Relativizing Minimality for A-movement: ϕ- and θ-relations*

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Abstract: This paper discusses two arguments raised against Hornstein's (1999, 2001) Movement Theory of Control (*MTC*): Landau's (2003) contrast between raising and passivized subject control predicates and Culicover and Jackendoff's (2001) contrast between control and raising within nominals. I show that rather than counter-arguments, the data they present can actually be analyzed as arguments in favor of the MTC. More specifically, I argue that the puzzling contrasts discussed by these authors can be adequately accounted for within the MTC if minimality computations regarding A-movement are relativized in terms of ϕ- or θ-relations.

Keywords: Movement Theory of Control, relativized minimality, A-movement, movement to θ-positions

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1. Introduction

The abandonment of D-Structure in the Minimalist Program (see Chomsky 1995) paved the way for one of the most influential (and controversial) proposals in the framework, namely, the Movement Theory of Control – *MTC* (see e.g. Hornstein 1999, 2001, 2003, and Boeckx and Hornstein 2006). According to the MTC, the theoretical construct analyzed as an obligatorily controlled PRO in the *GB* model is reanalyzed as a trace (a copy) left behind by the movement of the "controller". From this perspective, a subject control sentence such as (1a), for example, is schematically derived as in (1b), where *John* moves from the embedded subject position to the matrix [Spec,vP], where it receives an additional θ-role, before finally landing in the matrix [Spec,TP].

(1) a. John tried to kiss Mary.

b. [$_{TP}$ John$_i$ [$_{vP}$ t_i tried [$_{CP}$ C [$_{IP}$ t_i to [$_{vP}$ t_i kiss Mary]]]]]

In this paper I will discuss a recurrent type of criticism that has been raised against the MTC. Based on the premise that the only difference between control and raising constructions within the MTC is that the former involves A-movement to a θ-position, some critics have concluded that dissimilarities between control and raising necessarily count as lethal empirical evidence against the MTC. I will particularly focus on two instantiations of this criticism. The first was voiced by Landau (2003), based on a specific instantiation of Visser's Generalization (see Bresnan 1982). His reasoning runs as follows: If under the MTC the only difference between a subject control sentence such as (1a) and a raising sentence such as (2a) below is that the former involves an additional

movement to a θ-position, this difference should disappear if the relevant θ-position gets eliminated. Assuming that this is what happens when the subject control predicate is passivized, Landau claims the MTC overgenerates by incorrectly ruling in the passive sentence in (3a) under the derivation sketched in (3b).

(2) a. John seems to love Mary.

b. [$_{TP}$ John$_i$ seems [$_{TP}$ t_i to [$_{vP}$ t_i love Mary]]]

(3) a. *John was tried to kiss Mary.

b. *[$_{TP}$ John$_i$ was [$_{PpleP}$ tried [$_{CP}$ C [$_{IP}$ t_i to [$_{vP}$ t_i kiss Mary]]]]]

The second instantiation of this type of criticism that I will discuss here was brought up by Culicover & Jackendoff (2001), based on the contrast between control and raising involving nominals in English, as illustrated in (4) below. If *John* can move from the within the complement of control nominal in (4a), they reason, why can this not happen in (4b), with a nominal derived from a raising verb?

(4) a. John's attempt to leave

b. *John's appearance to leave

As emphatically stressed by its advocates (see in particular Hornstein 2003, Boeckx & Hornstein 2003, 2004, and Boeckx, Hornstein, & Nunes forthcoming), the premise underlying this type of criticism is just false. The MTC is not a *raising* theory of control,

but – as the name says – a *movement* theory of control. The fact that raising and control constructions share a common derivational profile (they employ A-movement) does not entail that in virtue of this common property, they have no differences and must behave alike with respect to any other property. This becomes transparently clear when we make a comparison with A'-movement. To say that relative and interrogative clauses are both derived via A'-movement does not at all mean that they have the same behavior in every circumstance.

Putting aside the fact that the criticisms above are based on a false premise, I will argue below that the paradigm in (1)-(4) can actually be interpreted as an argument *in favor of* the MTC. The paper is organized as follows. In section 2, I will broaden the empirical domain of the discussion of (1)-(3) by bringing data from Brazilian Portuguese (henceforth, *BP*) into the picture. BP is particularly interesting for the issues under consideration in that it also allows control and raising involving embedded finite clauses (finite control and hyper-raising, respectively) and these additional possibilities shed light on the unacceptability of the raising constructions in (3a) and (4b). In sections 3 and 4, I argue that the data in (1)-(3) and the analogous cases involving finite clauses in BP can receive a uniform account if minimality for A-movement is relativized in terms of ϕ- and θ-relations. Section 5 shows that this version of relativized minimality also accounts for control and raising within nominals once we take into account the role of inherent Case in circumventing ϕ-minimality. Finally, section 6 presents some concluding remarks.

2. Finite Control and Hyper-raising in Brazilian Portuguese

The literature on BP syntax has been unequivocal in pointing out that its referential[1] null subjects are considerably different from referential null subjects of typical *pro*-drop languages.[2] Particularly relevant for our current discussion is the work by Ferreira (2000, 2009) and Rodrigues (2002, 2004) (see also Nunes 2008). Assuming the MTC, they convincingly argue that null subjects in BP pattern like obligatorily controlled PRO and should accordingly be analyzed as traces (deleted copies) left by movement of the "antecedent". As illustrated in (5), a null subject in BP mimics the behavior of a controlled PRO/A-trace in that it requires an antecedent (cf. (5a)) which must be in a c-commanding (cf. (5b)) and local (cf. (5c)) configuration; it requires a bound-reading when anteceded by an *only*-DP (cf. (5d)); it only supports sloppy readings under ellipsis (cf. (5e)); and it obligatorily triggers *de se* interpretation in "unfortunate"-contexts (cf. (5f)):

(5) a. *Ø comprou um carro novo.
bought a car new
'She/he bought a new car.'

b. *O pai d[a Maria]$_i$ acha [que Ø$_i$ está grávida]

[1] The term *referential* is employed here to exclude null expletives, null "arbitrary" third person subjects, and the result of topic deletion, which are still allowed in BP.

[2] For references and relevant discussion, see e.g. Galves 1987, 1993, 2001, Duarte 1995, Figueiredo Silva 1996, Kato 1999, 2000, Negrão 1999, Ferreira 2000, 2009, Modesto 2000, Rodrigues 2002, 2004, Martins & Nunes 2005, 2009, Nunes 2008, and the collection of papers in Kato & Negrão 2000.

the father of-the Maria thinks [that is pregnant-FEM]

'Maria's father thinks she is pregnant.'

c. *Ela$_i$ disse [que ele acha [que **Ø**$_i$ está grávida]]

she said that he thinks that is pregnant-FEM

'She$_i$ said that he thinks she$_i$ is pregnant.'

d. Só o João acha que **Ø** vai ganhar a corrida.

only the João thinks that goes win the race.

'Only João is an x such that x thinks that x will win the race.'

NOT: 'Only João is an x such that x thinks that he, João, will win the race.'

e. O João está achando que **Ø** vai ganhar a corrida e

the João is thinking that goes win the race and

o Pedro também está.

the Pedro too is

'João thinks that that he's going to win the race and Pedro does, too (think that he, Pedro, is going to win the race).'

NOT: 'João thinks that that he's going to win the race and Pedro does, too (think that he, João, is going to win the race).'

f. O infeliz acha que **Ø** devia receber uma medalha.

the unfortunate thinks that should receive a medal

'The unfortunate thinks the he, himself, should receive a medal.'

If null subjects in BP are traces, one has to account for how the relevant embedded subject can move out of a finite domain, which is generally associated with Case-

checking/valuation. Within Chomsky's (2000) Agree-based system, for example, a finite T is able to value a Case feature in virtue of being ϕ-complete. Thus, one has to determine why the embedded subject of a BP sentence such as (6), for instance, is still active for purposes of A-movement despite the fact that the embedded T is finite.

(6) a. Ele disse que comprou um carro.
he said that bought a car
'He$_i$ said that he$_i$ bought a car.'

b. [$_{TP}$ ele$_i$ [$_{vP}$ t$_i$ [$_{VP}$ disse [$_{CP}$ que [$_{TP}$ t$_i$ [$_{vP}$ t$_i$ [$_{VP}$ comprou um carro]]]]]]]

Here I will assume the gist of Ferreira's (2000, 2009) proposal, with the refinements made in Nunes (2008). Ferreira proposes that with the weakening of verbal agreement morphology in BP (see e.g. Duarte 1995), its finite Ts came to be optionally specified with a complete or an incomplete set of ϕ-features. When associated with a complete ϕ-set, T values the Case of its subject, freezing it for purposes of A-movement; on the other hand, when T is associated with an incomplete ϕ-set, it cannot value the Case of its subject, which is then free to undergo further A-movement and eventually have its Case-feature valued. According to this proposal, a sentence like (6a) is derived when the embedded T takes the ϕ-incomplete option.

Nunes (2008) has reinterpreted the ambiguity proposed by Ferreira in terms of how the person and number features of T are combined in BP. Crucially, (colloquial) BP has only one form that distinctively encodes person and number – the syncretic first person singular form; all the other forms involve default specification for number and/or person,

as illustrated in Table 1.

Table 1: Verbal agreement paradigm in (colloquial) Brazilian Portuguese		
cantar 'to sing': indicative present		
eu (I)	*canto*	P:1.N:SG
você (you.SG) *ele* (he) *ela* (she) *a gente* (we)	*canta*	P:default; N:default (= 3SG)
vocês (you.PL) *eles* (they.MASC) *elas* (they.FEM)	*cantam*	P:default; N:PL (= 3PL)

Given the paradigm in Table 1, Nunes proposes that finite Ts in BP may enter the numeration specified for number and person or for number only. When T is only specified for number, wellformedness conditions in the morphological component trigger the addition of the feature person in accordance to the redundancy rule in (7).

(7) When T is only specified for number (N):

(i) Add [P:1], if N is valued as SG;

(ii) otherwise, add [P:default].

From this perspective, the embedded T in (6) has only a number feature and is, therefore,

unable to value the Case feature of the subject in its Spec. The subject must therefore move to the matrix clause in search of Case valuation and the surface third person specification for the embedded T in (6) is obtained in the morphological component in consonance with (ii).

Once A-movement out of finite domains is in principle allowed in BP, the null hypothesis is that such movement need not always target a θ-position, as in (6), but can also target a non-θ-position. Ferreira (2000, 2009) shows that this prediction is indeed borne out (see also Duarte 2004, and Martins & Nunes 2005, 2009, forthcoming). BP does allow instances of hyper-raising in the sense of Ura 1994, as illustrated in (8a), which should be possible in Nunes's (2008) proposal if the embedded T is only specified for number in the numeration, as represented in (8b).

(8) *Brazilian Portuguese*:

a. Eles acabaram que perderam o ônibus.
they finished-3PL that missed-3PL the bus
'It turned out that they missed the bus.'

b. $[_{TP}$ they$_i$ $T_{N/P}$ $[_{VP}$ turned-out [that $[_{TP}$ t_i T_N $[_{vP}$ t_i missed the bus]]]]]

Evidence that constructions such as (8a) do involve A-movement of the subject out of the embedded clause is provided by the data in (9) below.[3] (9a) shows that the matrix and the embedded subject cannot be separated by an island, indicating that we have an

[3] See Ferreira 2000, 2009, Martins & Nunes 2005, 2009, forthcoming, and Nunes 2008 for further evidence and relevant discussion.

instance of movement. In turn, (9b) involves movement of an idiom chunk, showing that we are dealing with A- and not A'-movement.

(9) a. *Alguém$_i$ parece que o livro [que t$_i$ leu] não era bom
someone seems that the book that read not was good
'It seems that the book that someone read was not good.'

b. **[A vaca]**$_i$ parece que t$_i$ **foi pro brejo**.
the cow seems that went to-the swamp
Idiomatic reading: 'It seems that things went bad.'

Once BP allows A-movement out of finite domains to both θ- and non-θ-positions, respectively yielding finite control and hyper-raising constructions, the unacceptability of a sentence such as (10a) below becomes rather mysterious. Given that the embedded T could in principle have just a number feature in the syntactic component, as represented in (10b), movement of the embedded subject should in principle yield a grammatical result, just like what we saw in (6) and (8).

(10) *Brazilian Portuguese*:

a. *Os meninos foram ditos que não fizeram a tarefa.
the boys were said-MASC-PL that not did-PL the homework
'It was said that the boys didn't do their homework.'

b. *[$_{TP}$ [os meninos]$_i$ T$_{N/P}$ foram [$_{VP}$ ditos [que [$_{TP}$ *t$_i$* T$_N$ não fizeram a tarefa]]]]

The reader might have noticed that the paradigm in (6), (8), and (10) replicates in the finite domain what Landau (2003) has observed with respect to infinitival complements in English data such as (1a), (2a), and (3a), repeated in (11) below. In both cases, a passivized subject control predicate does not allow movement of the embedded subject to the matrix clause.

(11) a. John tried to kiss Mary.

b. John seems to love Mary.

c. *John was tried to kiss Mary.

Recall that Landau's point was that if A-movement of *John* is possible in the control case in (11a) and in the raising case in (11b), it should also be licit in (11c), for passivization of the subject control verb in (11a) should result in a configuration analogous to the raising one in (11b). In other words, Landau's argument against the MTC is based on the assumption that the licensing conditions for the relevant A-movement to apply in (11a-c) are the same. The fact that (10a) is ungrammatical in BP calls this assumption into question. Given the independent lack of referential null subject in BP and the possibility of hyper-raising in the language, the unacceptability of (10a) suggests that passivization of a subject control predicate may not yield a raising configuration as Landau tacitly assumes. This in turn leads us to the unavoidable conclusion that although the ungrammaticality of (10a) and (11c) calls for an explanation, it does not constitute by itself a deadly counterargument to the MTC, as many came to

believe.

The obvious question then is why movement of an embedded subject is blocked when the matrix subject control verb is passivized. This is the topic of next section.

3. Relativizing A-movement

Let us start our discussion by considering the derivations of (11a-c), repeated below, more closely. Assuming with Chomsky (2000, 2001) that Case-valuation is contingent on ϕ-agreement and that passive participial heads are associated with (defective) ϕ-features, the derivational step preceding the movement of the embedded subject to the matrix clause in these sentences is as sketched in (12b), (13b), and (14b), respectively.

(12) a. John tried to kiss Mary.

b. [$_{vP}$ **v$_{\theta}$** [$_{VP}$ tried [$_{CP}$ C [$_{TP}$ John to kiss Mary]]]]

(13) a. John seems to love Mary.

b. [$_{TP}$ **T$_{\phi}$** [$_{VP}$ seems [$_{TP}$ John to love Mary]]]

(14) a. *John was tried to kiss Mary.

b. [$_{PpleP}$ ***-en*$_{\phi}$** [$_{VP}$ tried [$_{CP}$ C [$_{TP}$ John to kiss Mary]]]]

In (12b), the trigger for the movement of *John* is θ-related: the matrix light verb needs to assign its external θ-role. By contrast, movement in (13b) and (14b) is ϕ-related: it is motivated by agreement in ϕ-features with the finite T in (13b) and with passive

participial head in (14b).

Let us examine the instances of A-movement triggered by ϕ-agreement, first. One salient difference between the structure where such movement is allowed (cf. (13b)) and the one where it is not (cf. (14b)) has to do with the categorial nature of the embedded clause. Under standard assumptions, raising verbs select for TP, whereas control verbs select for CP. In other words, it is not the case that (13a) and (14a) have the same structural configuration and this difference may be what underlies their contrast. Assuming with Chomsky (2008) that clausal ϕ-features are actually hosted by C (they are associated with T only by inheritance from C), I would like to propose that the agreement relation between *-en* and *John* in (14b) is blocked due to the intervention of C, as represented in (15).

(15) $[_{PpleP}$ *-en*$_{\phi}$ $[_{VP}$ tried $[_{CP}$ **C**$_{\phi}$ $[_{TP}$ John$_{\phi}$ to kiss Mary]]]]

z_-----*------m

More precisely, if movement of *John* to [Spec,PpleP] is to be anchored on ϕ-agreement with the participial head, the intervening ϕ-features of C should induce a minimality violation. Once *John* is prevented from undergoing A-movement, it cannot have its Case-feature checked/valued (the embedded C/T is not a Case checker/assigner) and the derivation crashes.

By contrast, (13b) involves no CP layer in the embedded clause. Thus, movement of *John* couched on ϕ-agreement is licit, for there is no intervening ϕ-feature bearer, as sketched in (16).

(16) [$_{TP}$ John$_i$ T$_\phi$ [$_{VP}$ seems [$_{TP}$ t_i to love Mary]]]

▲ _---- OK ----m

Similar considerations apply to raising out of the complement of a passivized ECM verb, as illustrated in (17).

(17) a. John was expected to kiss Mary.

b. [$_{PpleP}$ ***-en***$_\phi$ [$_{VP}$ expected [$_{TP}$ John to kiss Mary]]]

Under standard assumptions, ECM verbs take projections smaller than CP. Once C is out of the game, there is no ϕ-intervener to block the agreement between the participial head and the embedded subject and the derivation can converge, as desired:

(18) [$_{PpleP}$ John$_i$ *-en*$_\phi$ [$_{VP}$ expected [$_{TP}$ t_i to kiss Mary]]]

▲ ----- OK -----m

Independent evidence for this approach is provided by "long passives" in German such as (19) below. Wurmbrand (2001) uses contrasts such as the one in (20) between an impersonal and a long passive to argue that in long passives, the matrix control verb is a restructuring verb that takes VP for a complement. Once these complements involve just the lower shell of the verbal skeleton, there is no appropriate antecedent to license the anaphor; hence, the unacceptability of (20b).

(19) *German* (Wurmbrand 2001):

dass die Traktoren zu reparieren versucht wurden

that the tractors-NOM to repair tried were

'that they tried to repair the truck and the tractors.'

(20) *German* (Wurmbrand 2001):

a. Es wurde versucht [PRO$_i$ sich$_i$ den Fisch mit Streifen vorzustellen]

it was tried SELF the fish with stripes-ACC to-imagine

'They tried to imagine what the fish would look like with stripes.'

b. *weil {sich} der Fisch {sich} vorzustellen versucht wurde

since SELF the fish-NOM SELF to-imagine tried was

'since they tried to recall the image of the fish'

Assuming that Wurmbrand's analysis of long passives is correct, the relevant derivational step underlying (19) is as sketched in (21) (with English words for convenience). ϕ-agreement with the passive participial head can license A-movement of the embedded object, for there is no intervening element that hosts ϕ-features.[4]

(21) [$_{PpleP}$ -*en*$_{\phi}$ [$_{VP}$ tried [$_{VP}$ repair [the trucks]]]]

z_----- OK -----m

[4] For an extension of the proposal developed here to impersonal passives, see Boeckx, Hornstein, & Nunes forthcoming.

Let us now return to the case of A-movement for θ-purposes in (12), repeated here in (22).

(22) a. John tried to kiss Mary.

b. [$_{vP}$ **v$_{\theta}$** [$_{VP}$ tried [$_{CP}$ C [$_{TP}$ John to kiss Mary]]]]

Given the blocking role played by C with respect to ϕ-agreement (cf. (15)), one wonders why it does not act as a proper intervener for the movement of *John* in (22). After all, C gets θ-marked as it is the head of the complement of the matrix lexical verb. Following Abels (2003) and Grohmann (2003), I assume that movement cannot be "too local". More specifically, I would like to suggest that a given element cannot resort to movement to check two θ-roles inside the same thematic domain, for reasons of anti-locality. Assuming that the complex v-VP counts as one thematic domain, CP cannot move to establish a θ-relation with the matrix light verb in the case at hand, because it has already established one such relation within the same domain, namely, the one with the matrix lexical verb *try*. Once CP is not an eligible candidate to receive the unassigned θ-role of the matrix light verb in (22b), C does not count as a proper intervener and movement of the embedded subject can proceed without problems, as represented in (23).

(23) [$_{vP}$ John$_i$ [**v** [$_{VP}$ tried [$_{CP}$ C [$_{TP}$ t_i to kiss Mary]]]]]

▲ ––––– OK –––––m

That C may or may not count as a proper intervener depending on whether we are dealing with ϕ- or θ-relations is illustrated by the representations in (24) below, which were actually taken by van Craenenbroek, Rooryck, & Wyngaerd (2005) as another serious problem for the MTC. If *John* can move in the control structure in (24a) and the raising structure in (24b) because it does not have its Case-feature checked – so their reasoning goes – it should also move in (24c), contrary to fact.

(24) a. [John$_i$ tried [t_i to win]]

b. [John$_i$ is likely [t_i to win]]

c. *[John$_i$ is important [t_i to win]]

Again, the fact that the three sentences above can be derived through A-movement does not entail that the relevant movements have the same motivations (and restrictions) or that the structural configurations are kept constant. In the case of (24), movement of *John* is sanctioned by θ-reasons in (24a), but by ϕ-agreement reasons in (24b) and (24c). Moreover, under standard assumptions, the control and the impersonal constructions in (24a) and (24c) involve CP infinitivals, whereas the raising construction in (24b) involves a TP infinitival, as respectively shown in (25) below. Once these points are disentangled, it is easy to see that movement of *John* is legitimate in (25a) (the ϕ-features of C do not induce an intervention effect for θ-related movements) and in (25b) (there is no intervener bearing ϕ-features), but not in (25c), for the ϕ-features of C induce a minimality effect.

(25) a. [$_{vP}$ v_θ [$_{VP}$ tried [$_{CP}$ C_ϕ [$_{TP}$ John to win]]]]

▲_----- OK -----m

b. [$_{TP}$ is-T_ϕ likely [$_{TP}$ John$_\phi$ to win]]

▲
_--- OK ----m

c. [$_{TP}$ is-T_ϕ important [$_{CP}$ C_ϕ [$_{TP}$ John$_\phi$ to win]]]

▲_------- * -------m

An illuminating piece of evidence for this relativization of A-minimality in terms of ϕ- and θ-relations involves the passivization of object control verbs. As is well known, object control verbs do allow passivization, as exemplified in (26), contrary to subject control verbs (cf. (14a)).

(26) John was persuaded to kiss Mary.

The puzzling contrast between (14a) and (26) receives a straightforward explanation if we consider each of the relevant A-relations *John* in (26) participates in, as the derivation proceeds. The first relevant relation is the one illustrated in (27).

(27) [$_{VP}$ persuaded$_\theta$ [$_{CP}$ C [$_{TP}$ John to kiss Mary]]]

It is standardly assumed that object control verbs select for CPs. However, this does not create any problems for the movement of the embedded subject in (27), for it is motivated by θ-considerations, not ϕ-agreement. Hence, the ϕ-features of C do not block the

movement of *John*, as represented in (28).

(28) [$_{VP}$ John$_i$ persuaded$_\theta$ [$_{CP}$ C$_\phi$ [$_{TP}$ t_i to kiss Mary]]]

▲ _----- OK -----m

Later on, when the passive participial head is introduced, as shown in (29a) below, *John* has already moved out of the CP and can therefore enter into an agreement relation with *-en* and move to the [Spec, PpleP], as there are no intervening elements bearing ϕ-features (cf. (29b)). In other words, movement for θ-reasons in (28) provides an escape hatch for *John* to enter into ϕ-agreement relations later in the derivation.

(29) a. [$_{PpleP}$ *-en*$_\phi$ [$_{VP}$ John$_i$ persuaded [$_{CP}$ C [$_{TP}$ t_i to kiss Mary]]]]

z_OK-m

a. [$_{PpleP}$ John$_i$ *-en*$_\phi$ [$_{VP}$ t_i persuaded [$_{CP}$ C [$_{TP}$ t_i to kiss Mary]]]]

▲ -- OK --m

To summarize, rather than being a problem for the MTC, as Landau (2003) claimed, the lack of passivization of subject control verbs can be seen as an argument in its favor. If the MTC is correct, A-movement can be motivated by θ-considerations or ϕ-agreement. Therefore, it is not at all surprising from the point of view of the MTC that minimality for A-movement should be sensitive to either of these relations.

4. Circumventing ϕ-minimality through Inherent Case

Let us now return to the contrast between passivization involving finite control and hyper-raising in Brazilian Portuguese, as illustrated in (30).

(30) *Brazilian Portuguese*:

a. *Os meninos foram ditos que não fizeram a tarefa.
the boys were said-MASC-PL that not did-PL the homework
'It was said that the boys didn't do their homework.'

b. Os meninos parecem que não fizeram a tarefa.
the boys seem-PL that not did-PL the homework
'It seems that the boys didn't do their homework.'

From the perspective of the relativized minimality approach developed in section 3, the unacceptability of (30a) is not surprising. Given the configuration in (31) below (with English words), movement of the embedded subject for purposes of ϕ-agreement is blocked by the intervening ϕ-features of C.

(31) [$_{PpleP}$ [the boys]$_i$ [$_{Pple'}$ *-en*$_{\phi}$ [$_{VP}$ said [$_{CP}$ **that**$_{\phi}$ [$_{TP}$ t_i didn't do the homework]]]]]

▲----------*---------m

The unexpected case is actually the hyper-raising construction in (30b), which also involves A-movement for ϕ-agreement purposes across a ϕ-feature bearing C, as represented in (32). The question then is why the movement depicted in (32) does not yield a minimality effect.

(32) [$_{TP}$ [the boys]$_i$ T$_{\phi}$ [$_{VP}$ seem [$_{CP}$ **that**$_{\phi}$ [$_{TP}$ t_i didn't do the homework]]]]

▲———————————m

Nunes (2008) proposes that the contrast between (30a) and (30b) is related to an interesting correlation between movement of the embedded subject and movement of the embedded clause. As illustrated in (33)-(35), movement of the embedded subject for purposes of ϕ-agreement is possible just in case the embedded CP cannot move.

(33) *Brazilian Portuguese*:

a. Parece [que os meninos fizeram a tarefa]

seems that the boys did the homework

'It seems that the boys did their homework.'

b. *[[que os meninos fizeram a tarefa]$_i$ parece t_i]

that the boys did the homework seems

'It seems that the boys did the homework.'

c. [[os meninos]$_i$ parecem que t_i fizeram a tarefa]

the boys seem that did the homework

'The boys seem to have done their homework.'

(34) *Brazilian Portuguese*:

a. Acabou [que os estudantes viajaram mais cedo]

finished that the students traveled more early

'It turned out that the students traveled earlier.'

b. *[[que os estudantes viajaram mais cedo]$_i$ acabou t_i]

that the students traveled more early finished

'It turned out that the students traveled earlier.'

c. [[os estudantes]$_i$ acabaram que t_i viajaram mais cedo]

the students finished that traveled more early

'The students ended up traveling earlier.'

(35) *Brazilian Portuguese*:

a. Não foi dito [que os meninos fizeram a tarefa]

not was said that the boys did the homework

'It was not said that the boys did their homework'

b. [[que os meninos fizeram a tarefa]$_i$ não foi dito t_i]

that the boys did the homework not was said

'That the boys did their homework was not said.'

c. *[[os meninos]$_i$ não foram ditos que t_i fizeram a tarefa]

the boys not were said that did the homework

'It was not said that the boys did their homework.'

Again, the contrast between (35b) and (35c) follows straightforwardly. If the embedded C counts as an intervener for ϕ-related movement, ruling out (35c) (cf. (31)), it is not surprising that its projection can indeed undergo movement for ϕ-agreement purposes, as in (35b). The challenge is to determine what renders the embedded C in (33b) and (34b)

inert for purposes of ϕ-agreement, thereby freezing movement of the embedded CP and freeing movement of the embedded subject (cf. (33c) and (34c)).

Nunes (2008) suggests that the unexpected grammatical movement in (33c) and (34c) is related to the well-known fact that English experiencers do not block movement in raising constructions, as illustrated in (36a) and (37a), despite the fact that they arguably c-command into the raising domain, as indicated by the Principle C effects seen in (36b) and (37b).

(36) a. [Mary$_i$ seems to him [t_i to be nice]]

b. *It seems to him$_i$ that John$_i$ is nice

(37) a. [Mary$_i$ struck him [t_i as a fool]]

b. *It struck him$_i$ that John$_i$ is a fool

More specifically, Nunes (2008) proposes that inherent Case (see Chomsky 1986) exempts a given element from being computed for ϕ-minimality purposes, for inherently Case-marked elements are inert for purposes of A-movement (see e.g. Hornstein & Nunes 2002). Assuming that the pronoun in (36a) and (37a), for instance, is assigned inherent Case by the raising predicate, it becomes irrelevant for ϕ-minimality and does not induce an intervention effect for the A-movement of *Mary* across it.

The same reasoning extends to the data in (33) and (34). Assuming that verbs like *parecer* 'seem' and *acabar* 'turn out' in BP assign inherent Case to the head of their CP complements, C should behave like the experiencers of (36) and (37) after being assigned

inherent Case. First, it should become inert for purposes of ϕ-agreement, which accounts for the immobility of the CP (cf. (33b) and (34b)). Second, if C is inert for ϕ-agreement purposes, it should not block movement of the embedded subject, as sketched in (38), allowing for hyper-raising (cf. (33c) and (34c)).[5]

(38) [$_{TP}$ DP_i T_{ϕ} [$_{VP}$ parece/acabou [$_{CP}$ que$_{\textbf{inherent-Case}}$ [$_{TP}$ t_i …]]]]

seems/turned out *that*

z---------- OK ----------m

[5] It is worth pointing out that assigning inherent Case to C is a necessary, but not sufficient condition for hyper-raising to be permitted. Given that the embedded clause of (ia) below is immobile, it is arguably that case that *seem* in English also assigns inherent Case to its complement CP. However, hyper-raising is not allowed in English (cf. (ib)), as is well known. The relevant difference between English and BP is that finite Ts assign Case to their subjects obligatorily in English, but optionally in BP, as discussed in section 2. Thus, even though inherent Case assignment to the embedded C in (ib) makes it transparent for purposes of A-movement, the embedded subject has already checked/valued its Case and is inactive for A-movement purposes. By contrast, in BP the embedded subject may be active if the embedded finite T is associated with just a number feature in the syntactic computation (cf. (8b)).

(i) a. *[[that John left]$_i$ seems t_i]

b. *[John$_i$ seems [that t_i left]]

Nunes (2008) presents two pieces of evidence for this proposal. The first one involves the contrast between (33) and (39), where *parecer* takes a small clause as its complement.

(39) *Brazilian Portuguese*:

a. Parece óbvio que eles viajaram.
   seems obvious that they traveled
   'It seems obvious that they traveled.'

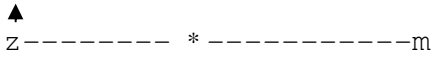
b. Que eles viajaram parece óbvio.
   that they traveled seems obvious
   'That they traveled seems obvious.'

c. *Eles parecem óbvios que viajaram.
   *they seem obvious that travele*d
   'It seems obvious that they traveled.'

In (39) CP is not an argument *parecer* 'seem' but of *óbvio* 'obvious'. Thus, *parecer* cannot assign inherent Case to CP and the embedded C is active for purposes of ϕ-agreement relations. Accordingly, CP can move (cf. (39b)) and hyper-raising is blocked (cf. (39c)) due to the intervention of the ϕ-features of C, as sketched in (40).

(40) [$_{TP}$ DP_i T_{ϕ} [$_{VP}$ parece [$_{SC}$ óbvio [$_{CP}$ **que$_{\phi}$** [$_{TP}$ t_i …]]]]]

seems obvious that



The second piece of evidence regards the paradigm in (41)-(42).

(41) *Brazilian Portuguese*:

a. É fácil/difícil **(d)**esses professores elogiarem os alunos.
*is easy/difficult **of**-these teachers praise.3PL the students*
'It's easy/hard for these teachers to praise the students'

b. Esses professores são fáceis/difíceis *(**de)** elogiarem os alunos.
these teachers are easy/difficult of praise.3PL the students
'These teachers often/rarely praise the students'

(42) *Brazilian Portuguese*:

a. É bem provável/lamentável **(*d)**os professores terem elogiado o diretor.
*is very probable/regrettable **of**-the teachers have.3PL praised the director*

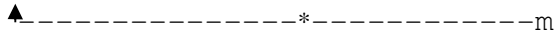
b. *Os professores são bem prováveis/lamentáveis de terem elogiado o diretor.
the teachers are very probable/regrettable of have.3PL praised the director
'It is very likely/regrettable that the teachers praised the director'

(41a) and (42a) show that impersonal predicates such as 'to be easy/hard' in BP allow the dummy preposition *de* 'of' to precede their infinitival complements, whereas predicates such as 'to be probable/regrettable' do not. In turn, (41b) and (42b) show that only the predicates that license the dummy preposition admit hyper-raising. Importantly, hyper-raising can only take place in the presence of the dummy preposition (cf. (41b)).[6]

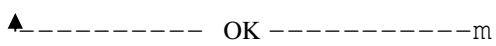
[6] The data in (41) indicate that the T head of inflected infinitivals in BP behaves like

Nunes (2008) takes *de* to be a realization of inherent Case, which is (optionally) assigned by some impersonal predicates to their CP complements. If *de* is not present or is not licensed, movement of the embedded subject is blocked by C, as shown in (43) below. By contrast, if *de* is present, C is assigned inherent Case, thereby becoming inert for A-movement, and does not block movement of the embedded subject, as sketched in (44).

(43) $[_{TP}\ DP_i\ T_{\phi}$ is easy/difficult/probable/regrettable $[_{CP}\ \mathbf{C_{\phi}}\ [_{TP}\ t_i\ \ldots]]]$



(44) $[_{TP}\ DP_i\ T_{\phi}$ is easy/difficult **de** $[_{CP}\ C_{\textbf{inherent-Case}}\ [_{TP}\ t_i\ \ldots]]]$



As we should expect given the present analysis, movement of the infinitival is possible just in case *de* is not present, as illustrated in (45).

(45) *Brazilian Portuguese*:

(***D**)esses professores elogiarem alguém é (bem) fácil/difícil

---

finite Ts in the language in being associated with person and number features or only a number feature. With the former specification, it is able to value the Case feature of its subject (cf. (41a)); with the latter, the embedded subject is free to undergo A-movement in search of Case valuation (cf. (41b)). For relevant discussion, see Nunes 2008, forthcoming.

of-these teachers praise.3PL someone is very easy/difficult

'These teachers easily/rarely praise someone'

This analysis makes an interesting prediction with respect to raising out of a CP complement when the subcategorizing verb is passive. Recall that a sentence such as (30), repeated below in (46a), is ruled out because the ϕ-features of C block the agreement relation between the matrix participial head and the embedded subject, as sketched in (46b) (with English words). Thus, given the role of inherent Case in circumventing ϕ-minimality, constructions analogous to (46a) should be acceptable if the passivized predicate assigns inherent Case to its CP complement.

(46) *Brazilian Portuguese*:

a. *Os meninos foram ditos que não fizeram a tarefa.

the boys were said-MASC-PL that not did-PL the homework

'It was said that the boys didn't do their homework.'

b. [$_{PpleP}$ -*en*$_{\phi}$ [$_{VP}$ said [$_{CP}$ **that**$_{\phi}$ [$_{TP}$ [the boys] didn't do the homework]]]]

z-------*-------m

Bearing this in mind, consider the data in (47) below, involving a matrix lexical passive. (47a) shows that the matrix lexical passive optionally allows its infinitival complement to be preceded by a preposition. In turn, (47b) shows that the embedded subject can undergo A-movement to the matrix [Spec,TP] only if the infinitival is preceded by the preposition.

(47) *Brazilian Portuguese*:

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 estavam previstas *(para) começarem amanhã.
the classes were predicted for start-INF-3PL tomorrow
'The classes were expected to start tomorrow.'

The contrast between the optionality of the preposition in (47a) and its obligatoriness in (47b) follows if *para* is the realization of an inherent Case optionally assigned by *previsto* to its infinitival complement. In (47a), the embedded subject has its Case valued within the infinitival and is completely independent from the properties of the matrix predicate; hence, whether or not *previsto* assigns inherent Case to its complement is completely irrelevant for the licensing of the embedded subject. By contrast, in (47b) the subject is Case-licensed in the matrix clause, which indicates that the embedded infinitival T took the option of bearing just a number feature (see fn. 6). However, the subject can undergo A-movement to the matrix clause for ϕ-reasons without inducing a minimality violation only if C is rendered inert. This in turn entails that the subject can move only if C receives inherent Case; hence, the obligatoriness of *para* in (47b).

In sum, Landau's (2003) argument against the MTC assumed that the complement of passivized predicates and complement of raising predicates have the same licensing requirements. We have seen that by and large, this is *not* the general case. Raising

predicates may impose looser restrictions on the movement of the embedded subject either by selecting a structure smaller than CP or by assigning inherent Case to their CP complements. Interestingly, a passive verb may indeed pattern like a raising verb if it is lexically specified for assigning inherent Case (cf. (47b)). The discussion above shows that a complex array of facts going much beyond Landau's original contrast finds a straightforward account if minimality for A-movement is relativized in terms of the relevant licensing relation (ϕ- or θ-). And relevant to our general concern here, this relativization finds a very natural niche within the MTC.

5. Control and raising in nominals

Let us now examine Culicover and Jackendoff (2001)'s argument against the MTC, based on contrasts such as (4), repeated here in (48). Their point is that the impossibility of raising in (48b) undermines a movement analysis for (48a).

(48) a. John's attempt to leave

b. *John's appearance to leave

Let us begin by addressing the conclusion that control into nominals cannot involve movement. Again, BP is illuminating in this regard. Recall from section 2 that referential null subjects in BP do not behave like pronominal elements, but rather like A-traces. Thus, a way to test whether control via movement is possible with nominals is to examine nominals in BP involving finite complements. As Nunes (2009) argues, a referential null subject inside a noun complement clause has all the properties of an A-trace. (49a) below,

for instance, shows that like A-traces, referential null subjects within noun complement clauses in BP require an antecedent and (49b), that the antecedent must be in a local c-commanding A-position.[7]

(49) *Brazilian Portuguese*:

a. *O boato de que **Ø** renunciou era falso.
the rumor of that resigned was false
'The rumor that she/he resigned was false.'

b. [o João]$_i$ criticou a afirmação d[o amigo d[o Pedro]$_j$]$_k$ de
the João criticized the affirmation of-the friend of-the Pedro of
que **Ø$_{k/*i/*j/*w}$** seria o candidato escolhido.
that would-be the candidate chosen
'João$_i$ criticized [Pedro$_j$'s friend]$_k$'s saying that he$_{k/*i/*j/*w}$ would be the chosen candidate'

Once it is granted that a movement analysis of control within nominals is independently required for languages like BP, we can now address the issue of why movement of *John* from the infinitival clause is possible in structure in (48a), but not (48b). The relativized minimality approach proposed in section 3 has all the necessary ingredients for a natural account. Consider the simplified derivational steps before *John* moves in each of the nominals in (48), as respectively illustrated in (50) and (51).

[7] See Nunes 2009 for further evidence and relevant discussion.

(50) a. [$_{NP}$ attempt$_{\theta}$ [$_{CP}$ C$_{\phi}$ [$_{TP}$ John to leave]]]

b. [$_{DP}$'s$_{\phi}$ [$_{NP}$ John$_i$ attempt$_{\theta}$ [$_{CP}$ C$_{\phi}$ [$_{TP}$ t_i to leave]]]]

(51) [$_{DP}$'s$_{\phi}$ [$_{NP}$ appearance [$_{CP}$ **C$_{\phi}$** [$_{TP}$ John$_{\phi}$ to leave]]]]

In (50a), *John* first moves to the θ-position associated with the external argument of *attempt*. Once this movement is θ-related, the ϕ-features on C do not induce a minimality effect. From this position, *John* then moves to the Case-position associated with the genitive head and again no minimality issue arises, this time because there are no intervening ϕ-feature bearers. In other words, the θ-position associated with the control nominal provided an escape hatch for *John* to reach a Case position later in the derivation. By contrast, there is no such position in (51). Thus, the ϕ-features of C prevent movement of *John* for Case/agreement reasons and the derivation crashes as *John* will not have its Case valued.

As Lisa Cheng (p.c.) pointed out, this general approach can also account for the contrast in (52) below. The acceptable pattern is possible only when the dummy preposition *of* is present, which looks very similar to what happens with hyper-raising out of inflected infinitivals in BP (cf. (41b)/(47b)).

(52) a. *John's likelihood/probability to win

b. John's likelihood/probability of winning

Given the interaction between inherent Case and ϕ-intervention discussed in section 4, the contrast in (45) can be explained if *of* in constructions like (52b) is in fact the realization of an inherent Case assigned to the embedded nonfinite clause. The derivation of (52a), like the derivation of (48b), involves movement of the embedded subject for ϕ-agreement/Case reasons skipping C, which yields a minimality violation, as sketched in (53) below. As for (52b), the subcategorizing nominal assigns inherent Case to its complement, which is morphologically realized as *of*. Once CP receives inherent Case, it is no longer active for A-purposes and its head is not computed for purposes of A-minimality. Movement of the embedded subject then proceeds without problems, as illustrated in (54).[8]

(53) [$_{DP}$'s$_{\phi}$ [$_{NP}$ likelihood/probability [$_{CP}$ **C$_{\phi}$** [$_{TP}$ John$_{\phi}$ to win]]]]

↑----------*----------m

(54) [$_{DP}$'s$_{\phi}$ [$_{NP}$ likelihood/probability [$_{CP}$ **C$_{\textbf{inherent-case}}$** [$_{TP}$ John$_{\phi}$ winning]]]]

↑---------- OK ----------m

For the sake of completeness, let us now consider the data in (55), which involve *of*, but movement of the expletive or the idiom chunk is not permitted.

[8] For further evidence and relevant discussion on A-movement into nominal domains, see Sichel 2007, Nunes 2009, and Boeckx, Hornstein, & Nunes forthcoming.

(55) Sichel (2007):

a. *its likelihood of raining/annoying me that Jane is late

b. *the shit's likelihood of hitting the fan in these situations

The contrast between (52b) and (55) seems to revolve around the distinction between referential and nonreferential expressions. As is well documented in the domain of A'-movement, movement of nonreferential expressions is much more restricted than movement of referential expressions. (56), for instance, shows that the degree of unacceptability of weak island violations is much stronger with nonreferential expressions.

(56) Rizzi (1990):

a. ?*What project* do you wonder [how PRO to make headway on *t*]

b. **What headway* do you wonder [how PRO to make *t* on this project]

The contrast between (52b) and (55) should thus be seen as analogous to the one in (56). Notice that although C in (55) does not count as intervener for having been assigned inherent Case (as indicated by the presence of *of*), the expletive and the idiom chunk must still cross the subcategorizing nominal head to reach the Case position, as sketched in (57).

(57) a. $[_{DP}$'s$_{\phi}$ $[_{NP}$ **likelihood** $[_{CP}$ $C_{inherent\text{-}case}$ $[_{TP}$ it$_{\phi}$ raining]]]]

▲

———————— * ————————m

b. [$_{DP}$'s$_{\phi}$ [$_{NP}$ **likelihood** [$_{CP}$ C$_{inherent\text{-}case}$ [$_{TP}$ [the shit]$_{\phi}$ hitting the fan]]]]

▲———————— * ————————m

Given that the raising nominal in (57) is ultimately a ϕ-feature bearer, it is not implausible to assume that it induces a ϕ-minimality effect, preventing nonreferential expressions from raising. As for why referential expressions are not subject to such intervention, as seen in (53), it worth noting that within NP, the subcategorizing noun functions as a predicate and not as an argument. Perhaps this is what makes it transparent for the movement of true arguments. If so, contrasts such as the ones illustrated in (58) below follow from the fact that the functional head associated with *-ing* is nominal in (58a), but verbal in (58b) (see e.g. Chomsky 1970 and Reuland 1983). That is, movement of the idiom chunk is blocked by the nominal *-ing* in (58a), but allowed by the verbal *-ing* in (58b).

(58) a. The cat's being out of the bag was a big problem for the government.
(idiomatic reading: *)

b. The cat being out of the bag was a big problem for the government.
(idiomatic reading: OK)

This approach predicts that if in a given language, nominals assign structural Case to a lower (c-commanded) position, the difference between referential and nonreferential

expressions should be obliterated, as the moving elements would not need to cross the subcategorizing nominal head. Hebrew seems to exemplify this type of language. As persuasively argued by Sichel (2007), Hebrew allows raising of both referential and nonreferential expressions within nominals. Crucially, the moved subject occurs in a position lower than the subcategorizing nominal, as the surface order in (59) indicates.

(59) *Hebrew* (Sichel 2007):

a. ha-sikuyim Sel rina [le-hagi'a ba-zman]
   the-chances of Rina to-arrive on-time
   'Rina's chances to arrive on time'

b. [ha-sikuyim Se ze likrot [Se-bibi yibaxer]] tovim
   the-chances of it to-happen that-Bibi will.be.elected good
   'The chances of it happening that Bibi will be elected are good.'

c. [ha-sikuyim Sel ha-kerax le-hiSaver be-macav ka-ze] kluSim
   the-chances of the-ice to-break in-situations like-this slim
   'The chances of the ice breaking in this kind of situation are slim.'
   [idiomatic reading]

To wrap up, the fact that movement is in general possible in control nominals but not in raising nominals in English receives a straightforward account if minimality for A-movement is to be relativized in terms of ϕ- and θ-relations, as proposed in section 3. Furthermore, apparent exceptions of raising into nominals in English can be explained when the interaction between inherent Case and ϕ-minimality is taken into account.

Finally, the relativized minimality analysis proposed here also makes room to account for why referential and nonreferential expressions contrast in English, but not in Hebrew as far as raising within nominals is concerned.[9]

6. Conclusion

This paper started with two repeatedly cited arguments against the MTC which are based on differences between control and raising constructions. As I mentioned in the introduction, the two arguments are conceptually flawed to begin with, as they are based on the false premise that the MTC is a *raising* theory of control. That aside, I proceeded to examine in detail the tacit assumption that underlies both arguments, namely, that the licensing conditions for the movement operations one postulates in control and raising constructions are the same. The conclusion was that this assumption cannot be granted. As movement in control constructions is θ-related and movement in raising constructions is ϕ-related, they are in fact subject to different types of intervention effects. More specifically, I have proposed that minimality for A-movement should be relativized in terms of the relation being established, whether a ϕ- or a θ-relation. We have seen that this relativized minimality approach not only covers the allegedly problematic data brought up by Landau (2003) and Culicover and Jackendoff (2001), but also accounts for a considerably broader empirical domain, involving finite control and hyper-raising in BP, as well as cross-linguistic differences between English and Hebrew with respect to

[9] See Boeckx, Hornstein, and Nunes forthcoming for a detailed discussion of the consequences of these crosslinguistic results for a semantic approach to control like the one advocated by Culicover & Jackendoff (2001, 2005).

raising of nonreferential expressions within nominals, for instance. All in all, vice was turned into virtue. When properly analyzed, the data that triggered our discussion ended up providing good arguments *in favor of* the MTC.

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