Empty categories as (Copy and) No Transfer

Non-Obligatory Control and Partial Null Subjects

M. Rita Manzini and Anna Roussou

mariarita.manzini@unifi.it, aroussou@upatras.gr

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Abstract

We assume the Copy theory of control, under which obligatory control depends on a Copy relation between the controller and the controllee, followed by deletion of the latter ('PRO'). We further assume that pronominal null subjects ('pro') undergo deletion (No Transfer) under Agree with rich I. In this framework, we analyze some problematic instances of null subjects, whose status is intermediate between standard PRO and pro. We consider first non-obligatory control and partial control, for which we adopt an account in terms of logophoric binding via the phase edge. We then propose that the finite null subjects of Brazilian Portuguese instantiate finite control, but of the non-obligatory, logophoric kind.

Keywords. Control, null subject, logophor, Transfer, Copy, phase.

1. Trace, PRO and pro

1.1 Copy and deletion

Chomsky (1995: 185) introduces "the copy theory of movement", under which the derivation, say, of an English raising sentence is as in (1). The DP *John* undergoes External Merge (EM) in theta-position and then Internal Merge (IM) into matrix subject position to satisfy the EPP (however, we may want to construe this principle). The two copies form a chain, and the lower copy undergoes deletion.

(1) John seems [$_{IP}$ ~~John~~ to win]

Hornstein (1999) proposes that the movement derivation in (1) also applies to obligatory control (OC), thus eliminating PRO in favour of a copy of movement. This approach though implies a violation of what Chomsky (2021: 18) calls Duality of Semantics (DoS), stating that "theta-roles are associated with EM", see Chomsky (2000: 103) for an early statement. Recently, Chomsky (2021, 2024) outlines a copy and deletion account of control compatible with DoS. He proposes that a control structure like (2a) is derived by EM of the two separate inscriptions of *John*. At Transfer, the two identical inscriptions which are in a c-command relation within the same phasal domain enter the Copy relation, as in (2b). Following the formation of the Copy pair, the lower copy deletes, as part of EXT. Note the assumption is that infinitival sentences are not phases (but see Saito 2024).

(2) a. John tried [John to win] *Obligatory Control, PRO*

b. Copy: <John, ~~John~~>

Contrary to what has long been held in generative grammar, Chomsky (2021) also proposes that under Minimal Yield (MY) derivations are strictly Markovian, namely that "the history is not preserved in the current state" (p. 20). This eliminates the idea that chains are constructed by IM derivations. Rather, at the point of Transfer, Copy applies to the two inscriptions of *John* in raising, (3), as in control, (2). Movement and OC are then unified, without violating DoS, and are the names of two interpretations, namely one vs. two theta-roles (see also Manzini and Roussou 2000), rather than of two derivational processes.

(3) a. John seems [$_{IP}$ John to win] *Raising to subject, trace*

b. Copy: <John, ~~John~~>

In this work, we adopt the Copy theory of control (CTC), or to be more precise of OC, and this leads us to consider the last remaining empty category (EC), namely pro. As argued by Borer (1989) (see also Alexiadou and Anagnostopoulou 1998), an expletive pro is not required to satisfy the EPP in Null Subject Languages (NSLs), since this can be directly achieved by rich inflection. This line of arguments is accepted by Chomsky (2015: 9) who suggests parameterizing the EPP in terms of Labeling. In NSLs, I is rich and can label, while in non-NSLs, such as English, I is weak and cannot label on its own, requiring merger of a DP with I and Labeling of the resulting constituent by Agree. Merger of pro is necessary only if there is a theta-role that needs to be satisfied by the null subject (see also Collins 2024).

Against this background, Holmberg (2005) argues that a deletion approach to pro is also possible. The idea is that pro is an actual pronoun that gets deleted under feature identity with a rich inflection (also Roberts 2010). Saab (2009: 654) executes this idea in terms of 'No Transfer', that is, no lexical insertion for the abstract terminals of syntax, given the Late Insertion assumption of Distributed Morphology (DM). In other words, a null subject in NSLs may be represented as having the same structure as overt pronouns, as in (4b); see especially Barbosa (2019). The abstract pronoun enters Agree with rich I, and at Spell-Out feature identity with rich I licenses deletion construed here as No Transfer.

(4) a. Parlano (Italian)

speak.3PL

'They speak'

b. [$_{IP}$ I [$_{DP}$ D [$_{nP}$ φ]] [$_{vP}$ V *NSL, pro*

→ No Transfer

In short, control (PRO), raising (A-copy) and null subjects (pro) are identified at the PHON interface by the fact that they involve deletion under identity – though identity may be licensed under very different conditions, typically language-specific. At the SEM interface, their interpretation differs according to whether they enter the Copy relation or not. Copy yields the reading of a bound variable (movement or control), otherwise a free pronoun reading is possible, as in the null subject phenomenon.

1.2 A reformulation of the CTC

The preceding discussion connects copy and deletion theories of raising and OC, with deletion theories of null subjects. Yet the versions of these two sets of phenomena that we have provided are potentially inconsistent. Following Chomsky (2021, 2024) we have adopted representations of the type in (2)-(3) for raising and OC, where deletion affects lexical terminals, while in (4) we have assumed that null subjects undergo No Transfer at EXT. In this latter instance, no lexical terminal is deleted, instead, there is an abstract terminal that is not Spelled Out.

Consider the OC derivation in (2) again. There is a crucial timing issue, which is embedded in the notion of phase, as regulating Transfer in particular, and that is 'what is seen by the computation and when'. Chomsky (1995) argues that the derivation only sees abstract formal features. If this is correct, then the derivation in (2) takes a rather different shape. In essence, both the lower argument (the controllee) and the higher argument (the controller) are visible to syntax just as feature bundles, namely D and *n*, as in (5a). The Copy relation implies that as part of INT the two inscriptions of [D [n]] are read as occurrences of the same syntactic object, i.e. as copies, cf. (5b). In (5a) we lexicalize the verbs and *to* for ease of processing – but all terminals are abstract. As for the subscripts in (5b) they are just a shorthand for the contexts of

occurrence of the two copies.

(5) a. … [$_{vP}$ [D [n]] *tried* [$_{IP}$ *to* [$_{vP}$ [D [n]] *win*]]]

b. Copy < [D [n]]$_1$, [D [n]]$_2$ >

Only the two interfaces see more than formal features. The No Transfer account of deletion proposed by Saab (2009) presupposes the DM framework. Without committing ourselves in any way to DM, we take Lexical Insertion (LI) to be one of the tasks executed as part of the Transfer procedure common to both interfaces. In the structure in (5), LI takes place in the higher position of the Copy pair, yielding a PF and LF along the lines of (6a). What is more interesting is the mapping to the interfaces of the lower member of the Copy pair. INT sees the Copy relation as an instruction to treat the lower [D [n]] as a bound variable of *John* (cf. sloppy identity under ellipsis). The EXT procedure sees the same relation as an instruction not to Spell Out the lower [D [n]], as in (6b). Identity with the higher copy ensures recoverability of the lower one under deletion.

(6) a. EXT: [D [n]]$_1$ → /dʒɔn/

INT: JOHN

b. EXT: [D [n]]$_2$ → ∅ [No Transfer: Copy relation]

INT: bound variable

In short, in OC configurations, core syntax builds identity relations at the phase level into copy pairs. As part of INT, copy pairs are interpreted as antecedent, bound variable configurations. At EXT, deletion is construed as No Transfer of the abstract terminal corresponding to the lower member of the Copy relation. The CTC as outlined and adapted

here upholds a modular conception of grammar, where EXT and INT do not know about one another and more importantly, syntax does not know about them. The crucial implication of the approach just outlined is that syntactically, there is in fact no distinction between the abstract terminal [D [n]] in (5)-(6) and the null pronoun postulated for NSLs. What differs is the conditions licensing no transfer ('deletion'), and the possible interpretations.

In the rest of the paper, we focus on null subjects that fall between PRO and pro. Specifically, we consider Non-Obligatory Control (NOC) infinitives in English, including both anaphoric (or rather, logophoric) readings and arbitrary (i.e., generic) free readings. We further consider so-called partial NSLs, based on data from Brazilian Portuguese (Barbosa 2019, cf. Holmberg 2005 on Finnish, Shlonsky 2009 on Hebrew), whose null subjects exhibit a generic or an anaphoric (logophoric) interpretation, but no deictic interpretation. In constructing a unified account of the various configurations mentioned, we exploit the independence of the syntax, the EXT procedure and the INT procedure. Variation is the result of the free interplay of varying EXT conditions with an essentially invariant INT range.

2. Non-Obligatory Control

2.1 Arb NOC

By hypothesis, canonical examples of OC like (2), (5) are derived by Copy formation between the embedded subject and a matrix argument, and by deletion of the lower copy, yielding a null subject. NOC is the label that is generally given to all those instances of infinitival null subjects that cannot have the OC derivation, i.e., no Copy formation, either because there is no antecedent, or because the antecedent is non-local or not c-commanding. Indeed, non-finite clauses in English allow for null subjects in the absence of controllers, in which case they have a so-called arbitrary (generic) interpretation, as in (7). In these cases, the null subject behaves as an indefinite (a free variable) closed by a Generic operator, as part of the INT procedure.

(7) a. It suffices [__ to win]

b. It is unclear [whether __ to speak]

The other core examples of NOC involve configurations like (8) where an antecedent is present but one or more of the conditions on Copy do not apply between the null subject and its antecedent. In (8a) (a classical Super-Equi example, Grinder 1970), *John* does not c-command the infinitival subject, which also is in a subject island, hence a phasal CP. In (8b-c), *John* c-commands the deletion site, but the latter is embedded in a phasal CP, barring Copy. The connection between the examples in (7) and (8) is confirmed by the fact that however marginal, the arbitrary interpretation is also possible in (8).

(8) a. [__ to win] would bother John

b. John wondered [whether __ to speak]

c. John said that [__ to win] would be a problem

The conclusion forced on movement theories of OC (Hornstein 1999) is that despite the similarity of contexts of embedding, the null subject involved in NOC has no relation to the null subject involved in OC. Specifically, NOC involves a pronominal null subject (pro). In present terms, this is tantamount to saying that NOC infinitives involve a [D [n]] not transferred to PHON – along the lines of NSLs. As far as we can tell, this is also the only extant proposal on NOC compatible with Chomsky's (2021, 2024) Copy theory of OC.

The potential problems with such a proposal are evident. The null subject of NOC infinitives in (7)-(8) has at least one interpretation that is inadmissible with canonical null subjects, namely the generic interpretation. Vice versa, canonical null subjects have a possible

free deictic interpretation that is unavailable to subjects of NOC infinitives. In other words, Italian (9a) can refer to a definite individual, but not to a generic set. The latter meaning in Italian requires the presence of so-called impersonal *si* 'one'. Similarly, (9b) can have either an anaphoric or a deictic interpretation, while no deictic interpretation is available in NOC.

(9) a. Vince facilmente
win-3SG easily
'He/*One wins easily'

b. Gianni dice che __ vincerà facilmente
Gianni say.3SG that win.3SG.FUT easily
"Gianni says that he will win easily"

The idea that there is an EC pro, with certain inherent and context independent properties, is hardly compatible with its putative occurrence in both NSLs and in NOC. Indeed, within the framework established in section 1, the question is no longer whether an EC with a certain interpretation and certain conditions of (non-)externalization fits a certain grammatical slot. Rather this question is resolved into three simpler, independent ones: whether Copy holds, whether No Transfer is licensed as part of EXT (generally under identity), and which interpretations are available for the identity element (bound variable, coreference, etc.).

Consider first arb NOC, as in (7a) with the structure in (10) (see the next section for the logophoric readings). So far, we have seen two configurations capable of licensing No Transfer of [D [n]]. One is Copy, excluded by hypothesis in (7)-(8). The other is Agree with I, as in the finite sentences of NSLs, excluded on the assumption that there is no φ-probe on infinitival I. In order to be able to value the φ-features of I in NSLs, a [D [n]] must have valued features. We suggest that in infinitives it may simply have unvalued ones. The latter are set on default

values at EXT that may reasonably be taken to be recoverable without recourse to an antecedent, as in (10c); this introduces a third licensing mechanism. The INT procedure treats default [D [n]] as an indefinite (a free variable), providing a quantificational closure for it via a Generic operator, as in (10c).

(10) a. … [$_{vP}$ suffices [$_{CP}$ C [$_{IP}$ to [$_{vP}$ [D [n]] win]]]

b. [No Copy]

c. EXT: [D [n]] → ∅ [No Transfer: Default feature values]

INT: [D [n]] → indefinite, Gen closure

We turn next to the other type of NOC, displaying coreference between the null subject and an antecedent.

2.2 Logophoric NOC

One prominent line of explanation of NOC holds that NOC null subjects are logophors. This is explicitly proposed by Landau (2013), who treats logophoricity as a semantico-pragmatic notion, and by McFadden and Sundaresan (2018), who treat perspectival anaphora (cf. Sundaresan 2018) as the result of Agree. A similar, syntactic analysis of logophors (no mention of NOC) is presented by Charnavel (2020), who eschews Agree in favour of a phase-based mechanism (cf. Charnavel and Sportiche 2016).[1]

In general, the distribution of NOC with respect to OC is very similar to that described by the literature for logophors with respect to anaphors. There is therefore no locality or c-command restriction on NOC as opposed to OC and so it is for logophors with respect to plain

[1] For an overview of logophoricity, see Charnavel (2021) and Sundaresan (2021).

anaphors (Sundaresan 2018, Charnavel 2020). Instead, the requirement on logophors is that they must have an antecedent that is a perspective holder, namely a subject of a propositional attitude, an experiencer, or a spatial perspective holder.

For Sundaresan (2018) and McFadden and Sundaresan (2018), who explicitly address NOC, the first step of the derivation of NOC is syntactic. McFadden and Sundaresan use the Upro notation, reminiscent of Landau's (2015) minimal pronoun, based on the assumption that null arguments of various sorts are contextually determined. The null subject of the gerund enters Agree with a null argument in Spec, PerspP (Perspective Phrase) at the left periphery of the sentence – again a (U)pro at least in the notation of Sundaresan (2018). This syntactic step, like all applications of Agree, is strictly local (i.e., it obeys Minimality and the Phase Impenetrability Condition, PIC). Note that Upward Agree (Zeijlstra 2012) is involved since the NOC null subject is valued by the perspectival null pronoun acting as a probe.

(11) a. __ having just arrived in town, the main hotel seems to Bill the best place to stay

b. [$_{PersP}$ Upro Pers [Upro having just arrived in town]] …
|_____| (Agree)

The second stage of the derivation is semantic and consists in coreference of the left peripheral null pronoun with some suitable perspective holder antecedent, namely *Bill* in (11). As commented by Sundaresan (2018: 23) "the relationship between the antecedent and the perspectival pro in the local phase of the anaphor must thus necessarily be non-structural". As McFadden and Sundaresan (2018: 40) put the connection "is handled by conditions on discourse".

Charnavel and Sportiche (2016) and Charnavel (2020) take plain anaphors to be an interface operation, whose domain is the Spell-Out domain of a phase. This means that plain anaphor binding has two key properties of Copy, namely operating at the interface (at Transfer)

and at the phase level.[2] On logophors, Charnavel has a proposal very similar to Sundaresan's, namely that their local antecedent is a *pro* subject of a LogP (Logophor Phrase) at the left periphery of the sentence. This latter *pro* is licensed by a logophoric center antecedent. According to Charnavel (2020: 679) "the referential value of the logophoric center is determined pragmatically".

Against this background, consider (8a). When the *that* phase-head is merged, closing the embedded CP phase, there is no argument for the embedded [D [n]] argument to enter Copy with, cf. (12). [3]

(13) … [$_{CP}$ *that* [$_{IP}$ [$_{CP}$ [D [φ]] [$_{IP}$ *to* [$_{vP}$ [D [φ]] *win*]]] *would* …

Other alternatives are open. Let us assume minimally that the external argument [D [n]] evacuates to the edge of CP by IM, as in (13a). Copy applies between the two inscriptions of [D [n]], as in (13b), licensing the lower one at EXT (No Transfer) and at INT (bound variable), cf. (13c). Charnavel's Log or Sundaresan's Persp need not in fact be cartographic-style heads, but can be understood as features of phase heads, namely the sentential subject C in (13a).

(13) a. … [$_{CP}$ *that* [$_{IP}$ [$_{CP}$ [D [φ]] C$_{[Log/Persp]}$ [$_{IP}$ *to* [$_{vP}$ [D [φ]] *win*]]] *would* …

b. Copy < [D [n]]$_1$, [D [n]]$_2$ >

c. EXT: [D [n]]$_2$ → ∅

[2] This raises the question whether plain anaphor binding can reduce to the Copy relation (with the lower copy realized as an anaphor). The possibility is actually mentioned by Chomsky (2021: 25).

[3] Semantic differences confirm the different status of OC and NOC. Thus, under ellipsis, OC (i.e. Copy, cf. (6)) forces the sloppy reading of the elided OC complement, while NOC admits sloppy or strict readings (see McFadden and Sundaresan 2018).

INT: $[D\ [n]]_2 \rightarrow$ bound variable

At the next stage of the derivation, then, a logophoric antecedent for $[D\ [n]]_1$ in (13b) is established. Both Charnavel and Sundaresan assume that this step is pragmatic. However, in the conception of empty categories embraced here, this cannot be right. Rather, the logophoric antecedent is what ultimately licenses deletion (No Transfer) at EXT – as well as providing an interpretation at INT. This hypothesis is schematized in (14).

(14) a. … $[_{vP}$ *John says* $[_{CP}$ *that* $[_{CP}\,[D\ [n]]$ …

b. EXT: [D [n]] $\rightarrow \varnothing$ (deletion under identity)

INT: [D [n]] $\rightarrow$ coreference with perspective holder

The derivation in (14) as it now stands has the flavour of improper movement: [D [n]] is first IM-ed in an A'-position and then bound from an A-position.[4] Interestingly, Charnavel (2020:705), explicitly posits "the possible presence of a logophoric projection LogP in each Spell-Out domain … This reflects the intuition … that each phase can be specified as being presented from some individual's or individuals' perspective". On the basis of this hypothesis, it seems to us that (14a) is naturally revised as in (15). Logophoric coreference reduces then to binding from phase edge to phase edge. Note that all long-distance dependencies (from phase edge to phase edge) display the character of operator-variable dependencies (strong cross-over, etc.); an obvious case in point is topicalization, eventually with resumptive clitics. Therefore.

[4] Something similar is proposed by Chomsky (2021: 28-29) for *easy-to-please* constructions. In his terms, IM from argument position to the edge of CP creates a predicate, which is then applied to the subject of *easy*, EM-ed in A position. This is excluded in NOC precisely because of the absence of predication.

we see no principled objection in this respect.

(15) [$_{CP}$ *John* $C_{Log/Persp}$ … [$_{vP}$ *John says* [$_{CP}$ *that* [$_{CP}$ [D [n]] $C_{Log/Persp}$

Although the preceding discussion is schematic, our main point is that the CTC and more generally the deletion (No Transfer) analysis of null subjects (or arguments) is compatible with an account for NOC within broadly accepted guidelines. Given limitations of space, our goal here is not to refine the analysis of NOC, but rather to propose an analysis of partial null subjects, specifically in Brazilian Portuguese, that assimilates them to NOC, i.e., logophoric control. In order to do so, we must turn next to another potential problem for CTC, that of partial and split control.

2.3 Partial and split control

Two key examples of partial/split control are reproduced in (16), slightly modified from Landau (2024a: 28). As in OC, the embedded null subject takes its reference from the closest matrix argument, here the object. However, the embedded verb in (16a) and the adverb *together* in (16b) necessarily imply a plurality, yielding partial control (‘the chair and others’) in the first case and split control (‘Dan and Susan’) in the second. For brevity, we refer to partial control in what follows, although similar arguments extend to split control.

(16) a. Susan persuaded the chair [__ to meet without her].

b. Susan persuaded Dan [__ to continue working together on this].

Landau (2015) argues that OC corresponds to two different structures. Non-attitude control verbs (e.g., modals, aspectuals) embed a predicate, whose open variable corresponds to PRO.

Attitude and communicative verbs, on the other hand, as in (16), take propositional complements. In this case PRO is not directly bound by its matrix antecedent but by a pro argument in the embedded Spec, CP, where C is +Log, as in (17) – though note that PRO and pro are different notations for the minimal pronoun of the grammar, depending on its contextual properties. Logophoric OC then is similar to NOC (see also Landau 2020, 2024).

(17) $[_{CP}$ *pro* C_{+log} … $[_{TP}$ PRO …]]]

Landau (2024a) points out that the CTC is unable to account for partial control. Indeed, if the embedded null subject is not identical to its antecedent, Copy cannot have applied. As Landau (2024a) puts it, there is no partial raising, after all. Therefore (16) requires a non-Copy approach. But surely, this simply means that the empirical coverage of the CTC is that of Landau's predication control. Under the CTC, what Landau calls logophoric OC must be assimilated to NOC. Again, this seems to be what Landau (2015) intends anyway. According to Landau (2015: 85), "NOC and (logophoric) OC are not distinguished at all at the fundamental level of mechanism, contra to popular belief. Rather, the difference boils down to the fact that the projected coordinate of the logophoric C (in the present notation, pro_x or pro_y) is a bound variable in OC but a free variable in NOC. […] The coordinate variable in OC necessarily picks out […] the attitude context specified on the embedded C, but may pick out *any* attitude context (including the utterance context) in NOC. Ultimately, the contrast seems to be grounded in the fact that complements are selected whereas subjects and adjuncts are not". Indeed, the difference between (16) and NOC in (8) is that no c-command and locality restrictions are observed in (8), while they are in (16). Yet Landau (2015) himself sketches a possible reason why in the passage just quoted – the difference has to do with complement infinitives vs. subjects and adjuncts (essentially the old generalization formulated by Manzini

(1983) in terms of government).

Apart from attitude and communicative verbs, experiencer predicates also display logophoric control, since experiencers are obvious perspective holders. This class is very useful for present purposes in that they allow for their infinitival complement to be raised to subject position. As Landau (2001) shows, in that case they display the properties of classical NOC (or Super-Equi). Specifically, the null subject in (18a) can be anaphoric to the matrix clause subject or to the non-c-commanding experiencer or have arbitrary reference. However anaphoric reference to the experiencer is forced if the sentence is postverbal, as in (18b). If the co-argument of the control sentence is a theme and not an experiencer, as in (19), this pattern does not arise, in the sense that the infinitival sentence has stable NOC properties. Landau (2001) proposes that the infinitival clause in (19b) is truly extraposed – roughly adjoined to vP and outside the c-command domain of the theme – while in (18b) the infinitival clause is an internal argument of the verb and in the c-command domain of the experiencer.

(18) a. Mary knew that [__ perjuring himself/herself] disturbed John

b. Mary knew that it disturbed John [__ to perjure himself/herself]

(19) a. Mary knew that [__ perjuring himself/herself] damaged John

b. Mary knew that it damaged John [__ to perjure himself/herself]

From the evidence in (18) we conclude that infinitival complement clauses in the domain of perspectival/logophoric co-arguments are bound by the latter. This is not Copy control because partial control is possible. In the absence of binding by a co-argument, the properties of logophoric/perspectival anaphora emerge fully, in so-called NOC contexts. The real research question at this point is formalizing the restriction observed. We leave it open here. Instead, in the space at our disposal, we review another set of empirical data connected to the so-called

partial NSLs, here Brazilian Portuguese (BP), drawing a parallel with NOC/logophoric null subjects.

3. Partial null subjects

3.1 Partial null subjects in Brazilian Portuguese

Null subjects of finite sentences in Brazilian Portuguese (BP) are strikingly different from those of full NSLs, like Italian or Spanish, or in fact European Portuguese (EP). The same overall pattern as for BP has also been discussed for other languages including Finnish (Holmberg 2005), Hebrew (Shlonsky 2009), Marathi (Holmberg et al. 2009), and is generally referred to by the label of partial NSLs.

A (3rd person) null subject of a finite sentence in BP can be interpreted in two ways, namely as coreferential with an antecedent, as in (20a), or as generic if no antecedent is available, as in (20b) (examples from Barbosa 2019). Therefore, in both examples in (20), the typical interpretation of null subjects in NSL languages, namely the deictic interpretation, is impossible in BP. Vice versa, the generic interpretation in (20b) is impossible in NSLs. In Italian, Spanish, and EP generic reference can only be established by means of the *se/si* clitic, cf. (9) above.

(20) a. O Joao disse que __ comprou um computador.
the Joao said.3SG that bought. 3SG a computer
'Joao said that he bought a computer.'

b. E' assim que __ faz o doce.
be.3SG so that make.3SG the cake
'It is in this way that one makes the cake.'

The BP pattern in (20) has been treated in terms of OC, mainly within the Movement Theory of Control (MTC), e.g., by Rodrigues (2004: chapter 4), Ferreira (2009: 30), Nuñes (2009). Other theorists argue against this conclusion (Modesto 2007, Holmberg et al. 2009). As far as we can tell, the possibility that BP partial null subjects are indeed connected with control – but with NOC, rather than with OC – is not explored in the literature.[5] The first relevant piece of evidence concerns the possibility for the finite null subject of BP to get an indefinite, generic reading (20b). This pattern differentiates BP finite null subjects from those of NSLs, but also from OC, pointing instead towards an affinity with NOC.

The second piece of evidence concerns the coreferential readings (20a). The literature agrees that in case of multiple embeddings the antecedent of the null subject must be the closest subject, blocking (21a). However, minimal distance effects are neutralized if the intervening subject is an expletive, as in (21b) (from Holmberg et al. 2009: 82). Evidently, a Copy analysis cannot be employed here, since there is at least one C phase head between *Maria* and the null argumental subject in (21b) – nor can equivalent analyses (movement to θ position, predication). Holmberg et al. (2009) also report the possibility of embedded interrogatives like (21c); the presence of an embedded interrogative complementizer makes it difficult to consider the embedded C anything but phasal.

(21) a. *A Maria disse *que* o médico acha *que* está gravida.
the Maria said.3SG that the doctor think.3SG that is pregnant
'Maria said that the doctor thinks she is pregnant.'

b. A Maria disse *que* é verdade *que* entornou o copo.

[5] Landau (2024b) still includes BP in a survey of 'noncanonical Obligatory Control), under the same finite control heading as Balkan finite control – which instantiates bona fide OC (see Manzini and Roussou 2024 for an account compatible with the CTC).

the Maria said.3SG that is true that knocked.over.3SG the glass

'Maria said it's true that she knocked over the glass.'

c. O João perguntou *se* podia dormir aqui.

the John asked. 3SG if could.3SG sleep.INF here

'John asked if he could stay the night.'

In short, there is evidence that antecedent-null subject relations in BP do not obey the PIC or in fact Minimality. As Modesto (2007) shows, although verbs of communication involve at least two possible antecedents/controllers in the matrix sentence, the preferred antecedent is the subject, as in (22a) – though according to Holmberg et al (2009), the object reading can also be forced, as in (22b). Evidently, preference for subject antecedents across an object, as in (22a), violates Minimality.

(22) a. O Pedro convenceu o João que __ tinha que ir embora.

the Pedro convinced.3SG the João that had.3SG that go away

'Pedro convinced João that he (Pedro) had to leave.'

b. O Zé convenceu os meninos que __ tinham que ir embora

the Ze convinced.3SG the kids that had.3PL that go away

'Ze convinced the kids that they had to leave.'

Still, one may consider whether the semantics is that of OC. For instance, Rodrigues (2004) claims that examples like (23) only have the sloppy reading of the ellipsis. Nevertheless, both Holmberg et al. (2009) and Barbosa (2019) argue that the strict reading (the only natural reading) is not excluded. This means that semantically as well, the BP finite null subject does not have the bound variable reading typical of OC, i.e., in present terms of Copy.

(23) A Maria encucou que __ estava grávida e o Paulo também
the Maria got.worried.3SG that was pregnant and the Paulo too
'Mary got worried that she was pregnant and Paulo did too'

Summarizing so far, we take as an established result that partial null subjects in BP exclude licensing via Copy, followed by deletion (No Transfer) of the lower copy and interpretation as a bound variable. At the same time, BP finite null subjects are not pronominal, unlike in NSLs. Instead, we propose that partial NSLs are a form of finite NOC, hence in present terms a form of null subject logophors. Holmberg (2005) explicitly speaks of "logophoric subject pronoun" with respect to Finnish. Furthermore, he comes very close to what we have just proposed for NOC in stating that "the φP has to move to the edge of a phase to be accessible for a DP in the next phase", though he leaves "the precise formal account" open.

Let us first comment on the empirical viability of the proposed reduction of partial NSLs to NOC, i.e., to null logophors. To begin with, there is the matter of the intervention constraint in (21a). But the discussion in section 2 already provides us with a possible insight as to why there should be a nearest controller effect in a logophoric binding. The null subject in examples like (21a) is contained within a complement of the communicative verb, hence it is in the configuration which triggers binding by a c-commanding co-argument in English infinitival contexts as well, cf. (18) above.

Another piece of data that requires some attention is mentioned by Holmberg et al. (2009) as differentiating BP from the English NOC pattern. As noticed among others by Chomsky (1986), although it is impossible for *John* to be an antecedent of the NOC null subject in (24a), where it is contained within a [+ human] DP, it is perfectly possible in (24b) where the DP

embedding it is [-human]. On BP, judgements consistently are that coreference is blocked in the second case as well, as in (25) (from Holmberg et al. 2009: 91).

(24) a. *[__ to have to feed himself] would annoy John's friends

b. [__ to have to feed himself] would assist John's development.

(25) *A ideia do José era que ___ ia embora imediatamente.

the idea of-DET José was that went.3SG away immediately

'José's idea was that he would leave immediately.'

The evidence in (24)-(25) bears on an important issue that was not touched upon in section 2, despite being extensively discussed by the literature, namely whether logophors require human antecedents or not. Charnavel and Sportiche (2016) and Charnavel (2018) argue that French *propre/lui-meme* '(his) own'/'he (him)self' are restricted to human antecedents when used logophorically. Sundaresan (2018) however argues that spatial perspective licenses perspectival anaphora in Tamil – which implies that inanimate DPs can serve as antecedents.[6] The contrast between (24) and (25) seems therefore reducible to independently attested variation (i.e., French vs. Tamil logophors).

We conclude that the available empirical evidence is compatible with the conclusion that NOC and partial NSLs instantiate the same phenomenon, namely logophoric null subjects. These logophoric null subjects require an antecedent like plain anaphors or OC null subjects –

[6] For English NOC, there is both evidence pointing to human antecedents, like (24), and evidence against this restriction, as discussed by Landau (2013). Landau in fact takes examples lacking a human restriction to motivate a topic-drop treatment of NOC, in addition to the logophoric treatment. In the light of the discussion in the text, this may be unnecessary.

though unlike the latter they are not subject to locality, nor do they yield a bound variable reading. By the same token, they contrast with canonical NSLs whose null subjects are regular pronouns, capable of deictic reference as well as of coreferential readings. We turn our attention to possible formalizations of this state of affairs in the next section.

3.2 Some formalization

We have maintained throughout that lexical and null noun phrases, independently of their interpretation, are DPs. Therefore, the categorial skeleton seen by Narrow Syntax is [D [n]]. The semantics of null DPs (bound variables, logophors, pronouns) is restricted by the relations that these elements can or must get into, not by their internal structure (Landau 2015, McFadden and Sundaresan 2018, for various executions). In his seminal work on NSLs, Holmberg (2005) similarly assumes that all null arguments are φPs. His proposal is that what makes canonical NSLs different from partial NSLs is the nature of the I probe taking the null subject as its goal. Canonical NSLs have a richer I than partial NSLs, in that it is endowed with D features. We take it that shifting the burden of explaining partial NSLs to I is the correct idea (cf. also Barbosa 2019).

Consider the example in (20a). Given the discussion that precedes, the syntactic structure of the embedded sentence is as in (26a), where C is a phase head. In full NSLs, we know from section 1 that Agree between I and DP is sufficient to ensure deletion (No Transfer) of the latter at EXT. We may then embrace Holmberg's (2005) idea that I in BP is defective in some respect – namely it is defective with respect to D. We take this to imply that No Transfer at EXT is not ensured under identity with rich I, because D content is not recoverable.

(26) a. … [$_{CP}$ *que* [$_{IP}$ I [D [n]] [$_{vP}$ *comprou um computador*]
|_____| (Agree)
b. EXT: [D [n]] → * ∅ [No Transfer under Agree]

To be more precise, what is blocked in (26) is No Transfer of a definite pronoun. In example (20b), a free indefinite null subject is licensed with generic ('impersonal') interpretation. In considering generic ('arbitrary') NOC in (10), we assumed that the features of [D [n]] enter the derivation unvalued, and are set on default values at EXT. According to our discussion in section 2, this is possible because infinitival I lacks a φ-feature probe. Now, the finite inflection of BP does have a φ-probe. Let us assume nevertheless that [D [n]] has unvalued features. Following Preminger (2014) this does not lead to a failure of the derivation but simply to the setting of φ-features on default values at EXT on all unvalued terminals. At INT, [D [n]] is an indefinite (free variable) closed by generic quantification, as in (27b), cf. (10) above.

(27) a. … [$_{CP}$ *que* [$_{IP}$ I [D [n]] [$_{vP}$ *faz o doce*]

b. EXT: [D [n]] → ∅ [No Transfer under default]

INT: [D [n]] → indefinite, generic closure

Let us then return to (20b). Given the failure of (26), some alternative solution becomes necessary, along the lines sketched for logophoric NOC. Following section 2, the abstract terminal is copied to the edge of phase, as in (28b), licensing deletion (No Transfer) of the lower copy. Once in that position, [D [n]] can be bound from a logophoric center/perspective holder (licencing its deletion in turn).

(28) a. … [$_{CP}$ [D [n]] *que* [$_{IP}$ I [D [n]] …

b. Copy < [D [n]]$_1$, [D [n]]$_2$ >

c. INT: [D [n]]$_2$ → bound variable

$[D\ [n]]_1 \rightarrow$ logophor

d. EXT: $[D\ [n]]_2 \rightarrow \varnothing$ [No Transfer: identity under Copy]

$[D\ [n]]_1 \rightarrow \varnothing$ [No Transfer: identity under anaphora]

The derivation in (28) captures the two basic requirements of partial NSLs. On the one hand, No Transfer of the abstract DP is not licensed under Agree (identity) with I – making BP different from standard NSLs. On the other hand, null subjects are licensed under the same mechanism as English infinitival NOC, capturing the similarity of partial NSLs to control. At this point however, we need to ask why if finite null subjects can be licensed by a NOC-like mechanism, this isn't this available in English. In other words, why can't English be a partial NSL (or an NSL)? After all, it has NOC.

Again Holmberg (2005) points to the right direction, namely, that the EPP must be involved. We suggest that the problem in English is that weak I triggers the EPP, which following Chomsky (2013, 2015) we may construe as the need for DP to move to the edge of I for reasons of Labeling. Once this movement has taken place, the DP is frozen and cannot undergo further syntactic operations, along the lines of Rizzi's (2010) Criterial Freezing. We may assume that this blocks the logophoric derivation in (27), and specifically deletion of the labelling subject. In turn, the proposal that the EPP holds in English, but not in BP is consistent with the well-known fact that BP does not have subject expletives – and allows free inversion, for instance in (29) (see Duarte and Figuereido Silva 2016 for an overview).

(29) Chegaram tres pessoas

arrived.3PL three persons

'Three persons arrived'

4. Conclusions and further prospects

The object of our discussion has been the lexical ECs of GB theory, namely PRO and pro. In this paper, we have sought to contribute to a trend present in the current literature, namely the elimination of ECs in favor of deletion (No Transfer) licensed by various mechanisms. To this end, we have considered some intermediate typologies on the PRO-pro continuum, namely NOC infinitives in English and partial null subjects in Brazilian Portuguese.

The classical notions of PRO and pro mix interpretive properties and licensing conditions at externalization, embedding both in the syntax – so that infinitival subjects are identified with bound variable interpretations and pronominal interpretations are identified with subject of rich I. The present discussion instead is based on a fully modular conception of the operations performed by syntax, EXT and INT. As sketched in (30), we assume that at SEM, the full repertory of pronominal interpretations is present in all languages. These interpretations may be sensitive to syntax: specifically, the bound variable interpretation depends on syntactic Copy. However, lexical/zero alternations or other conditions at EXT may depend on syntax, but of course not on SEM. Copy automatically translates into deletion of the lower copy in the relation – but there are other ways of licensing deletion (No Transfer) under identity, including Agree with rich I.

(30)

SEM	SYNTAX	PHON
Deictic reference	(&Transfer)	No Transfer - under identity
Anaphoric/Logophoric ref	Copy	(Copy, Agree, anaphora, ...)
Generic/Existential closure	Agree	- under default
Bound variable	IM	

The various factors of variation at PHON in (30), and their interaction with semantic and

syntactic universals, make it very hard to even describe variation in null subject phenomena in terms of the classical repertory of null pronouns. Relinquishing the pro/PRO divide in favour of a fully modular approach gives us better prospects for descriptive adequacy, apart from theoretical simplicity.

As a final note we would like to point out a path for future research. In the preceding discussion we have considered the conditions under which subjects may or must undergo no Spell Out. The next step is to see whether there is a parallelism between subject and object position (or not). We suggest that a proper understanding of objects requires us to look beyond morphophonological quirks, which potentially obscure the parallelism of the various positions. Thus, since Rizzi (1986) Romance subject clitic languages (at least North Italian varieties) are widely construed as NSLs. This means that subject clitics are not a way to satisfy the subject EPP; rather they are a morphological device licensing null subjects like rich I. Sportiche (1996) treats (Romance) object clitics as syntactic heads licensing object pros, i.e. null objects. The parallelism with North Italian subject clitics is further emphasized by Manzini and Pescarini's (2022) proposal that clitics are not functional heads heading their own projection, but rather adjoined to phase heads. In short, Romance has null objects, though masked by the clitic morphology. We leave the topic open for future research.

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