\textsubscript{3SG} to-work a-lot-of people

‘It seems that a lot of people work at that mall.’

The authors also analyze the fact that the locative PP does not trigger agreement in the subject position. In Avelar and Cyrino (2009), they highlight that popular BP has an optional subject-verb agreement:

(34) Brazilian Portuguese (AVELAR; CYRINO, 2009, p. 70)

Os menino comeu/comeram o bolo.
The\textsubscript{3PL} boy\textsubscript{3SG} ate\textsubscript{3SG}/ate\textsubscript{3PL} the cake

‘The boys ate the cake.’

This variable agreement, for the authors, is related to the possibility that category T can be licensed without \textgreek{f}-features. In other words, in BP, constituents whose nuclei are \textgreek{f}-featureless, such as prepositions, can be licensed in the subject position since subject-verb agreement is not mandatory.

We consider valid – and specific to BP – the data that illustrate the occurrence of the locative PP in the first position (in relation to the verb), as presented by the authors. We also consider plausible the hypothesis that, in those cases, the locative PP occupies the position of
subject, just like in LI structures, for the cases of VS, as postulated by Pilati (2006). However, the hypothesis that the variable agreement in BP indicates that T can be licensed independently of phi-features does not account for the licensing of a locative PP in the subject position. We will return to this question.

Avelar (2009) advances on the analysis of Avelar and Cyrino (2009), proposing that the inflectional paradigm of BP authorizes agreement relationships between a verb and a prepositioned locative. In addition, the author brings the argument of co-indexing between subjects of coordinated clauses.

(35) Brazilian Portuguese (AVELAR, 2009, p. 236)

\[Muita gente i trabalha naquela fábrica e cvi mora\]
\[Many people_i work in-that factory and cvi live\]
do outro lado da cidade.

\[on-the other side of-the town\]
‘Many people work in that factory and live on the other side of town.’

In (36) it can be noted that if a locative PP is allegedly in Spec, TP, the empty category in the coordinated sentence is co-indexed to it:

(36) Brazilian Portuguese (AVELAR, 2009, p. 236)

\[Naquela fábrica i trabalha muita gente e cvi ainda assim\]
\[In-that factory_i work\textsubscript{3SG} a-lot-of people and even so\]
cvi vai contratar mais cem funcionários até o final do ano.
\[will\textsubscript{3SG} hire another hundred employees by the end of-the year\]

‘A lot of people work at that factory, and it will still hire another hundred employees by the end of the year.’

For the author, the possibility of co-indexing in (36) is another argument that demonstrates that the locative PP is in subject position.\(^6\) Avelar (2009) treats locative PPs as projections whose nucleus is an adverbial pronoun (like aqui/here, ai/there and lá/there) that can be realized phonologically or not. These pronouns, referred to as category Loc, head a LocP (Locative Phrase), and the projection of the locative

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\(^6\) Likewise, the test of the anaphoric resumption of the null subject of the coordinated clause, by the (expressed) subject of the first clause, was used in Pilati (2006) to postulate the realization of the locative PP (in the VS structure) in the subject position.
PP is treated as a complement of Loc, assuming the configurations in (38) for the structure in (37):

(37) Brazilian Portuguese
    a. (aqui) na loja
       (here) in-the store
    b. (aí) sobre a mesa
       (there) on the table

(38) Brazilian Portuguese (AVELAR, 2009, p. 238)

\[
\begin{align*}
\text{a. } & \text{LocP} \\
& \text{(aqui)} \quad \text{PP} \\
& \text{em} \quad \text{DP} \\
& \quad \text{a loja} \\
\text{b. } & \text{LocP} \\
& \text{(aí)} \quad \text{PP} \\
& \text{sobre} \quad \text{DP} \\
& \quad \text{a mesa}
\end{align*}
\]

With this argument, the author explains the grammatical requirement that authorizes the occurrence of the locative PP in [Spec-TP], as it gives it a nominal status, since the core of the locative phrase in question is not the introductory preposition of the locative PP, but an adverbial pronoun, which, realized phonologically or not, introduces the preposition. Since the adverbial pronoun is a nominal category, the author points out that, in the subject position, it can be realized alone (39a), co-occur with the locative PP (39b) or be a null category (39c):

(39) Brazilian Portuguese (AVELAR, 2009, p. 241)

\[
\begin{align*}
\text{a. } & \text{Lá vende muitos livros.} \\
& \text{there sell}\text{\textsubscript{3SG}} \text{many books} \\
& \text{‘There many books are sold.’} \\
\text{b. } & \text{Lá no shopping vende muitos livros.} \\
& \text{there in-the mall sell}\text{\textsubscript{3SG}} \text{many books} \\
& \text{‘There in the mall many books are sold.’} \\
\text{c. } & \text{No shopping vende muitos livros.} \\
& \text{in mall sell}\text{\textsubscript{3SG}} \text{many books} \\
& \text{‘In the mall many books are sold.’}
\end{align*}
\]

Assuming that it is a nominal category projection, the locative phrase (LocP/PP\textsubscript{LOC}) can occupy the subject position and the φ-features
of T can agree with the LocP/PP<sub>LOC</sub>, since any pronominal form must be able to trigger agreement.

Avelar (2009) points out that cases in which the LocP/PP<sub>LOC</sub> occurs at the end of the sentence could be a counterargument to the idea that the phrase in question occupies the position of subject. The data below illustrate the situation:

(40) Brazilian Portuguese (AVELAR, 2009, p. 241)

a. Vende muitos livros (lá) naquele shopping.
   sell<sub>3SG</sub> many books (there) in-that mall
   ‘Many books are sold (there) at that mall.’

b. Dorme criança (aqui) nesse quarto.
   sleep<sub>3SG</sub> child (here) in-this room
   ‘Children sleep (here) in this room.’

c. Planta todos os tipos de legume (aí) nessa fazenda.
   plant<sub>3SG</sub> all the kinds of vegetables (there) in-this farm
   ‘All kinds of vegetables are planted (there) on this farm.’

The author explains that, since Agree is established at a distance (the interaction between the φ-features of T and those of DP happens before the subject is moved to [Spec-TP]), T establishes agreement with the LocP/PP<sub>LOC</sub> when it is in situ. By presenting an inherently adverbial nature, typical of constituents in an adjunct configuration, the locative is, in principle, an adjunct of VP (41); moreover, the LocP/PP<sub>loc</sub> can be moved to Spec-TP and receives nominative Case, as in (42).

(41) Brazilian Portuguese (AVELAR, 2009, p. 242)
Avelar’s (2009) proposal is not about the contrast between the presence or absence of the preposition in the phrases in question in the subject position, “but between a noun phrase that takes place in the form of a DP (aquela loja – ‘that store’), and another that is realized as the projection of a deictic adverbial pronoun without phonological realization”, the LocP (AVELAR, 2009, p. 245). In this perspective, there is apparently a PP. However, for the syntactic computation, the phrase is introduced by an adverbial pronoun, which can be null.

Avelar (2009) further emphasizes that the inflectional paradigm of BP currently presents the $\phi$-features of T in a defective version ($T_{\text{DEF}}$), as the number feature is absent. Thus, we have a mark for the first person (eu canto/‘I sing’) and another for the others [tu/você/ele/nós/a gente) vocês/eles canta (‘you/he/we/you/they sing’)]. This characteristic of BP inflectional paradigm can, in his analysis, interfere with the type of category that interacts with the $\phi$-features of T in the Agree operation. For instance, a category that only has a person marking (but not number) as is the case with adverbial pronouns, can interact with $T_{\text{DEF}}$.

Avelar’s (2009) analysis explains the occurrence of locative PPs in the subject position in BP, but, as the author acknowledges, it does not address the cases referred to in the studies by Pontes (1986, 1987), in

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7 The proposal and the first analysis of some consequences of T in a defective version ($T_{\text{DEF}}$) in BP grammar is attributed by Avelar to Ferreira (2000).
which the locative PP loses its preposition and occurs as a locative DP, preposed to the verb, being able to agree with the verb:

(43) Brazilian Portuguese (PONTES, 1987, p. 36)

a. Essa casa bate sol.
\_This house hit\textsubscript{3SG} sun

‘This house gets a lot of sunlight.’

b. Essas casas batem sol.
\_These houses hit\textsubscript{3PL} sun

‘These houses get a lot of sunlight.’

In a study that became seminal for the characterization of BP grammar, Pontes (1986) demonstrates that one of the strategies used to fill in the subject in this language is the raising of locative adverbs and/or locative phrases to the subject position. The author analyzes, from a functionalist perspective, structures such as:

(44) Brazilian Portuguese (PONTES, 1986, p. 17-18)

a. As gavetas não cabem mais nada.
\_The drawers not fit\textsubscript{3PL} anything else

‘The drawers don’t fit anything else.’

b. Essa casa bate bastante sol.
\_This house hit\textsubscript{3SG} a-lot-of sun

‘This house gets a lot of sunlight.’

The author observes that the DPs in (44) have a prepositioned version, as in (45):

(45) Brazilian Portuguese (PONTES, 1986, p. 17-18)

a. Nas gavetas não cabe mais nada.
in-the drawers not fit\textsubscript{3SG} nothing else

‘In the drawers nothing else can fit.’

b. Nessa casa bate sol.
in-that house hit\textsubscript{3SG} sun

‘This house gets a lot of sunlight.’

For Pontes (1987), sentences in (44) and (45) exemplify a syntactic alternation in which the same phrase is expressed with or without a preposition. The author postulates that such constructions manifest different interpretations. In the prepositioned version, the degree of impersonality is greater, because, regarding non-prepositioned constructions, “the native speaker feels the first DP as also somehow
responsible for what the verb conveys. ‘Essa casa’ is a well-built house, and this is one reason why it receives so much sun” (PONTES, 1987, p. 88).

The author observed in a previous study (PONTES, 1986) that verbal agreement and the position before the verb are the most striking characteristics of the subject in BP, which would support the assertion that the phrases highlighted in (46a-b) are the subjects of sentences. For Pontes (1986, p. 18), the verb in sentences like (46a-b) agrees with the first DP and not the second, which makes it impossible to prepose the second DP to the verb, as indicated by the ungrammaticality of (46c-d):

(46) Brazilian Portuguese (PONTES, 1986, p. 18)

a. A Belina cabe 60l de gasolina.
   the Belina hold\textsubscript{3SG} 60l of gasoline
   ‘Belina holds 60l of gasoline.’

b. Esse carro cabe 60l de gasolina.
   this car hold\textsubscript{3SG} 60l of gasoline
   ‘This car holds 60l of gasoline.’

c. *A Belina cabem 60l de gasolina.
   the Belina hold\textsubscript{3PL} 60l of gasoline

d. *Esse carro 60l de gasolina cabem.
   this car 60l of gasoline hold\textsubscript{3PL}

As Pontes (1986, p. 19) observes, the occurrence of a subject in Portuguese that cannot trigger agreement would be strange. Hence, we could not think of a postponed subject for structures with locative DPs, as in (46a-b).

Galves (1998), in a generative framework, seeks to characterize the properties of structures such as (46a-b) in BP. The author also presents evidence that locative DPs preposed to the verb perform the function of subject in the sentence.
Brazilian Portuguese (GALVES, 1998, p. 21)

a. Bate muito sol *(n)esta casa.

hit\textsubscript{3SG} a-lot-of sun *(in)-this house

‘This house gets a lot of sunlight.’

b. Nesta casa, bate muito sol.

in-this house, hit\textsubscript{3SG} a-lot-of sun

c. Esta casa bate muito sol.

this house hit\textsubscript{3SG} a lot of sun

‘This house gets a lot of sunlight.’

d. Esta casa, bate muito sol nela.

this house hit\textsubscript{3SG} a-lot-of sun in-it

‘This house gets a lot of sunlight.’

According to the author, in (47a) we have an illustration of a projection of the argument structure, in which the preposition that marks the locative cannot be omitted. The data in (47b-d) illustrate other topicalization structures the BP grammar allows. In (47b), *esta casa* is the complement of a preposition, whereas in (47c-d) we have it is a DP preposed to the verb. (47d) illustrates a DP preposed to the verb that appear in the sentence markedly topicalized by the presence of a resumptive pronoun. In Galves’s analysis, she observes that there is a complementary distribution between the presence of the resumptive pronoun and the agreement between the prefixed DP and the verb:

(48) Brazilian Portuguese (GALVES, 1998, p. 21)

a. Estas casas batem muito sol.

these houses hit\textsubscript{3PL} a-lot-of sun

‘These houses get a lot of sunlight.’

b. *Estas casas batem muito sol nelas.

these houses hit\textsubscript{3PL} a-lot-of sun on-them

The data in (48) demonstrate that the preposed DP must agree with the verb or be in co-occurrence with a resumptive pronoun. There is also another difference between sentences with resumptive pronouns and without it, which concerns the possibility of agreement between the verb and the postponed DP (GALVES, 1998, p. 21-22):
(49) Brazilian Portuguese (GALVES, 1998, p. 21-22)

a. Este carro, cabem muitas pessoas nele.
   this car fit3PL a-lot-of people in-it
   ‘This car fits a lot of people.’

b. ?? Este carro cabem muitas pessoas.
   this car fit3PL a-lot-of people
   ‘This car fits a lot of people.’

The ungrammaticality of (49b) can be attributed, according to the author, to the fact that there is no way of licensing the preposed DP: neither agreement nor pronominal resumption. In sum, Galves (1998) defends the hypothesis that locative DPs placed before the verb, without pronominal resumption, are legitimized as a subject in the sentence, and refers to these constructions as ‘subject-topics’. The author thus distinguishes subject-topic sentences from those with pronominal resumption pointing to a lexical-semantic property of the verbs and arguments involved, as there is a restriction on the subject topic construction that is not verified in the construction with pronominal resumption:

(50) Brazilian Portuguese (GALVES, 1998, p. 22)

a. Essa estante, o João põe muita coisa nela.
   this shelf the João puts a-lot-of stuff on-it
   ‘João puts a lot of stuff on this bookcase.’

b. ?? Essa estante o João põe muita coisa.
   this shelf the João puts a-lot-of stuff
   ‘João puts a lot of stuff on this bookcase.’

Since the transitive sentence in (50b) is ill-formed, the hypothesis is that there cannot be a projection of the external argument of the verb in the construction of the subject-topic. According to the Galves (1998), the properties that summarize the subject-topic constructions are as follows: a) there is no resumptive pronoun resuming the preposed NP; b) there is no agreement between the verb and the postponed DP; c) the external argument of the verb is absent.

Munhoz (2011) also discusses the issue of locative DPs in the so-called subject-topic structure. The author assumes the hypothesis of Galves (1998) that in subject-topic structures, the external argument of the verb is absent. The author pays attention to the fact that the class of unaccusative verbs is not homogeneous and, based on the studies of
Duarte (2003), analyzes the unaccusative verbs with which the occurrence of the locative as a subject-topic is possible.

Duarte (2003) divides unaccusative verbs into the following semantic classes: a) change of state verbs: with an external cause (some of which would participate in the causative alternation), such as *abrir* (to open), *apodrecer* (to rot), *cristalizar* (to crystallize), *derreter* (to melt), *fritar* (to fry) and *rasgar* (to tear); with an internal cause (not causatively alternating and non-agent), of a physical or psychic reaction, such as *empalidecer* (to turn pale); of emission, like *explodir* (to explode), and of change of state due to the internal cause, like *crescer* (to grow), *florir* (to bloom) and *morrer* (to die); b) movement verbs: denote inherent direction, such as *cair* (to fall), *chegar* (to arrive)/ *partir* (to depart), *descer* (to descend)/ *subir* (to climb), *entrar* (to enter)/ *sair* (to exit) and *ir* (go)/ *vir* (to come); c) existence and appearance verbs, such as existential verbs *constar* (to be present at), *existir* (to exist) and *perdurar* (to endure), locative existential verbs, such as *morar* (to dwell), *residir* (to reside) and *viver* (to live), those that denote absence or lack, such as *escassear* (to run out) and *faltar* (to lack), those that denote apparition, such as *aparecer* (to appear), *brotar* (to sprout) and *surgir* (to arise), those of disappearance, such as *desaparecer* (to disappear) and *sumir-se* (to vanish), and event verbs, such as *acontecer* (to happen), *ocorrer* (to occur) and *passar-se* (to come to pass).

According to Munhoz (2011), state change verbs due to an internal cause in locative subject-topic sentences have the particularity of depending on the definiteness of the post-verbal DP, as in (51), in which the presence of the subject-topic depends on the definiteness of the post-verbal DP:

(51) Brazilian Portuguese (MUNHOZ, 2011, p. 92)

O campinho de futebol cresceu a grama.

*the field of soccer grew the grass*

‘Grass grew on the soccer field.’

Regarding movement verbs, Munhoz (2011) makes a case for their biargumentality, noting that these verbs also form locative subject-topic constructions:
(52) **Brazilian Portuguese (MUNHOZ, 2011, p. 93)**

a. Arroz mexicano vai banana frita no meio.

rice Mexican go\(_{SG}\) banana fried in-the middle

‘Mexican rice has fried banana in the mix.’

b. Cada pacote vem quatro figurinhas.

each package come\(_{SG}\) four stickers

‘Each packet comes with four stickers.’

However, the author considers that, despite the verbs above being of displacement, the sense of trajectory seems lost. Rather, these sentences focus on the moment of culmination of the event or present an existential meaning:

(53) **Brazilian Portuguese (MUNHOZ, 2011, p. 93)**

Em cada pacote, há/tem/existem quatro figurinhas.

In each package, (there) are/have/are four stickers

‘In each packet, there are four stickers.’

Munhoz (2011) notes that not all movement verbs produce grammatical sentences in locative subject-topic structures. At first, the restriction seems to occur with verbs that have the source-local information (partir (depart), cair (fall) and descer (descend)):

(54) **Brazilian Portuguese (MUNHOZ, 2011, p. 93)**

a. Dois navios partiram daquele porto.

two ships depart\(_{3PL}\) from-that port

‘Two ships left that port.’

b. *Aquele porto partiu dois navios.

that port depart\(_{3SG}\) two ships

(55) **Brazilian Portuguese (MUNHOZ, 2011, p. 93)**

a. Uma fruta caiu no chão.

a fruit fell\(_{SG}\) on-the ground

‘A fruit fell to the ground.’

b. *O chão caiu uma fruta.

the ground fell\(_{SG}\) a fruit

(56) **Brazilian Portuguese (MUNHOZ, 2011, p. 93)**

a. Um gatinho desceu daquela árvore.

a kitten came-down\(_{SG}\) from-that tree

‘A kitten came down from that tree.’
Locative subject-topics are also possible with existence and appearance verbs:

(57) Brazilian Portuguese (MUNHOZ, 2011, p. 94)

a. Essa pasta consta todos os documentos necessários.
   *This folder contains all the necessary documents.*

b. Aquela casa ali mora o Fagner.
   *Fagner lives in that house over there.*

c. Seu cabelo tá faltando queratina.
   *Your hair is missing keratin.*

d. O quintal lá de casa apareceu um gatinho.
   *A kitten appeared in my house’s backyard.*

e. O Japão quase aconteceu um desastre nuclear um dia desses.
   *Japan almost had a nuclear disaster the other day.*

Munhoz (2011) adds to Duarte’s (2003) list the verbs caber (to fit) (corresponds to a stative predicate and expresses the possibility of a theme being in a place) and bater (to hit) (expresses the state of a theme element affecting a place). In addition, Munhoz (2011) also notes that the literature has mentioned the existence of biargumental unaccusative verbs, one corresponding to what exists and the other to the place where this entity exists, noting the possibility that unaccusative verbs, crosslinguistically, can be subdivided and take a locative element as an argument that can occupy the subject position. Thus, the locative would be selected by the verb, since the absence of the locative causes ungrammaticality:
In this sense, Munhoz (2011), based on the findings of different authors that unaccusative verbs have a heterogeneous behavior and that some unaccusative verbs project a biargumental structure, supports the hypothesis that the locative subject-topic is licensed with biargumental unaccusative verbs, thus defined by selecting two DP’s, a theme, and a locative. While the locative argument is raised to the subject position, the Theme argument remains internal to the VP.

Munhoz (2011, p. 120) proposes that structures like (59) are the result of derivations like (60):

(58) Brazilian Portuguese (MUNHOZ; 2011, p. 76)

a. *Bate bastante sol
   \[ hits_{3SG} a\text{-}lot\text{-}of \ sun \]

b. *Bastante sol bate.
   \[ a\text{-}lot\text{-}of \ sun \ hits_{3SG} \]

(59) Brazilian Portuguese (MUNHOZ, 2011, p. 59)

Essas malas cabem muita coisa.
   \[ these \ bags \ fit_{3PL} \ a\text{-}lot\text{-}of \ things \]

‘These suitcases can fit a lot of stuff.’

(60) Brazilian Portuguese (MUNHOZ, 2011, p. 59)

```
       (TP) ---------------
          |                |
        T' ---------------
           |                |
     cabem --- VP ---
       |                |
   essas-malas --- V' ---
          |                |
         V ---------------
            |                |
      -cabem --- DP ---
                    |                |
                  muita coisa
```

The author explains that with the absence of a locative preposition, the phrase ‘Essas malas’ structurally values its Case, via Agree with T, which results in agreement between the locative argument and the verb – according to the author there is no projection of vP in (60) because the verb is unaccusative. Therefore, it does not select an external argument.
The hypothesis is that the verb is first concatenated with the theme argument. The second Merge will originate the locative in a position from where it will correspond to the closest target identified by the probe and likely to be raised to the subject position. Thus, the DP ‘muita coisa’ does not value its features with T because this category would have already valued its Φ-features with the closest DP (‘Essas malas’). For the author, ‘muita coisa’ has default nominative Case.

As noted by Munhoz (2011), in the genitive and locative subject-topic constructions, there is a distinction regarding the obligatory nature of these arguments, as illustrated in (61a-b) – in which there is a relationship of location (‘sun...(in) the house’) and of possessor-possessed (‘tire...(of) the car’), respectively.

(61) Brazilian Portuguese (MUNHOZ, 2011, p. 62)

a. Essa casa bate sol.

\[ \text{this house hit}_{3SG} \text{ sun} \]

‘This house gets sunlight.’

b. Meu carro furou o pneu.

\[ \text{my car pierced}_{3SG} \text{ the tire} \]

‘My car had a flat tire.’

In both constructions the locative and possessor argument fill the subject position, although they have distinct syntactic status: while the suppression of ‘meu carro’ in (62) is possible, the suppression of ‘this house’ as in (63) generates ungrammaticality:

(62) Brazilian Portuguese (MUNHOZ, 2011, p. 76)

a. Furou o pneu.

\[ \text{pierced}_{3SG} \text{ the tire} \]

‘Got a flat tire.’

b. O pneu furou.

\[ \text{the tire pierced}_{3SG} \]

‘The tire got flat.’

(63) Brazilian Portuguese (MUNHOZ, 2011, p. 76)

a. *Bate bastante sol.

\[ \text{hits}_{3SG} \text{ a-lot-of sun} \]

b. *Bastante sol bate.

\[ \text{a-lot-of sun hits}_{3SG} \]
We observe that this contrast is also manifested in relation to the distribution of adverbs of the ‘aqui’ (‘here’) type: while constructions of the locative subject-topic type authorize the realization of the subject position by an adverb of the ‘aqui’ (‘here’) type, such a category is not possible in constructions of the genitive subject-topic type, as the data in (64) demonstrate. Our proposal is that the restriction is not only semantic, but also syntactic, since there is a relationship between the obligatory nature of the locative argument and the possibility of realizing the subject position by a locative deictic (of the ‘aqui’ type), modifier of the VP – or conversely, there is a relationship between the fact that the genitive is generated in the structure of the DP and the impossibility of its being realized in the subject position by a modifying constituent of the VP.

(64) Brazilian Portuguese
a. Aqui bate sol.
here hit$_{3SG}$ sun
‘There’s sunlight here.’
b. *Aqui furou o pneu.
here pierced$_{3SG}$ the tire
‘The tire was pierced here.’

One question that remains open is the fact that, at the VP level, the locative argument can be realized as DP or PP.

5 Locative adverbs in the subject position: the (formal) feature geometry of locative adverbs and their relation to the category name (N)

So far, we have explored the occurrence of locative PPs and NPs in argumental positions. We have also seen that locative adverbs share the syntactic distribution of such NPs and PPs, which suggests that locative adverbs can also occur in the subject position:

(65) Brazilian Portuguese
a. Aqui/ali/lá cabe muita gente.
Here/there/there fit$_{3SG}$ a-lot-of people
‘Many people fit here/there/over there.’
b. Aqui/ali/lá bate sol.
Here/there/there hit$_{3SG}$ sun
‘This place/that place gets sunlight.’
c. Aqui/ali/lá   adoece       muita gente.

Here/there/there   get\textsubscript{SSG} sick   a-lot-of people

‘A lot of people get sick here/there/over there.’

d. Aqui/ali/lá   desaparece   crianças.

Here/there/there   disappear\textsubscript{SSG}   children

‘Children disappear here/there/over there.’

e. Aqui/ali/lá   brota   feijão.

Here/there/there   sprout\textsubscript{SSG}   beans

‘Beans sprout here/there/over there.’

f. Aqui/ali/lá   nasce   muita criança.

Here/there/there   be.born\textsubscript{SSG}   a-lot-of children

‘A lot of children are born here/there/over there.’

In a study about the status of the adverb category, considered from the point of view of its syntactic distribution in the subject position, Teixeira (2015) investigated structures such as (65). The possibility of locative adverbs occurring in such a position allows us to identify them, in this context, with properties of N. Baker (2003) proposes that there are three lexical categories: nouns, verbs, and adjectives. The author questions the feature system adopted in the tradition of generative theory, which distinguishes lexical categories by binary distinctive features, leading to the identification of four distinct categories.

\begin{align*}
(66) & \quad \text{a. } +N, -V = \text{Noun} \quad \text{(BAKER, 2003, p. 21)} \\
& \quad \text{b. } -N, +V = \text{Verb} \\
& \quad \text{c. } +N, +V = \text{Adjective} \\
& \quad \text{d. } -N, -V = \text{Preposition/Posposition}
\end{align*}

The author emphasizes, however, that such a distinction is not enough to establish the differences between the lexical categories, claiming that such features are not consistent – in the sense that they do not determine natural classes, since not only the pairs of categories formed by identical features \{N, A\} and \{V, P\} share properties, but also the category pairs \{N, V\} and \{A, P\}, which are formed by opposite features. Thus, it exemplifies the identity of the pair [A, P] with English data, showing that only AP and PP can occur with measure phrases, as in \textit{It is three yards long} and \textit{He went three yards into the water}. Baker then proposes a theory of lexical categories in terms of the features [+N]
and [+V], but not as a system of binary oppositions, which results in the following contrast:

(67)  
   a. Noun is + N = has a referential index (BAKER, 2003, p. 21)
   b. Verb is + V = has a specifier
   c. Adjective is – N, – V (is a default category)
   d. Preposition is part of a different system (functional)

   We will only discuss the proposal in (67a) about nouns, and then discuss the possibility that locative adverbs in the subject position have this property. The author proposes, among other properties, the following for N.

(68)  
   Syntactic version: X is a noun if and only if X is a lexical category and X bears a referential index, expressed as an ordered pair of integers. (BAKER, 2003, p. 95)

They also constitute canonical arguments of the sentence, occupying the position of subject, direct object, prepositioned object. Our goal is not to develop the argument, in the sense of detailing Baker’s proposal, which encompasses different lexical categories. Although it is a comprehensive proposal, Baker’s approach does not consider the specific case of adverbs. In this sense, we will seek to apply some of Baker’s ideas to the discussion of the issues investigated here, in relation to the properties of this category, particularly considering locative adverbs.

Our hypothesis is that locative adverbs share with category N the property of manifesting a referential index. In Baker’s (2003) words: "(...) the main idea is that only nouns can bear a referential index, because only they have ‘criteria of identity’ (...) this means that only they can bind anaphors, traces of various kinds, and the theta-roles of verbs, among other things” (BAKER, 2003, p. 21). Although the author is categorical in the sense that the properties mentioned are exclusive to N, it is not difficult to extend them to adverbs (locative adverbs/adverbs of manner), given the understanding that such categories occupy positions introduced by predicates, as in the case of predicates that select locative arguments (Maria pôs o livro na estante/aqui – ‘Maria put the book on the shelf/here’). In addition, the other properties mentioned are confirmed, since the locative NPs can be antecedents of wh words in relative clauses, as in (69a-b), antecedent in coordinate structure (69c-d):
The facts regarding the distribution of adverbs in the subject position – particularly in BP, given the requirement to fill this syntactic position by an XP – confirm our hypothesis in the sense of identifying them with category N, in relation to the index manifestation of referentiality. However, it should be noted that this property is, in principle, restricted to one type of adverb – the locative adverb. Considering the analysis of those constructions as locative inversions, such structures demonstrate not only the pronominal character of this category, but also highlight the relevance of this property in the BP grammar. In fact, BP manifests the use of this construction referred to as subject-topic with an innovative character, primarily by the presence of verbal agreement in structures with locative NP (and by the optional pronominal resumption by the adverb in the subject position, in case of realization of the locative argument preposed to the verb).
The idea of assigning nominal character to (locative) adverbs is not recent, as we saw in the analysis of locative inversion structures in BP. We consider that the proposal to assume a configuration headed by a category of the LOC type, with the PP (locative) realized as a complement, is technically complex. We claim that it is possible to generate the structure without resorting to this configuration. A question that arises is what determines the occurrence of this configuration.

We then proceed to explore the possibility of analyzing these cases in terms of the formal properties of the adverb here (‘aqui’), in relation to locative PPs and DPs. As will be shown, we verified some patterns that allowed us to postulate the formal features associated with this category in its pronominal uses.

Thus, we start from the data pointed out by Pontes (1986), assuming with this author, and with Galves (1998), that, in fact, the locative DP controls the verbal agreement, as illustrated below, which constitutes a diagnosis for its realization in the position of subject.

(70) Brazilian Portuguese

| a. Esse sitio dá muitas bananas. |
|---|---|---|---|
| this ranch give\textsubscript{3SG} many bananas. |
| ‘This ranch produces a lot of bananas.’ |
| b. Esses sitios dão muita banana. |
| these ranches give\textsubscript{3PL} a-lot-of banana |
| ‘These ranches yield a lot of bananas’ |
| c. Esse sitio e essa fazenda dão muita banana. |
| this ranch and this farm give\textsubscript{3PL} a-lot-of banana |
| ‘This ranch and this farm yield a lot of bananas.’ |

We also agree with Pilati’s (2006) hypothesis that BP manifests the so-called locative inversion with V(OS) structures, the locative being lexically realized or null, the latter recovered anaphorically or by a deictic relationship (locative or temporal). Those structures primarily include clauses with unaccusative verbs and transitive verbs in concomitant narratives, and ergativized transitive structures, as noted by Galves (1998) and Avelar and Cyrino (2009), in which the external argument does not receive morphosyntactic marking as in Bantu languages. We also follow
Munhoz’s (2011) analysis that the locative NP in the subject position is the (internal) argument of the verb in structures with biargumental unaccusative verbs. We also considered structures with meteorological verbs, discussed in Pilati, Naves and Salles (2017), in which the use of locatives seems to manifest the properties postulated for the previous cases – highlighting the possibility of controlling agreement:

(71) Brazilian Portuguese (PILATI; NAVES; SALLES, 2017, p. 66 and 75)
   a. Aqui chove muito.
      Here rain<sub>3SG</sub> a-lot
      ‘It rains a lot here.’
   b. Essa cidade chove muito.
      this city rain<sub>3SG</sub> a-lot
      ‘It rains a lot in this city.’
   c. Essas cidades chovem muito.
      these cities rain<sub>3PL</sub> a-lot
      ‘It rains a lot in these cities.’

However, when examining locative adverbs in coordination structure, we observed that the verb does not agree with those adverbs, which suggests they do not manifest the number feature, although they do, hypothetically, manifest the interpretable person feature, since they manifest referential index. This contrast is illustrated below:

(72) Brazilian Portuguese
   a. Aqui e ali bate sol à tarde.
      here and there hit<sub>3SG</sub> sun at-the afternoon
      ‘There is sunlight in the afternoon here and there.’
   b. *Aqui e ali batem sol à tarde.
      here and there hit<sub>3PL</sub> sun at-the afternoon

(73) Brazilian Portuguese
   a. Aqui e ali cabe muita coisa.
      here and there fit<sub>3SG</sub> many things
      ‘A lot of things fit here and there.’
   b. *Aqui e ali cabem muita coisa.
      here and there fit<sub>3PL</sub> many things

The absence of a number feature in the locative adverb is also referred to in Avelar (2009) as a property that interacts with the defective character of BP agreement, given the phenomenon of variation in verbal
inflection, giving rise to locative inversion in BP. As mentioned above, our understanding is that the variable agreement observed in BP should not be taken as a determining factor in relation to the possibility of licensing, in the position of subject, a category such as the locative, seen as defective due to the absence of the number feature. Rather, we consider relevant the proposal of Pilati (2006) to relate the locative inversion in BP to the codification of the deixis in the sentence structure.

In this sense, we propose that the insertion of (lexical or null) locative adverbs/PPs and locative DPs in SpecTP satisfies the (temporal and locative) deixis encoding, which is required in these contexts – in this respect, we extend the proposal in relation to Pilati (2006), which does not include locative PP in that position. The T category, in turn, manifests uninterpretable phi-features (of person and number), and the EPP feature, which are verified by the category realized in SpecTP, as indicated below.

In the presence of locative adverbs, which, hypothetically, do not show a number feature, we conclude that the 3rd person feature, considered interpretable for manifesting a referential index, is sufficient to trigger Agree, with the number feature being validated as singular, which is the default option in the inflectional system of the BP verb.

Considering the specifics of the distribution of locative DP and PP/locative adverbs in SpecTP in locative inversion structures, regarding agreement (full or default, respectively), we tentatively propose that locative DP has person and number features, fully validating the phi-features and manifesting nominative Case, while PP/locative adverbs manifest the oblique (inherent) Case – which suggests a Quirky Case\(^8\) situation. We consider that the Oblique (inherent) Case, in the case of the adverb, is determined at the lexical/category level, or at the syntax level, in the presence of the preposition.

Hypothetically, the oblique Case, in this configuration, does not clash with the Agree operation at the TP level, since, in the case of the

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\(^8\) According to Boeckx (2000), there are elements that are marked on the surface with Quirky Case in the subject position, despite not having Nominative Case, which is the Case canonically associated with this position. Therefore, we suggest the situation of Quirky Case in BP in the sense that locatives behave as subjects without triggering Agree (in the case of locative PP), or by manifesting incomplete Agree (in the case of locative adverbs).
adverb, only the person feature in T is verified, the number feature being validated as singular, which is the *default* option; in the presence of PPs, there is, by hypothesis, only the licensed EPP-feature, since the features of number and person are not accessible, being, therefore, validated in the *default* option – 3rd person and singular.

We assume that the locative satisfies the requirement of the feature [+Loc] either of the clause structure (in the case of VS and constructions with a generic subject, according to Pilati, 2006) or of the predicate (in the case of subject-topic constructions, according to Munhoz, 2011). For this reason, despite the variable agreement in BP, not all elements without a number feature can occupy this position. Thus, we propose that the locative elements that occupy the position in SpecTP, as illustrated in (75) and (76), have the following formal features:

(74) a. Locative DP: [+Loc], [+Person], [+Case], [+Number];
    b. Locative adverb: [+Loc], [+Person], [+Case];
    c. Locative PP: [+Loc], [+Case].

As the language presents, in the inflectional system of the verb, *default* number and person, the locative adverb and the locative PP occupy, as well as the locative DP, the position in SpecTP, because they satisfy the requirement of the feature [+Loc] of the predicate (in the case of subject-topic constructions), or of the sentence structure (in the case of the VS or generic subject constructions).

(75) Brazilian Portuguese

```
TP
  /           /
 Aqui₁  T'
     /       /    
  Here  VP    
       /     /      
  bate₂  V'      
         /       / 
        i       sol
         /       / 
        j       / 
           /   
           /   V'
            /  
             / i
              j
              /
              /
              /  
              /   
              /  VP
              /   / 
              /   /  
              /   /   
              /   /    
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As we have seen, Larson (1985) discusses bare NPs adverbs. He proposes that those expressions are marked in the lexicon with the feature [+F], responsible for encoding time, place, mood, which would make them inherently marked for oblique Case (note that there is the possibility of not manifesting the feature [+ F] if they occur in the subject position). The fact that this feature is optional, according to the author, allows bare-NP adverbs to occupy an argument position, receiving nominative Case (without conflicting with the oblique Case). Considering the technical difficulty of assuming this optional rule, and the fact that the expressions that satisfy this ‘rule’ are of different types, we postulate that such elements share the property of manifesting referentiality index, which is encoded by the feature of [person], in syntactic computation. This property is manifested through the following features, in different places in the grammar:

1. In locative or circumstantial adverbs marked for the feature [+deictic] (as here and now).

2. In nouns denoting days of the week (Sunday, Wednesday), at the lexicon level; languages can be less restrictive and include a name marked by existential quantification, as in the case of English, which includes ‘someplace’ (You have lived someplace; Peter put the letter someplace), which confirms the lexical character of the rule, even if it involves syntactic process to mark the quantification.
3. In nouns that denote time, in structures that include categories marked for the feature [+deictic] (demonstrative pronouns), constituting, therefore, at the level of syntax, as in *that day/aquel\-_\textit{dia}*, in English and Portuguese (*Aquele/*\textit{O dia choveu muito – That/*The day rained a lot*) – although a mark is still triggered in the lexicon, as there is a selection of words that denote time.

4. In (barely) any NPs or DP, if they are selected by predicates, as in *Essa casa bate sol* (‘This house is sunny’) – in this case, the feature [+deictic] is assigned to the DP by the predicate.

We also note that coordinated locative adverbs do not trigger agreement in constructions such as those presented in (72) and (73), but they trigger it in constructions such as those illustrated in the data below:

(77) Brazilian Portuguese

a. *Aqui e ali\textit{ são meu refúgio.}*

\begin{tabular}{lll}
\textit{here and there} & \textit{be}\textsubscript{3PL} & \textit{my refuge} \\
\end{tabular}

‘I take shelter here and there.’ (interpretation: “anywhere”)

b. *Aqui e ali\textit{ é meu refúgio.}*

\begin{tabular}{lll}
\textit{here and there} & \textit{be}\textsubscript{3SG} & \textit{my refuge} \\
\end{tabular}

The question that arises is why coordinate locative adverbs trigger agreement in copula structures, but not in the locative inversion structures discussed above. Our initial hypothesis is that, in this context, the possibility of plural agreement is associated with the fact that the predicate is of the ‘equative’ type, which denotes the identity between the referential features of the NP ‘my refuge’ and the locative phrase realized by the adverb. In this type of configuration, the locative adverb does not satisfy properties associated with the verb, which is an auxiliary. The core of the predicate is the NP ‘my refuge’. In this configuration, the NP preaches in a distributive way for each adverb, which would explain the possibility of realizing the verb in the plural.

6 Final considerations

To discuss the questions we formulated in this research, we contrasted crosslinguistic data in which adverbs, locative PPs and DPs occupy the subject position. We observed that locative DPs behave
differently from locative adverbs. Locative DPs are capable of triggering agreement; locative adverbs in a coordination structure do not trigger it. We assumed that those DPs manifest an inherent number feature, while locative adverbs do not have such a feature, as we can see in the following data:

(77) Brazilian Portuguese

a. Esse sítio dá muitas bananas.
   \( \text{this ranch give}_{3\text{SG}} \text{ many bananas} \)
   ‘This ranch produces a lot of bananas.’

b. Esses sítios dá muita banana.
   \( \text{these ranches give}_{3\text{PL}} \text{ a-lot-of banana} \)
   ‘These ranches produce a lot of bananas.’

c. *Aqui e ali dá muita banana.
   \( \text{here and there give}_{3\text{PL}} \text{ a-lot-of banana} \)

With this in view, we conclude our work with the proposal that the insertion of PP/locative adverb (lexical or null) and of locative DP in Spec-TP satisfies the requirements of deixis coding. In the case of locative adverbs, which, by hypothesis, do not bear a number feature, but manifest the 3rd person feature (referential), we conclude that the number feature in T is validated as singular, which is the default option in the BP grammar, as the presence of the person feature is enough to trigger Agree. Still, regarding agreement (full or default), considering the distribution of locative DP and PP/locative adverbs in Spec-TP in locative inversion structures, we tentatively propose that:

1) DP locatives receive nominative Case, since they have the following features: [+Loc], [+Person], [+Number] and [+Case], and check the features of T (complete).

2) PP/locative adverbs are marked with the oblique Case (inherent), which, hypothetically, does not conflict with the Agree operation, due to the defective character of this operation: in the presence of adverbs, Agree validates the person feature in T (but not number, which is validated as singular, which is the default option in the inflectional system of the verb);
3) in the presence of locative PP, there is no Case marking, and the person and T number features are validated in the default option.

We concluded, then, that adverbs and locative PP can occupy the Spec-TP position, as well as locative DP, since they satisfy the requirement of the feature [+Loc] in the predicate. However, we note that the agreement is not triggered with the locative adverb: ‘(Essas casas batem sol’/‘*Aqui e ali batem sol’ (‘These houses are sunny’/‘*Here and there are sunny’). As the DP and the adverb occupy the same position without change of meaning, we propose that locative DPs have a number and person feature, which licenses the triggering of agreement in the plural. In the case of locative adverbs, our hypothesis is that they have a 3rd person feature and do not have a number feature. With this specification, the T probe identifies the interpretable feature of person in the locative phrase, and the Agree operation occurs, which allows the checking of the uninterpretable 3rd person feature in T. In the absence of the number feature in the locative adverb, the uninterpretable feature of number in T is validated as singular, which is the default option. The property [+deictic] together with the 3rd person feature allows those adverbs to occupy the subject position in BP.

We postulated, then, that in the presence of locative DP, which has the features [+Person], [+Number], [+Loc] and [+Case], the phi-features in T are fully valued, and the locative DP checks Nominative Case. In the presence of the adverb that has, by hypothesis, the features [+Loc], [+Person] and [+Case (oblique)], the person feature in T is valued, and the number feature is realized as singular, which is the default option in the verb inflection system; in the presence of locative PP which, by hypothesis, has the features [+Loc] and [+Case (oblique)], the features of number and person of T are validated in the default option. Those elements can occupy the Spec-TP position because they are able to satisfy the requirement of the feature [+Loc] in the predicate.

With this study, we have contributed to the understanding of the status of the adverb, considering a specific group: the locative adverbs. However, we know that questions answered in this research generate other issues, which can motivate future research. We consider it relevant to investigate the status of the preposition in the structure of the locative PP, which alternates with the locative DP. The possibility of alternating between the PP and the locative DP suggests that the P category manifests properties of a functional head.
References


**Authorship statement**

Zenaide Dias Teixeira worked in the conception and design of the research, and collected and analyzed the data. Humberto Borges analyzed the data and revised the paper.