 Dummy prepositions and the licensing of null subjects in Brazilian Portuguese

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This paper discusses constructions in Brazilian Portuguese in which a null subject is adequately licensed only if the clause containing it is preceded by the dummy preposition de. Assuming that referential null subjects in Brazilian Portuguese are traces of A-movement (see Ferreira 2000, 2009 and Rodrigues 2002, 2004), I argue that the presence of de signals whether or not the embedded clause has received inherent Case and this ultimately determines whether the embedded subject is allowed to move from within its clause and whether it should undergo upward or sideward movement (see Nunes 2001, 2004).

1. Introduction*

In this paper I examine the role that dummy prepositions appear to play in the licensing of null subjects in (Colloquial) Brazilian Portuguese (henceforth BP). I will be specifically concerned with the three types of constructions exemplified below.

(1)a. Ninguém concordou com a sugestão do João (de) que o Pedro devia escrever o relatório.
Nobody agreed with João’s suggestion that Pedro should write the report.

b. Ninguém concordou com a sugestão do João, *(de) que ele devia escrever o relatório.
Nobody agreed with João’s suggestion that he should write the report.

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(2)a. [o João]_{k} convenceu [a Maria]_{k} que ec_{1/\theta_{k}} tinha que sair.
The João convinced the Maria that he/she had to leave.
‘João convinced Maria that he/she had to leave.’

b. [o João]_{k} convenceu [a Maria]_{k} de que ec_{1/\theta_{k}} tinha que sair.
The João convinced the Maria of that he/she had to leave.
‘João convinced Maria that he/she had to leave.’

(3)a. É difícil (d)esses professores elogiarem alguém.
It is difficult of these teachers praise.
‘These teachers rarely praise someone.’

b. Esses professores são difíceis *(de) elogiarem alguém.
these teachers are difficult of praise.
‘These teachers rarely praise someone.’

(1) shows that the dummy preposition *de* may in general optionally precede a noun complement clause, but is obligatorily required if the subject of the noun complement clause is null. In turn, (2) shows that the presence of *de* may change the interpretation of a null subject, also allowing the matrix object as its antecedent. Finally, (3) shows that whereas some impersonal predicates optionally allow *de* to precede their infinitival complements, the hyper-raising counterpart of these constructions obligatorily requires this dummy preposition.

The paper is organized as follows. In section 2, I briefly present the proposal that referential null subjects in BP are traces of A-movement, rather than null pronominals. In sections 3, 4, and 5 I analyze each of the constructions in (1)-(3), discussing why the presence of a dummy preposition preceding a CP in BP may interfere with the licensing of a null subject/A-trace within it. With respect to (1) and (2), I argue that the dummy preposition may signal whether or not the relevant CP is a complement and this may ultimately determine if the DP in its subject position should undergo upward or sideward movement (in the sense of Nunes (2001, 2004)). It will be shown that sideward movement provides a licit derivation for constructions such as (2), but not for constructions such as (1b). As for the contrast in (3), I argue that as a marker of inherent Case, the preposition freezes the infinitival for purposes of A-movement, thereby allowing A-movement of its subject without yielding a violation of Chomsky’s (1964) A-over-A Condition. Section 6 presents some concluding remarks.

2. Referential null subjects in BP as traces of movement

Exploring Hornstein’s (2001) movement analysis of obligatory control, Ferreira (2000, 2009) and Rodrigues (2002, 2004) convincingly argue that with the weakening of the verbal agreement paradigm in BP (see e.g. Duarte
1995), its finite Ts ceased to license “referential” pro and referential null subjects came to be analyzed as traces of A-movement. Consider the BP data in (4), for instance.

(4)a. *Compro um carro novo.
   bought.3SG a car new
   ‘She/he bought a new car.’
b. *Parece que comprou um carro novo.
   seems that bought.3SG a car new
   ‘It seems that she/he bought a new car.’
c. [O João], disse [que comprou um carro novo].
   the João, said that bought.3SG a car new
   ‘João said that he bought a new car.’
d. *O pai da Maria acha [que está grávida].
   the father of-the Maria thinks [that is pregnant-FEM]
   ‘Maria’s father thinks she is pregnant.’
e. *A Maria disse [que o médico acha que está grávida].
   the Maria said that the doctor-MASC thinks that is pregnant-FEM
   ‘Maria said that the doctor thinks she is pregnant.’
f. *Eu encontrei o livro que perdi.
   I found the book that lost.1SG
   ‘I found the book that I had lost.’

(4a)-(4c) show that a referential null subject in BP requires an appropriate antecedent in the sentence; (4d), that the antecedent must be in a c-

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1 The qualification is meant to exclude null expletives, as well as null “arbitrary” third person subjects —both plural and singular (see e.g. Galves 1987, Nunes 1990, and Rodrigues 2004)—, which are still available in BP, as respectively illustrated in (i) and (ii).

(i) a. Tinha vários livros na mesa.
   had several books on-the table
   ‘There were several books on the table.’
b. Choveu ontem.
   rained yesterday
   ‘It rained yesterday.’

(ii) a. Telefonaram para você.
   called-3PL to you
   ‘Someone called you.’
b. No Brasil não usa mais saia.
   in-the Brazil not wear.3SG more skirt
   ‘In Brazil people don’t wear skirts anymore.’

2 Referential null subjects in matrix clauses are only allowed in BP as instances of topic-deletion in the sense of Ross 1982. Thus, the null subject in (iB) below is to be analyzed as a variable bound by a null topic and the presence of a wh-element in (iB’) yields a minimality violation (see Modesto 2000, Ferreira 2000, and Rodrigues 2004).
commanding position; (4e), that the antecedent must be local; and (4f), that the antecedent cannot be outside a strong island. (4f) is especially interesting in that there is an island effect even though the embedded verb *perdi* is inflected for first person singular and could in principle identify the null subject without the help of an antecedent. If referential null subjects in BP are A-traces rather than null pronominals, as argued by Ferreira and Rodrigues (see also Martins & Nunes 2005 and Nunes 2008), the fact that they require a local c-commanding antecedent in order to be licensed follows from familiar independent requirements on movement.

In this paper I will assume the gist of Ferreira’s and Rodrigues’s proposal, relying on the specific technical implementation advanced by Ferreira and further refined by Nunes (2008). Assuming Chomsky’s (2000, 2001) Agree-based framework, Ferreira (2000, 2009) proposes that finite Ts in BP are ambiguous in being associated with either a complete or an incomplete set of φ-features. When the Case-assigning version of a finite T is selected (i.e. a φ-complete T), it assigns nominative to the subject, freezing it for further A-movement. If the non-Case-assigning version of a finite T is selected instead (i.e. a φ-incomplete T), the subject of its clause remains Caseless and can undergo further A-movement. From this perspective, a sentence such as (4c) is to be derived along the lines of (5), where the embedded T is φ-incomplete and the matrix T is φ-complete.

\[(5) [TP [0 João], T_{φ-complete} [φ t, disse [CP que [TP t, T_{φ-incomplete} [φ t, bought.3SG a car novo]]]])]\]

Nunes (2008) has reinterpreted the ambiguity of T proposed by Ferreira in terms of how its person and number features are combined in the course of the computation. More specifically, 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, well-formedness conditions in the morphological component trigger the addition of the feature person in accordance to the redundancy rule informally sketched in (6) below. To put it differently, person features in BP may be dissociated features in the sense

(i) A: *Cadê o João?*
   ‘Where’s João?’
B: Acabou de sair.
   ‘He’s just left.’
B’: *O que fez dessa vez?*
   ‘What did he do this time?’

\[\text{(i)}\]

\[A: \text{Cadê o João?}\]
\[
\begin{align*}
\text{where} & \quad \text{the João} \\
\text{‘Where’s João?’} & \\
\text{B:} & \quad \text{Acabou de sair.}
\end{align*}
\]
\[
\begin{align*}
\text{finished.3SG of leave} & \\
\text{‘He’s just left.’} & \\
\text{B’:} & \quad \text{*O que fez dessa vez?}
\end{align*}
\]
\[
\begin{align*}
\text{what did.3SG of-this time} & \\
\text{‘What did he do this time?’} &
\end{align*}
\]
of Embick (1997). Crucially, the paradigm of verbal agreement morphology in BP given in (7) is such that the only form that distinctively encodes person and number is the syncretic inflection for first person singular; the other two inflections involve a default value (third) for the person feature.

(6) When $T$ is only specified for number ($N$):
(i) Add $[P:1]$, if $N$ is valued as $SG$;
(ii) otherwise, add $[P:\text{default}]$.

(7) **Verbal agreement paradigm in (Colloquial) Brazilian Portuguese**

<table>
<thead>
<tr>
<th>Verb (I)</th>
<th>Inflection</th>
<th>Person, Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>eu (I)</td>
<td>canto</td>
<td>P:1, N:SG</td>
</tr>
<tr>
<td>você (you.SG)</td>
<td>canta</td>
<td>P:default; N:default (= 3SG)</td>
</tr>
<tr>
<td>ele (he)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ela (she)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a gente (we)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vocês (you.PL)</td>
<td>canta</td>
<td>P:default; N:PL (= 3PL)</td>
</tr>
<tr>
<td>eles (they.MASC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>elas (they.FEM)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thus, the three different verbal inflections available in (7) can be obtained either if $T$ is specified for both person and number throughout the derivation, as in (8), or if $T$ is only specified for number and the feature person is associated with $T$ in the morphological component in accordance with (6), as shown in (9).

(8)

<table>
<thead>
<tr>
<th>Verb (I)</th>
<th>Valuation of $T$ in the syntactic component</th>
<th>Surface form of the verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>canto</td>
<td>P:1, N:SG</td>
<td>canto</td>
</tr>
<tr>
<td>canta</td>
<td>P:default; N:default</td>
<td>canta</td>
</tr>
<tr>
<td>cantam</td>
<td>P:default; N:PL</td>
<td>cantam</td>
</tr>
</tbody>
</table>

(9)

<table>
<thead>
<tr>
<th>Verb (I)</th>
<th>Valuation of $T$ in the syntactic component</th>
<th>Addition of [person] in the morphological component</th>
<th>Surface form of the verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>canto</td>
<td>N:SG</td>
<td>P:1, N:SG</td>
<td>canto</td>
</tr>
<tr>
<td>canta</td>
<td>N:default</td>
<td>P:default, N:default</td>
<td>Canta</td>
</tr>
<tr>
<td>cantam</td>
<td>N:PL</td>
<td>P:default, N:PL</td>
<td>cantam</td>
</tr>
</tbody>
</table>
Under this view, a more appropriate representation of the derivation of (4c) is given in (10) below, where the embedded T is specified only for number, whereas the matrix T is specified for number and person. In other words, the subject is assigned (nominative) Case by the matrix T rather than the embedded T. Common in both representations in (5) and (10) is the movement of the embedded subject to the matrix [Spec, vP] before reaching the matrix [Spec, TP], which accounts for the fact that *João in (4c) is interpreted as associated with the external θ-roles of both the matrix and the embedded verb (see Hornstein 2001).

(10) [TP [o João], T[N:default] [vP t, disse [CP que [TP t, T[N:default] the João said that [vP t, comprou um carro novo]]]] bought a car new

To sum up, BP exercises an option that is generally restricted to non-finite clauses in other languages, namely, it allows raising out of a finite embedded clause when its T is not a Case assigner (i.e. when it only has a number feature as it enters the numeration). In the sections that follow, all sentences with referential null subjects will be examined under the derivation in which the T head of the clause containing the null subject is only specified for number in the syntactic component.

3. Finite control into noun complement clauses

In BP, dummy prepositions such as *de, which are required before nominal complements of verbs like *gostar ‘like’, are optional when preceding CP

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3 For the purposes of the current presentation, I assume Ferreira’s (2000:55) suggestion that if C selects a φ-incomplete T, it does not define a strong phase (see Nunes 2008 and Martins & Nunes forthcoming for relevant discussion). Under the assumption that successive cyclic movement to [Spec, CP] is driven by the Phase Impenetrability Condition (Chomsky 2000, 2001), A-movement from within a TP with φ-incomplete T does not need to pass through the [Spec,CP], as the CP dominating such TP is not a strong phase.

4 Recall that if the relevant T is fully specified, it will Case-mark its subject, which will then become frozen for purposes of A-movement. In turn, if the subject becomes frozen, no null subject construction of the relevant sort (see fn. 1) will be derived. In other words, if the embedded T in (10) is specified for both person and number, the movement of the embedded subject to the matrix [Spec,vP] is to be ruled out for the same reason the movement of the Case-marked object to [Spec,vP] in (i) below is blocked (see Hornstein (2001) for discussion): in both derivations, the relevant DP becomes inactive for purposes of A-movement after it has its Case-feature valued (see Chomsky 2000, 2001).

(i) a. *John saw.
   John saw himself.’
   b. *[TP John, [vP t, [vP saw t]]]
complements, as illustrated in (11) below. The optionality in (11b) should be qualified, though. The version without the preposition is by far the most commonly used construction; the version with the preposition is generally associated with formal style and written language. Similar considerations apply to the noun complement clauses illustrated in (12).

(11) a. Eu gosto *(de) você.
    I like of you
    ‘I like you.’

b. Eu gostaria (de) que você viesse.
    I would-like of that you come-PAST.SUBJ
    ‘I would like you to come.’

(12) a. A hipótese (de) que a Terra é chata não foi esquecida.
    the hypothesis of that the Earth is flat not was forgotten
    ‘The hypothesis that the Earth is flat was not forgotten.’

b. A ideia do João (de) que você seja o candidato é bem boa.
    the idea of-the João of that you be.SUBJ the candidate is rather good
    ‘João’s idea that you become the candidate is very good.’

c. O boato (de) que o Pedro seria despedido era falso.
    the rumor of that the Pedro would-be fired was false
    ‘The rumor that Pedro would be fired was false.’

d. Ele comentou a alegação do João (de) que a Ana era inocente.
    he commented the allegation of-the João of that the Ana was innocent
    ‘He commented on João’s allegation that Ana was innocent.’

What has not been noticed in the literature is that the presence of the dummy preposition is obligatorily required in constructions involving a referential null subject inside the noun complement clause, as shown in (13) below, for all registers and styles. Interestingly, if the null subject is not referential (see fn. 1), the preposition is again optional, as illustrated in (14).

(13) a. A hipótese do João *(de) que vai ser eleito é de rir.
    the hypothesis of-the João of that goes be elected is of laugh
    ‘John’s hypothesis that he’s going to be elected is laughable.’

b. A afirmação do João *(de) que fez o trabalho é falsa.
    the affirmation of-the João of that did the job is false
    ‘João’s statement that he did the job is false.’
(14)a. *A afirmação (de) que nunca chove aqui é exagerada.
The affirmation of that never rains here is exaggerated.
   ‘The claim that it never rains here is an exaggeration.’
b. *A hipótese do João (de) que não existe movimento-wh
   the hypothesis of the João of that not exists wh-movement
   nessa língua parece estar errada.
in-this language seems be wrong.
   ‘John’s hypothesis that there doesn’t exist wh-movement in this
   language seems to be wrong.’

The paradigm in (10)-(14) raises the following questions: (i) why is it
that referential and non-referential null subjects behave differently as far as
obligatory presence of de is concerned?; and (ii) why is it that null
referential subjects require the presence of the dummy preposition? Let us
consider each of these questions in turn.

The difference between referential and non-referential subjects should
in principle be related to the nature of referential null subjects in BP, i.e. to
their being traces rather than null pronouns (see discussion and
references in section 2). In fact, referential null subjects inside noun
complement clauses also behave as A-traces, as can be seen in (15).

(15)a. *O boato de que ec renunciou era falso.
   The rumor of that resigned was false.
   ‘The rumor that she/he resigned was false.’
b. *[o João], criticou a proposta do amigo do Pedro de
   the João criticized the proposal of the friend of the Pedro of
   que ec_k/σrjσw devia reclamar com o diretor.
   that should complain with the director
   ‘João criticized Pedro’s friend’s proposal that he_k/σiσjσw should
   complain to the director.’
c. *[o João], ficou chateado com os boatos que foram gerados
   the João got upset with the rumors that were caused
   pela notícia de que ec_i renunciou.
   by the news of that resigned
   ‘João got upset because of the rumors that were triggered by the
   news that he resigned.’

If the referential null subjects inside the noun complement clauses in (15)
are A-traces, the ungrammaticality of (15a) should be due to the lack of an
antecedent for the trace. In turn, (15c) should be out because movement
from within the noun complement clause to the position occupied by o João
crosses the relative clause island. Finally, if the moving element must land
in the closest c-commanding A-position, (15b) should only be licit if the
null subject is interpreted as o amigo do Pedro ‘Pedro’s friend’, which is
indeed the case.
That movement of the subject of the noun complement clause targets a θ-position is shown by the data in (16) and (17).

(16) a. A afirmação do João de [que a Maria fez o trabalho] é falsa.
    the affirmation of-the João of that the Maria did the job
    ‘João’s claim that Maria did the job was false.’
b. *A probabilidade do João de [que a Maria tenha feito o trabalho] é alta.
    the probability of-the João of that the Maria has done the job
    ‘*João’s probability that Maria did the job is high.’

    the affirmation of-the João of that did the job
    ‘João’s claim that he did the job is false.’
b. *A probabilidade do João de [que tenha feito o trabalho] é alta.
    the probability of-the João of that has done the job
    ‘*The probability that João did the job is high.’

The contrast in (16) is due to a violation of the θ-Criterion in (16b), as ‘probability’ does not have a θ-role to assign to o João. The fact that the contrast in (16) is replicated in (17) can now be interpreted in terms of the Case Filter. Recall that A-movement out of an embedded finite clause in BP is possible only if the embedded T has just a number feature. If this is the case in (17a), we are led to the conclusion that o João is Case-marked after it moves to the θ-position associated with afirmação ‘affirmation’. The difference between (17a) and (17b) is now accounted for if the dummy preposition de is a marker of inherent Case. Once inherent Case must be associated with a θ-role (see Chomsky 1986), movement of the embedded subject allows it to comply with the Case Filter in (17a), but not in (17b), as probabilidade does not have a θ-role to assign to the moved

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5In response to a reviewer’s question, it is worth pointing out that if one resorts to the θ-Criterion, this does not ensure a commitment to D-Structure, for the θ-Criterion can perfectly well apply at LF (even within the GB model). Moreover, the movement theory of control proposed by Hornstein (2001), which I am following here, still keeps the θ-Criterion in the sense that arguments are required to assign their θ-roles and expressions merged within the thematic domain of a given predicate must be assigned a θ-role. What is actually abandoned in Hornstein’s system are the additional assumptions that a given expression cannot bear more than one θ-role and that θ-role assignment is not a licensing condition for movement.
DP (cf. (16b)). Thus, the subject of (17a) is to be represented along the lines of (18), with the preposition *de* being added to *o João* in the morphological component.\(^6\)

\[
(18)[a\ [afirmação\ k\ \[NP\ [o\ João],\ t_k\ de\ [CP\ que\ [t,\ fez\ o\ trabalho]]]]]
\]

the affirmation  
the João of  
that  
did the job

Let us now address the question of why the movement of the embedded subject depicted in (18) is only licit if the CP is also preceded by the dummy preposition *de*. Building on Stowell (1981), I would like to propose that in BP the presence or absence of *de* in these constructions respectively signals whether we are dealing with a true complement structure or an appositive of sorts. More specifically, I take *de* in these constructions in BP to be the realization of the inherent Case assigned to the embedded clause.\(^7\) Take the data in (19) below, for example, which do not allow the presence of *de*. If the preposition encodes a noun complement configuration in virtue of realizing inherent Case, its presence in (19) yields unacceptable results as these sentences involve a predication configuration.

\[
(19)a.\ A\ hipótese\ é\ (*de)\ que\ o\ João\ tenha\ feito\ isso.\  
\text{the hypothesis is}\  
of\  
that\ the\ João\ has\ done\ this\  
'The hypothesis is that João did this.'
\]

\[
b.\ A\ ideia\ é\ (*de)\ que\ o\ João\ seja\ o\ candidato.\  
\text{the idea is}\  
of\  
that\ the\ João\ be\ SUBJ\ the\ candidate\  
'The idea is that João should be the candidate.'
\]

\[
c.\ A\ alegação\ é\ (*de)\ que\ a\ Maria\ viaja\ muito.\  
\text{the allegation is}\  
of\  
that\ the\ Maria\ travels\ much\  
'The allegation is that Maria travels too much.'
\]

Assuming that lack of preposition in a sentence such as (20) signals that the embedded CP is an adjunct rather than a complement, there still remains the question of why *o João* cannot move from within the embedded CP.

\[
(20)*A\ afirmação\ d[\ o\ João],\ que\ t,\ fez\ o\ trabalho\ é\ falsa\  
the\ affirmation\ of-the\ João\ that\ did\ the\ job\  
is\ false\  
'João’s statement that he did the job is false.'
\]

The question is pressing as Ferreira (2000, 2009) and Rodrigues (2004) have argued, following Hornstein’s (2001) analysis of adjunct control, that

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\(^6\) The linear order of (17a) indicates that after *o João* moves to the relevant θ-position associated with *afirmação*, the latter moves to a higher position. The nature of such position is orthogonal to our current discussion.

\(^7\) See Picallo (2001, 2002) for arguments within Chomsky’s (2000, 2001) Agree-based system that clauses can participate in Case and φ-agreement relations.
A-movement from the subject position of a finite adjunct clause is possible in BP if it takes place prior to the attachment of the will-be adjunct. Take, for instance, the simplified derivation of (21) given in (22)-(25).

(21) [O João]i, cumprimentou [a Maria]j depois que ec_{vP} entrou.
    ‘João greeted Maria after he got in.’

(22) K = [o João T_{N,default} entrou]    L = [cumprimentou a Maria]
    the João entered           greeted the Maria

(23) Sideward movement:

(24) [vP [vP [o João]i cumprimentou a Maria] [depois que
    the João greeted the Maria after that
    [[o João]i T_{N,default} entrou]]]
    the João entered

(25) [TP [o João]i T_{N,default; P,default} [vP [vP [o João]i cumprimentou a
    Maria] [depois que [[o João]i T_{N,default} entrou]]]]

After the syntactic objects K and L in (22) are built, the computational system makes a copy of o João from K and merges it with L – an instance of sideward movement in the sense of Nunes (2001, 2004) –, yielding M in (23). Notice that in (22) o João did not have its Case checked (T has only a number feature) and was therefore active for purposes of A-movement. Note also that at the derivation step depicted in (22)-(23), K is not an adjunct, but a root syntactic object; hence, movement out of K should not yield an (adjunct) island effect (see Nunes & Uriagereka 2000, Hornstein 2001, Nunes 2001, 2004, and Hornstein & Nunes 2002). Further computations then yield the structure in (24) with the temporal clause adjoined to the matrix vP. O João then moves again (cf. (25)), landing in the matrix

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8 The adjunct is built before the matrix vP in virtue of the bottom-up nature of the system: the domains that are going to be embedded are built before the embedding domains (see Chomsky (2000) for an implementation in terms of subarrays). For arguments that sideward movement proceeds from the adjunct to the matrix derivational workspace and not the opposite, see Nunes & Uriagereka (2000), Nunes (2001, 2004), and Hornstein & Nunes (2002).

9 Sideward movement in (23) targets [Spec,vP] rather than the object position of the main verb, due to Merge-over-Move economy computations (see Hornstein (2001) for discussion). That is, the computational system first exhausts the numeration, plugging a Maria in the matrix object position, and only after that is sideward movement of o João licensed.
[Spec,TP] and having its Case valued. (25) finally surfaces as (21) after the lower copies of o João are deleted.

Let us now examine why a sideward movement derivation for (20) does not lead to a convergent result. Consider the steps in (26)-(28).

(26) a. K = [CP que [o João] T\_N:default fez o trabalho] that the João did the job
   b. L = [NP afirmação] affirmation

(27) Sideward movement:
   a. K = [CP que [o João] T\_N:default fez o trabalho]
   b. L = [NP afirmação [o João]]

(28)                  DP
                     a
                     the
                  NP
    [afirmação [o João] affirmation the João]
     [que [o João] fez o trabalho] [that the João did the job]

The steps in (26)-(28) are parallel to those of (22)-(24). So, the difference must show up at later steps. Consider the copies of o João in (25). The higher copy c-commands each of the lower copies, forming a different chain with each of them. In (28), on the other hand, the two copies are not in a chain configuration as they do not stand in a c-command relation. Assuming that deletion of copies can only operate with chains, Chain Reduction (see Nunes 2004) can be employed in (25), but not in (28). Failure to delete one of the copies of o João in (28) in turn causes linearization problems as the system gets contradictory instructions: o João should precede and be preceded by que, as well as precede itself (see Nunes (2004) for discussion).

Note that when de is present, i.e. when we have a true noun

\[\text{The contrast between the derivations of (20) and (21) mirrors the contrast between the derivations of the parasitic gap constructions in (ia) and (iia) below, which under Nunes’s (2001, 2004) analysis involves sideward movement of which paper to the matrix object position, yielding the (simplified) structures in (ib) and (iib). In (ib), sideward movement of which paper to the matrix object position is followed by movement to the matrix [Spec,CP]. The copy in [Spec,CP] forms a different chain with each of the lower copies, allowing Chain Reduction to apply and delete the lower copies. By contrast, in (iib) the two copies of which paper do not form a chain and Chain Reduction is inapplicable. The derivation then crashes at PF because it cannot be linearized: without, for instance, should}\]
complement structure as in (18), the upper copy of *João c-commands and forms a chain with the lower copy, allowing Chain Reduction to apply in the phonological component, delete the lower copy, and circumvent the potential linearization problems.

To summarize, dummy prepositions do not play a direct role in the licensing of null subjects inside noun complement structures, as appeared at first sight. Rather, they just disambiguate the potential relation the finite CP can bear with respect to the noun it relates to: a head-complement relation or an adjunction relation. When *de* is present, we have a head-complement relation and the embedded subject can successively move to the θ-position associated with the selecting noun. When *de* is absent, we have an adjunct structure and although sideward movement of the subject of the adjunct clause can satisfy Last Resort, the resulting structure cannot be linearized and the derivation crashes.

Let us now consider the consequences of this analysis for another type of construction in BP in which the interpretation of a null subject varies depending on whether or not *de* is present.

### 4. Dummy prepositions and adjunct control

Modesto (2000) presents sentences such as (29) below as evidence against the proposal that referential null subjects in BP are A-traces. The argument goes as follows: if null subjects in BP are to be analyzed on a par with obligatorily controlled PRO in Hornstein’s (2001) system (i.e. as A-traces), the null subject of (29) should in principle behave like the object control structure in (30) and take the matrix object as its antecedent, contrary to fact.

(29) [O *João]*, *convenceu [a Maria]* que *ec/tinha que sair.*

the João convinced the Maria that he/*she had to leave.

‘João convinced Maria that he/*she had to leave.’

(30) [O *João]*, *convenceu [a Maria]*, a *t sair.*

the João convinced the Maria to leave

‘João convinced Maria to leave.’

precede and be preceded by *which paper* in (ib) (see Nunes (2001, 2004) for further discussion).

(i) a. Which paper did you file without reading?
   b. [[which paper] did [you [file [which paper]] [without reading [which paper]]]]

(ii) a. *Who filed which paper without reading?*
   b. *[who [[filed [which paper]] [without reading [which paper]]]]
However, in order for the argument to be valid, it must be the case that (29) and (30) have exact parallel structures. In particular, the embedded clause should be a complement of *convencer* ‘convince’ in both cases and the matrix object should also c-command into the embedded clause in both cases. Neither of these tacit assumptions resists further scrutiny, though. As pointed out by Ferreira (2000), the matrix object does not induce a Principle C effect with respect to epithets inside the embedded CP, as illustrated in (31) below, which indicates that the matrix object does not c-command into the embedded clause. In turn, Rodrigues (2004) claims that the embedded clause is actually an adjunct clause, as it induces island effects, as illustrated in (32).

(31) O João convenceu [a Maria], que [a idiota], devia assaltar um banco.

‘João convinced Maria, that [the idiot], should rob a bank.’

(32) a. ??Quem o João convenceu a Maria [que vem amanhã]?

‘Who did João convince Maria [will come tomorrow]?’

b. ??O que o João convenceu a Maria [que o Pedro precisa comprar]?

‘What did João convince Maria that Pedro needs to buy?’

c. *Como o João convenceu a Maria [que o Pedro tinha que se vestir para a festa]?

‘How did João convince Mary [that Pedro had to dress for the party]?’

In face of data like (31) and (32), Rodrigues proposes that sentences such as (29) should be derived along the lines of what was proposed for sentences such as (21). In other words, (29) is a case of adjunct control into a finite clause, which is derived via sideward movement, as sketched in (33)-(36).

(33) $K = \{o \; João \; T_{N,\text{default}} \; \text{tinha que sair}\} \quad L = \{\text{convenceu a} \; \text{Maria}\}$

the João had that leave convinced the Maria
(34) Sideward movement:
\[
K = [\text{[o J.]}{\text{T}}_{N:default} \text{tinha que sair}] \quad M = [\text{[o J.]}{\text{T}} convenceu a \text{M.}]
\]
\[
\downarrow
\]

(35) \[\text{vP } [\text{vP } [\text{[o João]}{\text{T}} convenceu a \text{Maria} [\text{[que [\text{[o João]}{\text{T}} tinha que sair]}]]}
\]
\[
\text{the João convinced the Maria that the João had that leave}
\]

(36) \[\text{TP } [\text{[o João]}{\text{T}}_{N:default; P:default} [\text{vP } [\text{vP } [\text{[o João]}{\text{T}} convenceu a \text{Maria} [\text{[que [\text{[o João]}{\text{T}} tinha que sair]}]]]}
\]
\]

What I would like to bring to this discussion is the observation that if the embedded clause of sentences such as (29) is preceded by the dummy preposition *de*, we get a new pattern: extraction out of the embedded clause now becomes acceptable, as shown in (37), and an embedded null subject can take either the matrix subject or the matrix object as its antecedent, as shown in (38).

(37) a. Quem, \text{o João convenceu a Maria} \text{de [que \text{t} vem amanhã]}?  
   who \text{the J. convinced the M. of} \text{that comes tomorrow}  
   \text{‘Who did João convince Maria will come tomorrow?’}  

b. O que, \text{o João convenceu a Maria \text{de [que o Pedro precisa comprar \text{t}]]}?  
   what \text{the João convinced the Maria of} \text{that the Pedro needs buy}  
   \text{‘What did João convince Maria that Pedro needs to buy?’}  

c. Como, \text{o João convenceu a Maria \text{de [que o Pedro tinha que se vestir para a festa \text{t}]]}?  
   how \text{the João convinced the Maria of} \text{that the Pedro had that REFLEX dress for the party}  
   \text{‘How did João convince Mary [that Pedro had to dress for the party \text{t}?’}  

(38) [\text{o João}, convenceu [a \text{Maria} \text{de que e,\text{e_t have} que sair.}  
   \text{the João convinced the Maria of} \text{that had that leave}  
   \text{‘João convinced Maria that he/she had to leave.’}  

The ambiguity found in (38) is arguably what underlies the contrasts in (39) and (40).
(39)a. [O João], convenceu [a Maria], que tinha que se vestir bem para a reunião.
   ‘João convinced Maria that he/she had to dress well for the meeting.’

b. [O João], convenceu [a Maria], de que tinha que se vestir bem para a reunião.
   ‘João convinced Maria of that he/she had to dress well for the meeting.’

(40)a. *[O João], convenceu [a Maria], que tinha que apresentá-lo pra Ana.
   ‘*João convinced Maria that he had to introduce him to Ana.’

b. [O João], convenceu [a Maria], de que tinha que apresentá-lo pra Ana.
   ‘João convinced Maria that she had to introduce him to Ana.’

Given that the null subject must be controlled by the matrix subject in the version without de, the reflexive in (39a) must corefer with the matrix subject and not the matrix object. By the same token, (40a) is out because the pronoun is locally bound by the null subject. Conversely, once the null subject may be controlled by the matrix subject or the matrix object in the version with de (cf. (38)), the reflexive in (39b) is ambiguous and the pronoun in (40b) can be coreferential with the matrix subject, thanks to the possibility of object control.

However, this general pattern raises a problem. If de always signals that the embedded CP is a complement in these constructions, subject control in the version with de becomes unexpected. Given a Larsonian VP-shell structure for ditransitives, movement of the embedded subject to the matrix [Spec,vP] should cross the intervening object and yield a minimality effect, as illustrated in (41).

(41) \[ [\text{vP} [\text{[o João]]}, [\text{v'} \text{convenceu}_k+v \text{[VP [a Maria] t_k de [CP que t_i ...]]}]] \]

This unexpected pattern is arguably spurious, relating to the fact that the sociolinguistic prestige ascribed to de (see section 3) often leads to instances
of hypercorrection. Consider the data in (42) below, for example. Although the verb *pensar* ‘to think’ does not subcategorize for *de* in BP, as shown in (42a), it is not uncommon to find cases of hypercorrection with insertion of *de* in formal speech, as illustrated in (42b), where # stands for hypercorrection.

(42)

a. Eu não pensei (*de*) nada.
   I    not  thought of nothing
   ‘I didn’t think anything.’

b. Eu penso (#de) que é necessário investir mais em educação.
   I    think of that is necessary invest more in education
   ‘I think that it is necessary to invest more in education.’

Although one frequently finds prescriptivist condemnations of hypercorrections of the sort illustrated in (42b), the presence of the preposition in constructions such as (38) is taken to be prescriptively correct, given the availability of structures such as (43), where the preposition is obligatory.

(43) Eu nunca consigo convencer a Maria *(de)* alguma coisa.
   I    never  get convince the Maria of some thing
   ‘I never manage to convince Maria of something.’

Based on the superficial “stylistic” availability of *de*-insertion in (42b), I would like to propose that the unexpected subject control reading in (38)/(39b)/(40b) arises from an adjunct structure to which “stylistic” *de* was added. We can see that the *de* that appears in these constructions is spurious by examining whether the binding relations allowed in (38)/(39b)/(40) are kept the same when there is *wh*-movement from the embedded clause. Given that *wh*-movement can only take place when the embedded CP is a complement, the prediction is that subject control, which is licensed when the embedded CP is an adjunct, should no longer be available in the presence of *wh*-movement from within the embedded clause.

Take the sentence in (44) below, for instance, which contrasts with (39b) in only allowing the object control reading for the embedded null subject. According to the proposal above, the two readings available in (39b) are due to a structural ambiguity. When the embedded CP is a complement (and *de* is a marker of inherent Case), only the object control reading is possible. Conversely, when the embedded CP is an adjunct (and *de* is a “stylistic” marker), only the subject control reading is allowed. As predicted, once an adjunct is extracted out of the embedded clause in (44) and the complement structure is enforced, the anaphor must take the matrix object as its antecedent.
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(44) Como w [o João], convenceu [a Maria], de [que tinha que se vestir para a reunião]? how the João convinced the Maria of that REFL dress for the meeting

‘How did João convince Maria [that she/he had to dress for the meeting]?’

Similar considerations apply to the contrast between (45a) and (45b) below. Speakers vary in their judgments for (45a) under the reading in which a Maria and a idiota are coreferential. According to the proposal above, this fluctuation in judgments is due to the potential ambiguity of the embedded CP. If CP is interpreted as a complement (with de as a marker of inherent Case), the matrix object c-commands into the embedded clause and coreference with the epithet should induce a Principle C effect. In turn, if CP is interpreted as an adjunct (with the “stylistic” use of de), coreference should be allowed as the object would not c-command the epithet. Once the interpretation of CP as a complement is forced by wh-extraction, as in (45b), judgments now become more streamlined and coreference is not allowed, as predicted.

(45) a. %O João convenceu [a Maria], de [que [a idiota], devia se vestir formalmente para a festa].
the João convinced the Maria of that the idiot should dress formally for the party

‘João convinced Maria [that the idiot should dress formally.]’

b. *Como o João convenceu [a Maria], de [que [a idiota], how the João convinced the Maria of that the idiot devia se vestir para a festa]? should REFL dress for the party

‘*How did João convince Maria [that the idiot should dress for the party]?’

To sum up, if we use wh-extraction to control for the potential noise due to the “stylistic” use of de in constructions with verbs like convencer ‘convice’, we again find that de disambiguates the potential complement or adjunct interpretation of a CP. When de is present, we have a complement structure and movement of the embedded subject proceeds upwards; hence the moved subject must land in the matrix object position ([Spec,VP]) in compliance with minimality requirements. In turn, if de is not present, we have an adjunct structure, and the embedded subject can only reach the matrix domain if it undergoes sideward movement, landing in [Spec,vP] (see fn. 9). Wh-movement out of the embedded clause is therefore licit when de is present, but induces an island effect when de is not present.
5. Dummy prepositions and the A-over-A Condition

Impersonal constructions constitute another domain where prepositions interact with the licensing of null subjects in BP. As originally noted by Galves (1987), sentences such as (46) in BP are ambiguous in that the DP that appears in the matrix clause may be interpreted as the external or the internal argument of the embedded verb:

(46) O João é difícil de elogiar.
   the João is difficult of praise-INF
   Tough-interpretation: ‘It is hard to praise João.’
   Raising interpretation: ‘João rarely praises someone.’

Here I will focus on the raising interpretation. Evidence that the matrix DP in (46) is a subject is the fact that it triggers verbal agreement, as shown in (47) below. Moreover, the fact that these constructions may involve idiom chunks, as illustrated in (48) and (49), indicate that the matrix DPs have raised out of the embedded clause.\(^{11}\) Finally, (50) shows that raising is possible even if the embedded clause has an inflected infinitival. Actually, that raising out of inflected infinitivals is allowed in BP should be no surprise by now, given that raising out of finite clauses is also possible, as seen in previous sections. In other words, Nunes’s (2008) proposal that finite Ts in BP may bear only a number feature in the syntactic component can also be extended to the T head of inflected infinitivals.

(47) a. Eu sou fácil de elogiar alguém.
   I am easy of praise someone
   ‘I easily praise people.’
   b. Esses professores são difíceis de elogiar os alunos.
      these teachers are difficult of praise the students
      ‘These teachers rarely praise the students.’

(48) a. Tá fácil do caldo entornar.
      is easy of-the broth boil-over
   b. O caldo tá fácil de entornar.
      the broth is easy of boil-over
      ‘It’s likely that things will go wrong.’

\(^{11}\) The fact that idiom chunks are allowed in constructions such as (48b) and (49b) also provides a compelling argument against a pro-based approach to null subjects in BP, for idiom chunks cannot be subsumed or doubled by pronouns. For further arguments against a pro-based analysis, see Ferreira (2000, 2009), Rodrigues (2004), Martins & Nunes (2005), and Nunes (2008).
(49) a. Tá bem fácil da vaca ir pro brejo.
   is very easy of-the cow go to-the swamp
b. A vaca tá bem fácil de ir pro brejo.
   the cow is very easy of go to-the swamp
   ‘It’s very likely that things will go wrong.’

(50) Esses professores são difíceis de elogiarem alguém.
   these teachers are difficult of praise.3PL someone
   ‘These teachers rarely praise someone.’

Relevant for our current discussion are the correlations involving the dummy preposition *de* and the availability of these raising constructions (see Nunes 2008). First, this type of raising is only allowed with predicates that permit the dummy preposition *de*. As shown in (51) and (52) below, for instance, predicates such as *fácil* ‘easy’ and *difícil* ‘difficult’, which optionally require *de*, allow raising of the embedded subject; by contrast, predicates such as *provável* ‘probable’ and *lamentável* ‘regrettable’, which do not license *de*, do not allow raising either.

(51) 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.’

(52) 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.’

Second, raising can take place only if the preposition is present, as shown in (53).

(53) a. É difícil (d) esses professores elogiarem alguém.
   is difficult of these teachers praise.3PL someone
   ‘These teachers rarely praise someone.’
b. Esses professores são difíceis *(de) elogiarem alguém.
these teachers are difficult of praise.3PL someone
‘These teachers rarely praise someone.’

Finally, although the infinitival clause can move to the subject position or stay in situ, as shown in (54), once it is preceded by de it can no longer move, as shown in (55).

(54) a. É difícil esses professores elogiarem alguém.
     is difficult these teachers praise.3PL someone
b. Esses professores elogiarem alguém é difícil.
     these teachers praise.3PL someone is difficult
     ‘These teachers rarely praise someone.’

(55) a. É difícil dessa professores elogiarem alguém.
     is difficult these teachers praise.3PL someone
b. *Dessa professores elogiarem alguém é difícil.
     of these teachers praise.3PL someone is difficult
     ‘These teachers rarely praise someone.’

Nunes (2008) argues that the paradigm in (51)-(55) can be accounted for if de is a marker of inherent Case. Under this view, the fact that only some predicates are able to take a de-infinitival (cf. (51a) vs. (52a)) reduces to lexical idiosyncrasies generally involved in inherent Case assignment. In turn, if the infinitival receives inherent Case, it should become inactive for purposes of A-movement; hence, a de-infinitival cannot move to the matrix subject position (cf. (55a) vs. (55b)). Finally, given that both the infinitival clause and the embedded subject can potentially raise to the matrix subject position (cf. (54b) and (53b)), potential movement of the infinitival clause should always block movement of the embedded subject, as they instantiate an A-over-A configuration. In order for the subject to be allowed to move without violating Chomsky’s (1964) A-over-A Condition, the infinitival must be discarded from the competition. This happens when the infinitival receives inherent Case (cf. (55)).

We now have an explanation for why movement of the embedded subject requires the presence of de (cf. (53b)): by rendering the infinitival clause immobile, de ends up freeing the embedded subject. Actual subject movement will then depend on whether the infinitival T head bears only number or number and person features.

To sum up, in this section we examined another type of construction in BP that at first sight suggests that its null subject must be licensed by the dummy preposition de. Upon close inspection, we found that these impersonal constructions replicate what we had already seen in previous sections, with the only difference that the movement of the embedded subject this time targets a non-thematic position. More specifically, there is
no direct interaction between the dummy preposition and the null subject. The preposition is just a realization of inherent Case assigned to the infinitival clause by the subcategorizing head. However, a by-product of such interaction is that the infinitival clause becomes immobile, allowing the embedded subject to move. The raising constructions discussed in this section thus provide additional evidence for the two proposals explored in previous sections: (i) that referential null subjects in BP are A-traces and (ii) the preposition *de* that precedes clauses is a marker of inherent Case.

6. Concluding remarks

The proposal that referential null subjects in BP are traces of A-movement (see Ferreira 2000, 2009, Rodrigues 2002, 2004, Martins & Nunes 2005, Nunes 2008) provides substantial support to the general approach advocated by Hornstein (2001), according to which construal phenomena should be captured in terms of movement. This paper has provided further evidence to this approach as it showed that the basic proposal can be extended to finite control into noun complement clauses in BP (section 3) and sharpened an alternative analysis of recalcitrant data involving apparent object control configurations (section 4). Finally, it provided a new type of argument for a movement approach to referential null subjects in BP (section 6): as movement of embedded clauses and movement of their subjects may compete with respect to economy considerations minimizing the span of the operation, referential null subjects in BP were shown to be regulated by the A-over-A Condition.

References


