

# Circumventing $\phi$ -minimality: On some unorthodox cases of A-movement in Brazilian Portuguese

Jairo Nunes  
Universidade de São Paulo

*Abstract*

In this paper I argue that locative agreement and possessor raising in Brazilian Portuguese (*BP*) should be subsumed under Nunes's (2008) analysis of hyper-raising in *BP*. More specifically, I propose that these unorthodox instances of A-movement in *BP* do not violate minimality, for the crossed potential interveners become inert for purposes of A-movement after receiving inherent Case. The proposed analysis extends to "extralong" cases of possessor raising and mixed patterns involving possessor raising out of locative configurations and provides an account for the role of the EPP in bleeding  $\phi$ -minimality.

*Keywords:* hyper-raising, locative agreement, possessor raising, A-movement, minimality, inherent Case, Brazilian Portuguese

## 1. Introduction\*

Since the seminal work by Pontes (1987), two constructions have received considerable attention in the literature on subjects and topics in Brazilian Portuguese (henceforth *BP*).<sup>1</sup> The first one, illustrated in (1a) below, involves movement of a prepositionless locative to the subject position, triggering agreement with the verb. The second one, exemplified in (1b), involves some sort of possessor raising associated with part-whole relations, also triggering verbal agreement.

- (1) a. [essas gavetas]<sub>i</sub> **cabem** muita coisa  $t_i$   
these drawers fit-3PL many thing  
'Many things can fit in these drawers.'
- b. [os relógios]<sub>i</sub> **quebraram** o ponteiro  $t_i$   
the watches broke-3PL the arm  
'The arms of the watches broke.'

In this paper I provide a unified account of constructions such as (1a) and (1b), subsuming them under Nunes's (2008) analysis of another unorthodox case of A-movement in *BP*, namely, hyper-raising constructions such as (2) below. More specifically, I will argue that constructions such as (1a) and (1b) provide independent evidence for Nunes's (2008) proposal that inherent Case can void intervention effects induced by  $\phi$ -features.

- (2) [os alunos]<sub>i</sub> **acabaram** que  $t_i$  perderam o ônibus  
the students finished-3PL that lost-3PL the bus  
'The students ended up missing the bus.'

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<sup>1</sup> For relevant discussion, see e.g. Kato 1989, Figueiredo Silva 1996, Britto 1997, Galves 1998, 2001, Negrão 1999, Lobato 2006, Lunguinho 2006, Negrão and Viotti 2008, Avelar 2009, Avelar and Galves 2011, Munhoz 2011, Munhoz and Naves 2012, Andrade and Galves 2014, Nunes 2016, and references therein.

The paper is organized as follows. In section 2, I briefly summarize Nunes's (2008) analysis of hyper-raising constructions such as (2), focusing on the role played by inherent Case in licensing an otherwise illicit instance of A-movement. In section 3, I show that from an abstract point of view, the constructions in (1a) and (1b) seem to instantiate the same configuration as (2), namely, a licit probe-goal  $\phi$ -relation across a  $\phi$ -bearing element, in an apparent violation of Relativized Minimality. I argue that like the situation in (2), the potential minimality violations in (1a) and (1b) do not arise because the relevant intervening element is rendered inert as a proper intervener in virtue of receiving inherent Case. In section 4, I discuss some consequences of the approach outlined in section 3. In section 5 I address a potential problem for Nunes's (2008) analysis of hyper-raising constructions which extends to constructions such as (1a) and (1b), namely, the fact that the relevant long distance agreement seems to be licit just in case it is associated with overt movement. Finally, section 6 concludes the paper.

## 2. Subject hyper-raising in Brazilian Portuguese

In addition to impersonal constructions such as (3a), with an embedded finite clause, and (4a), with an embedded inflected infinitival, BP also allows hyper-raising constructions (in the sense of Ura 1994) like (3b) and (4b), where the embedded subject raises to the matrix subject position, triggering agreement with the matrix verb (see Ferreira 2000, 2009, Duarte 2004, Martins and Nunes 2010, and Nunes 2015, 2016).

- (3)    a. Parece que os meninos fizeram a tarefa.  
           seems that the boys did the homework  
           'It seems that the boys did their homework.'
  - b. [Os meninos]<sub>i</sub> parecem que  $t_i$  fizeram a tarefa  
           the boys seem-3PL that did the homework  
           'The boys seem to have done their homework.'
- (4)    a. Estava previsto (para) as aulas começarem amanhã.  
           was predicted for the classes start-INF-3PL tomorrow  
           'It was expected that the classes should start tomorrow.'
  - b. [As aulas]<sub>i</sub> estavam previstas \*(para)  $t_i$  começarem amanhã.  
           the classes were predicted for start-INF-3PL tomorrow  
           'The classes were expected to start tomorrow.'

Nunes (2008) argues that the availability of hyper-raising constructions such as (3b) and (4b) in BP is due to two independent factors. The first one relates to the  $\phi$ -feature specification of Infl. Ferreira (2000, 2009) has proposed that with the weakening of the verbal agreement morphology system in BP, finite Ts came to be specified as optionally complete (see Rodrigues 2004, Petersen 2011, and Nunes 2015 for relevant discussion). If a finite T is specified as  $\phi$ -complete, it assigns nominative to its subject, freezing it for purposes of A-movement; by contrast, if T is specified as  $\phi$ -incomplete, it fails to Case-mark its subject, which is then free to undergo A-movement in search of Case licensing. Under this view, (3a) is the convergent result of a derivation with a  $\phi$ -complete embedded T and (3b), with a  $\phi$ -incomplete one. Nunes (2008) refines and expands on Ferreira's analysis, proposing that the verbal agreement morphology in BP is ambiguous in such a way that its Ts (be they finite or infinitival) may be associated with both number and person or just number. If T bears just number, it won't be able to value the Case of its subject, giving rise to hyper-raising constructions involving either finite embedded clauses, as in (3b), or inflected infinitivals, as in (4b).

However, T's  $\phi$ -feature underspecification by itself is not sufficient to license hyper-raising. As shown in (5) and (6), it is simply not the case that any impersonal construction has a hyper-raising analogue.

- (5) a. Foi dito que as propostas eram boas.  
           was said that the proposals were good  
           ‘It was said that the proposals were good.’  
   b. \*[as propostas]<sub>i</sub> foram ditas que  $t_i$  eram boas  
           the proposals were said that were good  
           ‘The proposals were said to be good.’

- (6) a. É ilegal as pessoas fumarem dentro de espaços públicos.  
           is illegal the people smoke-INF-3PL inside of spaces public  
   b. \*[as pessoas]<sub>i</sub> são ilegais (de)  $t_i$  fumarem dentro de espaços públicos.  
           the people are illegal of smoke-INF-3PLinside of spaces public  
           ‘It is illegal for people to smoke inside public spaces.’

Notice that if the embedded T of (5b) and (6b) only has a number feature, the subject should be able to undergo further movement to the matrix Spec of TP, where it could have its Case valued (if the matrix T is  $\phi$ -complete – a possibility that is always available in the system).

Assuming with Chomsky (2008) that the  $\phi$ -features of T are actually generated in C, Nunes (2008) argues that  $\phi$ -agreement between a matrix  $\phi$ -probe and the embedded subject across C, as sketched in (7), should induce a minimality violation (regardless of the specific  $\phi$ -set associated with C), thus accounting for the ungrammaticality of (5b) and (6b).

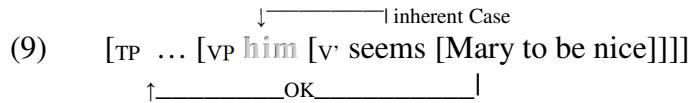
- (7) [ ...  $P_\phi$  ... [CP  $C_\phi$  [TP DP $_\phi$  ... ]]]  
           |\_\_\_\_\_\*\_\_\_\_\_|

As for the unexpected grammaticality of (3b) and (4b), Nunes (2008) treats it on a pair with (8a) below in English. As discussed by Chomsky (1995:304-306), the grammaticality of raising constructions like (8a) is somewhat puzzling. As (8b) shows, the experiencer induces a Principle C effect with respect to material within the embedded clause (despite the presence of the preposition *to*), which indicates that the experiencer c-commands the embedded subject position. This in turn leads us to expect that the experiencer should count as closer for purposes of attraction by the matrix T and accordingly, movement of the embedded subject across the experiencer should yield a Relativized Minimality violation. Neither expectation is fulfilled, though: the experiencer cannot be attracted by Infl, as shown by ungrammaticality of (8c), and A-movement of the embedded subject in (8a) is fully grammatical.

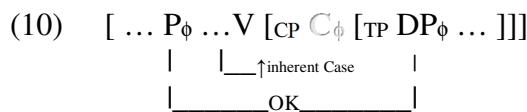
- (8) a. [Mary<sub>i</sub> seems to him [ $t_i$  to be nice]]  
   b. \*[Mary seems to him<sub>k</sub> [ $t$  to like John<sub>k</sub>]]  
   c. \*[To him] seems  $t$  [Mary to be nice]

Chomsky observes that the experiencer should get inherent Case within the lexical VP shell (p. 306) and suggests (fn. 77) that the preposition *to* is adjoined to the experiencer DP as a kind of Case-marker, explaining why it does not affect c-command. Building on these premises, Nunes (2008) proposes that inherent Case renders a given element inert for purposes of A-movement (see (8c)), removing it from computations of Relativized Minimality. In the case of (8a), for example, *seems* assigns inherent Case to the experiencer in its Spec, as

illustrated in (9) below, and this Case is later realized in the morphological component as the preposition *to*. Crucially, after receiving inherent Case, the experiencer becomes inert for purposes of A-relations (which will be marked in grey) and does not block the movement of the embedded subject across it.<sup>2</sup>



Applying this logic to (3b) and (4b), Nunes (2008) proposes that the matrix predicate of these sentences assigns inherent Case to its CP complement, as sketched in (10) below.<sup>3</sup> Once CP receives inherent Case, it is rendered inert for A-relations and accordingly, its head ceases to count as a proper intervener for A-movement, allowing the embedded subject to undergo A-movement to the matrix clause; hence the grammaticality of (3b) and (4b).<sup>4</sup>



This proposal captures two generalizations. First, an embedded subject can undergo hyper-raising just in case the clause that immediately contains it cannot undergo A-movement, as illustrated in (11) and (12).

- (11) a. Acabou [que os professores entraram em greve]  
       finished.3.SG that the teachers entered on strike  
       ‘It turned out that the teachers went on strike.’
- b. \*[que os professores entraram em greve]<sub>i</sub> acabou *t<sub>i</sub>*  
       that the teachers entered on strike finished.3.SG
- c. [os professores]<sub>i</sub> acabaram [que *t<sub>i</sub>* entraram em greve]  
       the teachers finished.3.PL that entered on strike  
       ‘The teachers ended up going on strike.’

<sup>2</sup> Here I will put aside quirky Case in languages like Icelandic, which exhibits a mixed pattern (see e.g. Zaenen, Maling, and Thráinsson 1985). Like inherent Case and unlike structural Case, quirky Case is associated with a  $\theta$ -role and is lexically determined. On the other hand, it is unlike inherent Case in that it does not render its recipient frozen for purposes of A-movement; it rather behaves like structural Case in requiring an agreement relation with a  $\phi$ -complete head in order to be deactivated for A-purposes. Thus, elements marked with quirky Case can undergo standard A-movement in passives and ECM constructions, as well as movement to  $\theta$ -positions (see Boeckx, Hornstein and Nunes 2010a,b for relevant discussion).

I will also put aside Woolford’s (2006) refinement according to which nonstructural Case should be divided in two subclasses: inherent Case, which is predictably associated with specific  $\theta$ -roles, and lexical Case, which is idiosyncratically linked to specific lexical items. The lexical idiosyncrasies associated with the data to be discussed below (see Nunes 2008) invite an analysis in terms of lexical Case. For purposes of exposition, I will however frame the discussion below under Chomsky’s (1986) original coarse-grained distinction between structural (non- $\theta$ -related) and inherent ( $\theta$ -related) Case.

<sup>3</sup> The relevant point here is that CPs may be assigned inherent Case. Whether CPs in Portuguese must always be Case-marked is an independent issue. For relevant discussion of Case assignment to infinitival CPs in Portuguese, see e.g. Raposo 1987.

<sup>4</sup> Note that if the embedded C is  $\phi$ -incomplete, the embedded CP does not qualify as a strong phase (see Chomsky 2001) and movement of the embedded subject to the matrix subject position does not violate the Phase Impenetrability Condition (see Ferreira 2000, 2009, Nunes 2008 and Martins and Nunes 2010 for relevant discussion).

- (12) a. Não foi mencionado [que as investigações continuam]  
 was not mentioned that the investigations continue  
 ‘It was not mentioned that the investigations will continue.’
- b. [que as investigações continuam]<sub>i</sub> não foi mencionado *t<sub>i</sub>*  
 that the investigations continue was not mentioned  
 ‘That the investigations will continue was not mentioned.’
- c. \*[as investigações]<sub>i</sub> não foram mencionadas [que *t<sub>i</sub>* continuam]  
 the investigations not were mentioned that continue

The immobility of embedded clause in (11b) as opposed to (12b) is analyzed as a consequence of inherent Case assignment by the matrix verb in (11) but not in (12). Once the embedded CP in (11) becomes independently inert for purposes of A-relations in virtue of receiving inherent Case, so does its head (see (10)). Hence, the embedded clause of (11) cannot undergo A-movement and the  $\phi$ -features of its C head do not block a potential  $\phi$ -relation across it (see (10)), allowing the embedded subject to undergo hyper-raising (see (11c)). By contrast, the mobility of the embedded clause of (12b) indicates that its head is visible for purposes of A-movement and accordingly, it counts as a proper intervener for a  $\phi$ -relation across it (see (7)), blocking hyper-raising (see (12c)).<sup>5</sup>

The second generalization captured by the proposal reviewed above is that optional prepositions preceding the infinitival complement of an impersonal predicate (see (4a)) become obligatory if the embedded subject is hyper-raised (see (4b)), but are banned if the infinitival clause itself undergoes movement, as shown in (13).

- (13) a. É difícil [(d)esses jornalistas elogiarem alguém]  
 is difficult of-these journalists praise-INF-3PL somebody  
 ‘It is rare for these journalists to praise someone.’
- b. [esses jornalistas]<sub>i</sub> são difíceis \*(de) *t<sub>i</sub>* elogiarem alguém  
 these journalists are difficult of praise-INF-3PL somebody  
 ‘These journalists rarely praise someone.’
- c. (\*D)esses jornalistas elogiaram alguém é difícil  
 of-these journalists praise-INF-3PL somebody is difficult  
 ‘For these journalists to praise someone is very rare.’

Nunes (2008) analyzes such prepositions as the morphological realization of the inherent Case assigned by the selecting predicate. The optionality of the preposition in (13a) (see also (4a)) is taken to show that the *difícil* ‘hard’ optionally assigns inherent Case to its infinitival complement. That being so, the contrast between (13b) and (13c) follows straightforwardly. As seen above, the embedded subject can undergo hyper-raising just in case the embedded clause that immediately contains it is assigned inherent Case. Thus, in order for hyper-raising in (13b) to be licit, the infinitival must be inherently Case-marked, which is signaled by the

<sup>5</sup> It is worth mentioning that inherent Case assignment is not a sufficient condition to license hyper-raising either (see Nunes 2008). In English, for instance, hyper-raising is not allowed despite the fact that the CP complement of a raising verb like *seem* cannot undergo A-movement, as illustrated in (i) below. Assuming that the immobility of the embedded clause in (ib) is a reflex of inherent Case assignment by *seem*, its C head should not block movement of the embedded subject. However, finite clauses in English are always  $\phi$ -complete and therefore the embedded subject of (ic) becomes independently inactive for purposes of A-movement once it is assigned Case within the embedded clause.

- (i) a. It seems (that) John is nice.  
 b. \*[that) John is nice]<sub>i</sub> seems *t<sub>i</sub>*  
 c. \*John<sub>i</sub> seems [(that) *t<sub>i</sub>* is nice]

presence of the preposition. By the same token, in (13c) the infinitival can only move if it has not received inherent Case; hence, the clause can move only if it is not preceded by *de*.

Having considered the role of inherent Case in circumventing potential cases of minimality violations involving  $\phi$ -relations, in the next section we examine the possibility that inherent Case is also relevant in allowing cases of agreement with locatives (see (1a)) and possessor raising (see (1b)) in BP.

### 3. More instances of inherent Case circumventing $\phi$ -minimality

Let us return to the BP constructions involving unorthodox subjects mentioned in section 1. Take, for instance, the locative agreement and the possessor raising constructions in the *b*-sentences of (14)-(17).

- (14) a. **Cabe** muita coisa nessas gavetas.  
fit.3SG many thing in-these drawers
- b. [essas gavetas]<sub>i</sub> **cabem** muita coisa  $t_i$   
these drawers fit-3PL many thing  
'Many things can fit in these drawers.'
- (15) a. **Bate** muito sol nessas paredes.  
hit.3SG much sun on-these walls  
'There is a lot of sunshine on these walls.'
- b. [essas paredes]<sub>i</sub> **batem** muito sol  $t_i$   
these walls hit-3PL much sun  
'These walls receive a lot of sunshine.'
- (16) a. **Quebrou** o ponteiro dos relógios.  
broke.3SG the arm of-the watches
- b. [os relógios]<sub>i</sub> **quebraram** o ponteiro  $t_i$   
the watches broke-3PL the arm  
'The arms of the watches broke.'
- (17) a. **Acabou** a bateria dos celulares.  
finished.3SG the battery of-the cell.phones  
'The batteries of the cell phones are dead.'
- b. [os celulares]<sub>i</sub> **acabaram** a bateria  $t_i$   
the cell.phones finished-3PL the battery  
'The cell phones ran out of battery.'

The first thing to note is that there is evidence that the agreeing DPs in the *b*-sentences of (14)-(17) are not base-generated. As Galves (1998, 2001) observes, a base-generated non-agreeing topic-like element may license a resumptive pronoun in constructions analogous to (14)-(17), but its agreeing counterpart cannot, as illustrated in (18)-(21).

- (18) a. [essas gavetas]<sub>i</sub> **cabe** muita coisa  $nelas_i$   
these drawers fit.3SG many thing in them  
'As for these drawers, a lot of things can fit in them.'
- b. \*[essas gavetas]<sub>i</sub> **cabem** muita coisa  $nelas_i$   
these drawers fit-3PL many thing in-them

‘Many things can fit in these drawers.’

- (19) a. [essas paredes]<sub>i</sub> **bate** muito sol **nelas**<sub>i</sub>  
 these walls hit.3SG much sun on-them  
 ‘As for these walls, they receive a lot of sunshine.’
- b. \*[essas paredes]<sub>i</sub> batem muito sol **nelas**<sub>i</sub>  
 these walls hit-3PL much sun on-them  
 ‘These walls receive a lot of sunshine.’
- (20) a. [os relógios]<sub>i</sub> **quebrou** o ponteiro **deles**<sub>i</sub>  
 the watches broke.3SG the arm of-them  
 ‘As for the watches, their arms broke.’
- b. \*[os relógios]<sub>i</sub> **quebraram** o ponteiro **deles**<sub>i</sub>  
 the watches broke-3PL the arm of-them  
 ‘The arms of the watches broke.’
- (21) a. [os celulares]<sub>i</sub> **acabou** a bateria **deles**<sub>i</sub>  
 the cell.phones finished.3SG the battery of-them  
 ‘As for the cell phones, their batteries are dead.’
- b. \*[os celulares]<sub>i</sub> **acabaram** a bateria **deles**<sub>i</sub>  
 the cell.phones finished-3PL the battery of-them  
 ‘The cell phones ran out of battery.’

Given the ungrammaticality of the *b*-sentences in (18)-(21), one is led to conclude that in the corresponding *b*-sentences of (14)-(17), the agreeing locative or possessor is generated in the position occupied by the resumptive in (18)-(21) and reaches the subject position via movement.<sup>6</sup> This in fact accords well with Chomsky’s (2001) proposal that the probe must c-command its goal in order for an agreement relation to be established. In other words, there must be a derivational stage in which the relevant trigger for the overt movement in the *b*-sentences of (14)-(17) c-commands the locative or the possessor.

That being so, one wonders how such a licit A-relation may obtain, given the presence of potential A-interveners between the launching site and the relevant subject position. Assuming that a locational unaccusative takes a locative for a complement and a theme for its specifier (see e.g. Hale and Keyser 1993), the relevant structures associated with (14b) and (15b), for instance, should be along the lines sketched in (22) and (23).

- (22) [ ... P<sub>Φ</sub> ... [VP [muita coisa]<sub>Φ</sub> [V' cabe- [essas gavetas]<sub>Φ</sub> ]]] (see (14b))  
 | \_\_\_\_\_ |
- (23) [ ... P<sub>Φ</sub> ... [VP [muito sol]<sub>Φ</sub> [V' bate- [essas paredes]<sub>Φ</sub> ]]] (see (15b))  
 | \_\_\_\_\_ |

In both (22) and (23), a  $Φ$ -agreement relation is established between a higher probe and the prepositionless locative, disregarding the potential  $Φ$ -intervener in the Spec of VP.

Similarly, the possessor raising constructions in (16b) and (17b) arguably involve an agreement relation between a clausal  $Φ$ -probe and the possessor, crossing an intervening  $Φ$ -bearer element, namely, the D head associated with the possessee, as sketched in (24) and (25).

<sup>6</sup> For more complex data and further discussion, see Nunes 2016.

- (24) [ ...  $P_\phi$  ... [VP quebr- [DP  $0_\phi$  [ponteiro [DP OS relógios] $_\phi$ ]]]] (see (16b))  
 |\_\_\_\_\_|

- (25) [ ...  $P_\phi$  ... [VP acab- [DP  $a_\phi$  [bateria [DP OS celulares] $_\phi$ ]]]] (see (17b))  
 |\_\_\_\_\_|

At first sight, the unexpected cases of apparent minimality violations in (22)-(25) could be accounted for in terms of Chomsky's (1995) notion of equidistance. Given that the theme and the locative in (22) and (23) are in the minimal domain of the verb, they should count as equidistant with respect to a higher probe, which could then agree with either the theme or the locative. Likewise, if the possessor DP in (24) and (25) is adjoined to the possessee NP, it will fall within the minimal domain of the determiner of the possessee and hence, the higher determiner and the possessor DP will be equidistant with respect to the higher probe.

There are two reasons that indicate that this is not the way to proceed, though. First, if equidistance were all that was needed, constructions such as the *b*-sentences in (14)-(17) should be quite common crosslinguistically, which is not the case. Even in such a closely related language as European Portuguese, these constructions are not allowed. Second, if we add another layer of embedding in the relevant constructions, as illustrated in (26) and (27), we may still obtain a grammatical result despite the fact that equidistance is now of no avail.

- (26) a. [esses porta-malas] $_i$  **cabem** muita coisa na lateral  $t_i$   
 these car-trunks fit-3PL many thing in-the lateral  
 'Many things can fit on the side of the trunk of these cars.'  
 b. [ ...  $P_\phi$  ... [VP [**muita coisa**] $_\phi$  [V' cabe- [PP n- [DP  $a_\phi$  lateral [DP  $t_i$  esses porta-malas] $_\phi$ ]]]]]]  
 |\_\_\_\_\_|
- (27) a. [os relógios] $_i$  **quebraram** a ponta do ponteiro  $t_i$   
 the watches broke-3PL the tip of-the arm  
 'The tip of the arm of the watches broke.'  
 b. [ ...  $P_\phi$  ... [VP quebr- [DP  $a_\phi$  [ponta [PP d- [DP  $0_\phi$  [ponteiro [DP OS relógios] $_\phi$ ]]]]]]]  
 |\_\_\_\_\_|

In (26) and (27) there are two potential  $\phi$ -interveners between the probe and the goal and it is not the case that such interveners are *both* in the minimal domain of the launching site or the target of movement, as an approach in terms of equidistance would require.

We must therefore take the crosslinguistic rarity of constructions such as the *b*-sentences in (14)-(17) as an indication that they do instantiate minimality violations in the general case and analyze BP as the exceptional pattern. The task before us is thus to look for independent properties in BP that may allow circumvention of  $\phi$ -minimality and permit the cases of long distance agreement/A-movement seen in the *b*-sentences of (14)-(17), as well as the more complex cases such as (26a) and (27a).

I would like to propose that the cases at hand can be subject to the analysis of hyper-raising in BP presented in section 2. More specifically, if the relevant interveners in (22)-(25), (26b), and (27b) receive inherent Case, they should become inert for purposes of A-relations and unable to block any A-relation across them, including the movement and agreement involving the locative and the possessor in these constructions. Concretely, I propose that the class of locational unaccusatives that allow the type of locative agreement under consideration may (optionally) assign inherent Case to their locative complement, as well as to the theme in their Spec, as illustrated in (28), with *caber* 'to fit'.

- (28) [VP [DP ...] [V' cabe- [DP ...]]]  
 ↑\_\_\_\_\_||\_|  
 inherent Case

If the locative complement receives inherent Case, it will be inert for purposes of A-relations and its Case will be morphologically realized by the preposition *em* ‘in’. This will give rise to constructions with the locative *in situ* such as (29a) and (29b).

- (29) a. Cabe muita coisa **nessas** gavetas.  
 fit.3SG many thing in-these drawers  
 b. Muita coisa cabe **nessas** gavetas.  
 many thing fit.3SG in-these drawers  
 ‘Many things can fit in these drawers.’

The difference between (29a) and (29b) now relates to whether or not the theme DP also receives inherent Case. If it does, it gets frozen for purposes of A-movement and surfaces where it is generated (see (29a)). If it doesn’t, it moves to the subject position where it can be licensed with nominative Case (see (29b)).

The two instances of inherent Case assignment in (28) are independent from one another and there may arise a situation where the verb assigns inherent Case to its Spec, but not to its complement, as illustrated in (30) below. Under these circumstances, the locative DP is still active for purposes of A-relations and may undergo A-movement, crossing the theme, yielding constructions such as (31), with locative agreement. Crucially, the crossed theme does not induce a minimality effect in virtue of having received inherent Case.

- (30) [ ... P<sub>Φ</sub> ... [VP [DP ...]Φ [V' cabe- [DP ...]Φ ]]]  
 |           ↑\_\_\_\_\_||\_|  
 |           OK            |

- (31) [essas gavetas]<sub>i</sub> **cabem** muita coisa *t<sub>i</sub>*  
 these drawers fit-3PL many thing  
 ‘Many things can fit in these drawers.’

As for the possessor raising constructions, I propose that in BP configurations encoding part-whole relations, the nominal standing for the part may optionally assign inherent Case to the DP standing for the whole, which is then morphologically realized by the preposition *de*. Having this in mind, consider the data in (32) (see (17)), whose relevant structures are respectively sketched in (33).

- (32) a. Acabou a bateria **dos** celulares.  
 finished.3SG the battery of-the cell.phones  
 ‘The batteries of the cell phones are dead.’  
 b. [a bateria **dos** celulares]<sub>i</sub> acabou *t<sub>i</sub>*  
 the battery of-the cell.phones finished.3SG  
 ‘The batteries of the cell phones are dead.’  
 c. [os celulares]<sub>i</sub> **acabaram** a bateria *t<sub>i</sub>*  
 the cell.phones finished-3PLthe battery  
 ‘The cell phones ran out of battery.’

- (33) a. [VP acab- [DP a [bateria [DP os celulares]]]]  
           |\_\_\_\_↑inherent Case   |\_\_\_\_↑inherent Case  
   b. [TP [DP a [bateria [DP os celulares]]]i ... [VP acab- *t<sub>i</sub>*]]  
           |\_\_\_\_↑inherent Case  
   c. [TP [DP os celulares]<sub>i</sub> ... [VP acaba- [DP a [bateria *t<sub>i</sub>*]]]  
                                  |\_\_\_\_↑inherent Case

In (33a), the verb assigns inherent Case to its complement DP and the noun *bateria* to the ‘whole’-DP. Hence, both DPs are frozen for purposes of A-movement and the ‘whole’-DP is realized with *de* (see (32a)). In (33b), the noun assigns inherent Case, but the verb doesn’t. The ‘whole’-DP is then realized with *de* and the bigger DP is active for purposes of A-movement, thus being able to move to the subject position (see (32b)), where it can get licensed with nominative Case. Finally, we find the opposite situation in (33c): the verb assigns inherent Case, but the noun doesn’t. The ‘whole’-DP is therefore active for purposes of A-movement and agreement, and the head of the bigger DP does not induce a minimality effect as it has become inert for purposes of A-relations; hence the agreement with the possessor in (32c).

To summarize, locative agreement and possessor raising constructions in BP share with hyper-raising constructions their reliance on inherent Case in order to circumvent a potential  $\phi$ -minimality effect induced by an intervening  $\phi$ -bearing head, as sketched in (34) below. The relevant difference among these constructions regards the number of potential interveners and accordingly, the number of inherent Cases available. Thus, whereas hyper-raising constructions typically has a single potential  $\phi$ -intervener – the embedded C of the clause immediately dominating the hyper-raised subject (see (10))–, locative agreement and possessor raising constructions may have more than one intervener (see (26b) and (27b)).



## 4. Some consequences

#### 4.1. “Extralong” A-movement

If a potential  $\phi$ -intervener may indeed be rendered inert in virtue of receiving inherent Case, we should in principle expect to find instances of “extralong” A-movement skipping several  $\phi$ -interveners, provided that the crossed  $\phi$ -bearers are all assigned inherent Case. This is not found in configurations that underlie hyper-raising for independent reasons, namely, there is no potential source of inherent Case (no predicate) located between the intervening embedded C and the embedded subject (see (10)). By contrast, locative agreement and possessor constructions do in fact allow for “extralong” A-movement if the relevant requirements regarding inherent Case are met. Take the possessor raising constructions in (35a) and (36a), for instance.

- (35) a. [os relógios]<sub>i</sub> **quebraram** a ponta do ponteiro  $t_i$  (=27a))  
           the watches broke-3PL the tip of-the arm  
           ‘The tip of the arm of the watches broke.’

b. [P<sub>Φ</sub> ... [VP quebr- [DP  $a_{Φ}$  [ponta [DP  $0_{Φ}$  [ponteiro [DP os relógios]<sub>Φ</sub>]]]]]]]  
           |                          | $_{\text{inherent Case}}$           | $_{\text{inherent Case}}$                   |  
           |                          OK  |

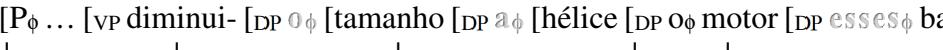
- (36) a. [esses barcos]<sub>i</sub> **diminuíram** o tamanho **da** hélice **do** motor *t<sub>i</sub>*  
 these boats diminished-3PL the size of-the fan of-the engine  
 'These boats had the size of the fans of their engine reduced.'

Recall that inherent Case assignment may be optional (for the lexical items under examination). In the particular case of (35a), the verb and the noun *ponta* ‘tip’ exercise their option of assigning inherent Case, but the noun *ponteiro* ‘arm’ does not. This has the following consequences: (i) the largest DP and its head (*a*) as well as the intermediate DP and its head (*o*) become inert for A-purposes after receiving inherent Case; (ii) the Case assigned to the intermediate DP is morphologically realized as the preposition *de*; and (iii) the most embedded DP has remained active and can then move to the subject position, triggering verbal agreement, without incurring in any minimality violation.

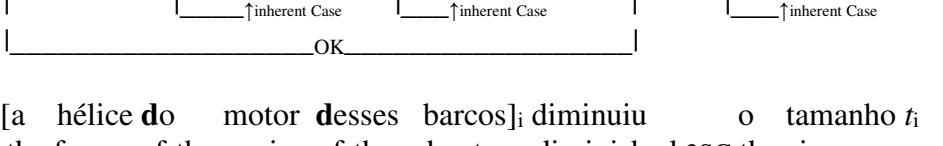
Similar considerations apply to (36a). If no inherent Case is assigned in (36b), the derivation crashes because we have four DPs and a single structural Case available (nominative). In turn, if the three higher DPs receive inherent Case, as indicated in (36b), the most embedded DP *esses barcos* ‘these boats’ can move to the subject position crossing the intervening determiners (see (36a)), because they have all become inert after receiving inherent Case.

Notice that each instance of inherent Case assignment is independent from the other; actual assignment ultimately depends on the specific feature matrix of the relevant lexical items as they enter the numeration. Thus, along with the “extralong” A-movement in (36a), we also find licit cases of shorter movements, as illustrated in (37a) and (38a), depending on which nouns assign inherent Case, as respectively shown in (37b) and (38b).

- (37) a. [o motor **desses** barcos]<sub>i</sub> diminuiu o tamanho **da** hélice *t<sub>i</sub>*  
           the engine of-these boats diminished.3SG the size of-the fan  
           ‘The engines of these boats had the size of their fans reduced.’

b. [P<sub>Ø</sub> ... [VP diminui- [DP Ø<sub>Ø</sub> [tamanho [DP a<sub>Ø</sub> [hélice [DP o<sub>Ø</sub> motor [DP **esses**<sub>Ø</sub> barcos]]]]]]]]]  


(38) a. [a hélice **do** motor **desses** barcos]<sub>i</sub> diminuiu o tamanho *t<sub>i</sub>*  
           the fan of-the engine of-these boats diminished.3SG the size  
           ‘The fans of the engine of these boats had their size reduced.’

b. [P<sub>Ø</sub> ... [VP diminui- [DP Ø<sub>Ø</sub> [tamanho [DP a<sub>Ø</sub> [hélice [DP Ø<sub>Ø</sub> motor [DP **esses**<sub>Ø</sub> barcos]]]]]]]  


Importantly, the fact that each noun may assign inherent Case independent from the other nouns does not lead to an “everything-goes” situation, as illustrated by (39a) and (40a).



- (40) a. \*[o motor desses barcos]<sub>i</sub> diminuiu o tamanho a hélice <sub>i</sub>  
the engine of-these boats diminished.3SG the size the fan

‘The engines of these boats had the size of their fans reduced.’

- b. [P<sub>Ø</sub> ... [VP diminui- [DP Ø<sub>Ø</sub> [tamanho [DP a<sub>Ø</sub> [hélice [DP Ø<sub>Ø</sub> motor [DP **esses**<sub>Ø</sub> barcos]]]]]]]]]
- 

As opposed to (37a) and (38a), where the moving DP only crosses inert interveners, the moving DP in (39a) and (40a) crosses an active D head, yielding a minimality violation. Crucially, the DP headed by *a* has not received inherent Case, as indicated by the lack of *de* preceding it, and blocks movement of the lower DP (These derivations also crash because the DP headed by *a* remains Caseless).

#### 4.2. Mixed cases

For presentational purposes, the material discussed thus far has been divided into locative agreement and possessor raising constructions. However, it should be clear that the constructions themselves are to be seen as epiphenomena resulting from circumvention of Ø-minimality through inherent Case. This amounts to saying that once the relevant requirements are satisfied, there may arise ‘mixed’ cases involving components of both locative agreement and possessor raising constructions. We have already briefly seen one such case in (26a), repeated here in (41a).

- (41) a. [esses porta-malas]<sub>i</sub> **cabem** muita coisa na lateral *t<sub>i</sub>*  
 these car-trunks fit-3PL many thing in-the lateral  
 ‘Many things can fit on the side of the trunks of these cars.’
- b. [P<sub>Ø</sub> ... [VP [muita coisa]<sub>Ø</sub> [v cabe- [DP a<sub>Ø</sub> lateral [DP **esses** porta-malas]<sub>Ø</sub>]]]]]]]
- 

As represented in (41b), the verb assigns inherent Case to each of its arguments, rendering them inert for purposes of A-relations. The ‘whole’-DP within the locative argument can then move to the subject position and trigger verbal agreement, without inducing minimality effects.

As the reader should by now expect, these mixed cases need not be restricted to one level of embedding. We may also find licit instances of mixed cases with extralong A-movement, as illustrated in (42a).

- (42) a. [esses porta-malas]<sub>i</sub> **cabem** muita coisa na parte interna da lateral *t<sub>i</sub>*  
 these car-trunks fit-3PL many thing in-the part internal of-the lateral  
 ‘Many things can fit on the internal part of the side of the trunks of these cars.’
- b. [P<sub>Ø</sub> ... [VP [muita coisa]<sub>Ø</sub> [v cabe- [DP a<sub>Ø</sub> parte interna [DP a<sub>Ø</sub> lateral [DP **esses** porta-  
 malas]<sub>Ø</sub>]]]]]]]
- 

As shown in (42b), the verb assigns inherent Case to its arguments and so does the noun *parte* ‘part’; hence, the most embedded DP can move all the way to the subject position because the crossed Ø-bearing elements do not count as proper Ø-interveners.

## 5. Movement-dependent agreement and the role of the EPP

In the preceding sections I have subsumed hyper-raising, locative agreement and possessor raising constructions in BP under the general format in (43) (see (34)), where an active DP

moves to the subject position of its clause, crossing  $\phi$ -bearing elements that do not count as proper interveners in virtue of having been assigned inherent Case.

- (43) [P <sub>$\phi$</sub>  ... [VP ... X <sub>$\phi$ -inherent Case</sub> ... DP <sub>$\phi$</sub>  ...]]  
 | \_\_\_\_\_OK\_\_\_\_\_ |

So far, I have only discussed the computations that take place within the relevant VPs. In this section, I turn to a more detailed discussion of the computations outside this domain. I will specifically be concerned with two issues.

The first one is related to an asymmetry between A-movement and *in situ* agreement. As we can see in (44)-(46) below, the DP represented in (43) can be licensed by verbal agreement just in case it undergoes A-movement to the subject position. Given that the crossed  $\phi$ -bearing elements of the *a*-sentences of (44)-(46) may be inert for A-relations, agreement in the corresponding *b*-sentences should suffice to license the relevant DP regardless of overt movement. Thus, the question is why this is not the case.

- (44) a. [os professores]<sub>i</sub> **parecem** [que  $t_i$  entraram em greve]  
 the teachers seem-3PL that entered in strike  
 'The teachers seem to have gone on strike.'  
 b. \***Parecem** [que os professores entraram em greve]  
 seem-3PL that the teachers entered in strike  
 'It seems that the teachers went on strike.'
- (45) a. [essas gavetas]<sub>i</sub> **cabem** muita coisa  $t_i$   
 these drawers fit-3PL many thing  
 'Many things can fit in these drawers.'  
 b. \***Cabem** muita coisa essas gavetas  
 fit-3PL many thing these drawers
- (46) a. [os relógios]<sub>i</sub> **quebraram** o ponteiro  $t_i$   
 the watches broke-3PL the arm  
 'The arms of the watches broke.'  
 b. \***Quebraram** o ponteiro os relógios.  
 broke-3PL the arm the watches

Interestingly, the ungrammaticality of the *b*-sentences in (44)-(46) contrasts with the garden-variety unaccusative configuration in (47), where verbal agreement is not dependent on movement of the theme:

- (47) **Cabem** muitos livros nesta gaveta.  
 fit-3PL many books in-this drawer  
 'Many books can fit in this drawer.'

The second issue I would like to address has to do with the existence of additional  $\phi$ -bearing elements intervening between P and VP in (43). In particular, Chomsky (1995, 2001) has argued that raising, as well as unaccusative verbs are associated with a vP layer whose head is  $\phi$ -incomplete. Assuming this to be essentially correct, (43) is to be updated as in (48).

- (48) [P <sub>$\phi$</sub>  ... [vP **v <sub>$\phi$</sub>**  [VP ... X <sub>$\phi$ -inherent Case</sub> ... DP <sub>$\phi$</sub>  ...]]]]  
 | \_\_\_\_\_\*\_\_\_\_\_ |

(48) shows that the light verb should in principle count as a proper intervener for the types of A-relations discussed here. Moreover, it is reasonable to assume that its intervention cannot be circumvented via inherent Case, for vP is not an argument of a lexical head. Thus, the question is how exactly the light verb can be disregarded in the establishment of a  $\phi$ -relation between P and DP in (48).

Recall that a crucial assumption in the analysis of hyper-raising reviewed in section 2 was Chomsky's (2008) proposal that clausal  $\phi$ -features are hosted by C and T only bears an EPP feature. Bearing this assumption in mind, suppose that the EPP-feature is not  $\phi$ -related<sup>7</sup> and may be optional in a (partial) null subject language such as BP (see e.g. Viotti 2007). That being so, consider the derivational stage in (49), where T exercises its EPP option:

- (49) a.  $[\text{TP} \text{ T}_{\text{EPP}} [\text{vP} \text{ } v_\phi \text{ [VP} \dots X_{\phi\text{-inherent Case}} \dots \text{DP}_\phi \dots ]]]$   
b.  $[\text{TP} \text{ DP}_\phi [\text{T}^* \text{ T}_{\text{EPP}} [\text{vP} \text{ } v_\phi \text{ [VP} \dots X_{\phi\text{-inherent Case}} \dots t \dots ]]]]$

(49a) abstractly depicts the structure underlying the *b*-sentences of (44)-(46). The EPP must be checked and if the relevant DP does not move to check it, the derivation crashes. Crucially, movement of the DP represented in (49b) does not incur in any minimality violations. First, the crossed DPs in (44a)/(45a)/(46a) (= X in (49)) do not count as proper interveners, as they have been assigned inherent Case. And second, if EPP-checking is not  $\phi$ -related (see footnote 7), the  $\phi$ -features of the light verb in (49a) are incapable of blocking movement of the depicted DP. When the next  $\phi$ -probe (C) is later inserted in the derivation, as shown in (50a), the DP is outside the domain of the light verb and can establish a  $\phi$ -agreement relation with C, as shown in (50b), triggering verbal agreement.

- (50) a. [CP C<sub>Φ</sub> [TP DP<sub>Φ</sub> [T' T<sub>EPP</sub> [v<sub>P</sub> v<sub>Φ</sub> [VP ... X<sub>Φ-inherent Case</sub> ... t ... ]]]]]]  
 b. [CP C<sub>Φ</sub> [TP DP<sub>Φ</sub> [T' T<sub>EPP</sub> [v<sub>P</sub> v<sub>Φ</sub> [VP ... X<sub>Φ-inherent Case</sub> ... t ... ]]]]]  
           |OK\_|

If T does not bear the EPP-feature, as represented in (51) below, the relevant DP remains *in situ* and the φ-features of the light verb prevent C from agreeing with and Case-marking DP; hence the ungrammaticality of the *b*-sentences of (44)-(46).

- (51) [CP C<sub>Φ</sub> [TP T [vP v<sub>Φ</sub> [VP ... X<sub>Φ-inherent Case</sub> ... DP<sub>Φ</sub> ... ]]]]

Notice that  $v$  can in principle agree with DP in (51), but this is of no avail, as  $v$  has an incomplete  $\phi$ -set (presumably just number) and is unable to value the Case of the DP. If this approach is correct, sentences such as (47) must be analyzed as involving agreement between  $v$  and the inherently Case-marked theme, followed by agreement in number between C and  $v$ ; the person feature of C is then assigned a default value (third), as sketched in (52) (see Nunes 2007 for relevant discussion).

- (52) [CP C[P:dflt; N:PL] φ [TP T [V[N:PL] [VP [muitos livros] [V: cabe- n[nesta gaveta]]]]]

<sup>7</sup> For concreteness, let us assume with Pesetsky and Torrego (2001) that EPP-checking involves checking a Tns-feature on DPs.

Evidence for this proposal is provided by data such as (53) and (54), which embed a structure like (47) in a standard raising configuration.<sup>8</sup>

- (53) a. Parece(m) caber muitos livros nesta gaveta.  
seem(3PL) fit many books in-this drawer  
b. \*Parece(m) muitos livros caber nesta gaveta.  
seem(3PL) many books fit in-this drawer

c. Muitos livros parecem caber nesta gaveta.  
many books seem.3PL fit in-this drawer  
'Many books seem to fit in this drawer.'

(54) a. \*Parece(m) essas gavetas caber muito livro.  
seem(3PL) these drawers fit many book  
b. Essas gavetas parecem caber muito livro.  
these drawers seem.3PL fit many book  
'Many books seem to fit in this drawer.'

The fact that the theme argument of *caber* in (53a) has not moved indicates that it has received inherent Case. The lower light verb may agree in number with the theme and then serve as the goal for the light verb associated with the raising verb. When C is later merged, it may or may not agree in number with higher light verb and this is what underlies the double possibility of agreement in (53a). If it agrees, it has its number feature valued as plural and its person feature receives the default third person value, as sketched in (55a) below. On the other hand, if neither the light verbs nor C participate in agreement relations, their  $\phi$ -features receive default values, as shown in (55b), and the matrix verbs surfaces with default third person singular agreement.<sup>9</sup>



As for (53b), the movement of the theme indicates that it has not received inherent Case and that the embedded T has EPP, as shown in (56a) below. In such a configuration, the higher  $v$  can agree with the embedded subject but cannot value its Case because it is  $\phi$ -incomplete. By contrast, C could value the Case of the embedded subject, but cannot agree with it due to the intervention of the higher light verb. The derivation then crashes because the embedded subject does not have its Case valued. Like what we saw earlier, if the matrix T has EPP, movement of the embedded subject to check it places the subject in a position accessible to C, as sketched in (56b), yielding the sentence in (53c).

- (56) a. [CP C<sub>Φ</sub> [ T [<sub>VP</sub> v<sub>Φ</sub> [VP parece- [[muitos livros] T<sub>EPP</sub> [<sub>VP</sub> v<sub>Φ</sub> [VP *t* [cabe- ...  
                   |                  \*                  |  
                   OK                  |  
                   |  
                   b. [CP C<sub>Φ</sub> [[muitos livros] T<sub>EPP</sub> [<sub>VP</sub> v<sub>Φ</sub> [VP parece- [*t* T<sub>EPP</sub> [<sub>VP</sub> v<sub>Φ</sub> [VP *t* [cabe- ...  
                   |                  OK                  |  
                   |

<sup>8</sup> For a discussion of the hyper-raising counterparts of (53) and (54), see Nunes 2016.

<sup>9</sup> Alternatively, C may agree in number and person with a null expletive in Spec of TP.

The same considerations apply, *mutatis mutandis*, to (54). Movement of the prepositionless locative to the embedded subject position in (54a) shows that it has not received inherent Case, but cannot agree with the matrix C and have its Case valued *in situ* due to the intervention of the matrix light verb. Further movement to check the EPP of the matrix T circumvents the minimality problem of (54a), allowing the moved locative to have its Case valued by C, yielding (54b).

This approach fits quite snugly with Nunes's (2010) proposal that A-minimality should be relativized with respect to the features/relations involved. From this perspective, the contrast between the *a*- and *b*-sentences of (44)-(46), for instance, mimics the contrast between (57a) and (58a) in BP:



In (57a) the subject moves to establish a  $\theta$ -relation with the matrix light verb, as represented in (57b)<sup>10</sup>, and the  $\phi$ -features of C do not count as proper interveners for such an A-relation. In (58a), on the other hand, the matrix verb is passivized and consequently, there is no external  $\theta$ -role assignment that could trigger movement of the embedded subject. In turn, the passive participial head is associated with  $\phi$ -features (gender and number) but cannot enter into an agreement relation with the embedded subject matrix due to the intervention of the embedded C, as shown in (58b). In other words, the satisfaction of the EPP-feature of T in (49b) and the licensing of the external  $\theta$ -role of the light verb in (57b) pattern alike in that the movements resorted to are oblivious to intervening  $\phi$ -bearing elements.

## 6. Concluding remarks

In this paper I have argued that three different constructions involving unorthodox instances of A-movement in BP, namely, hyper-raising, locative agreement, and possessor raising constructions, as respectively illustrated in (59) below, are to be analyzed along the lines of English raising constructions such as (60): In all these cases, the relevant intervening element (the  $\phi$ -bearing embedded C head in (59a), the theme argument in (59b), the larger DP in (59c), and the experiencer in (60)) is taken to be assigned inherent Case, thereby becoming inert for purposes of Relativized Minimality computations involving A-relations.

- (59) a. [os alunos]<sub>i</sub> acabaram que  $t_i$  perderam o ônibus  
the students finished-3PL that lost-3PL the bus  
'The students ended up missing the bus.'  
b. [essas gavetas]<sub>i</sub> cabem muita coisa  $t_i$

<sup>10</sup> For evidence that the embedded subject in sentences like (57a) is a trace of an instance of movement to a thematic position along the lines of Hornstein's (1999) Movement Theory of Control, see e.g. Ferreira 2000, 2009, Rodrigues 2004, Nunes 2008, and Petersen 2011.

- these drawers fit-3PL many thing  
 'Many things can fit in these drawers.'  
 c. [os relógios]<sub>i</sub> quebraram o ponteiro *t<sub>i</sub>*  
 the watches broke-3PL the arm  
 'The arms of the watches broke.'

- (60) Mary<sub>i</sub> seems to him *t<sub>i</sub>* to be nice

Assuming that inherent Case is the underlying property that allows constructions such as (59) and (60), there arises the question of *why* inherent Case should render its bearer oblivious to  $\phi$ -relations across it. I do not have a full answer to this question, but would like to call the reader's attention to the crucial aspect that distinguishes inherent from structural Case, namely, that inherent Case is intrinsically linked to  $\theta$ -role assignment (Chomsky 1986). Interestingly, Nunes (2010) has argued that movement to a thematic position across C under Hornstein's (1999) Movement Theory of Control does not induce a minimality violation, for the relevant features/relations are distinct in nature, as illustrated in (61) below (see also (57)). That is, a  $\phi$ -bearing element should in principle not count as a proper intervener for an A-movement triggered by  $\theta$ -reasons. This raises the possibility that it is the  $\theta$ -related property of inherent Case that makes it transparent for  $\phi$ -relations across it. Whether this proves to be a viable approach remains to be seen.

- (61) a. John tried to solve the problem.  
 b. [<sub>VP</sub>  $v\theta$  [VP tried [CP C $\phi$  [John to solve the problem]]]]  
 ↑ \_\_\_\_\_ |

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