6. Partial pro-drop

6.1. Introduction

The approach outlined thus far provides a Minimalist account of full and semi pro-drop languages based on the interaction of two independent parameters: the PF-sensitive spec IP parameter and the rich agreement parameter. The first of these is responsible for the presence/absence of overt expletives in a given language. The second regulates the availability of subject deletion. Further cross-linguistic variation in word order can be attributed to differences in prosodic interface conditions, and the way focus is assigned.

However, there is a further group of languages, mentioned in chapter 5, which cannot directly be accounted for with recourse to these two parameters. Many critics of parametric theory have used the existence of such languages as an argument against the very existence of parameters (cf. Newmeyer 2005). However, as Natural Languages are rich and complex systems, it is to be expected that other parameter settings may interfere with the two posited null subject 'parameters'.

This chapter will deal with a group of languages which Holmberg (2005) terms 'partial null subject languages'. These are languages which lack unrestricted referential pro-drop, but which permit null subjects in certain restricted environments. It will be argued, following a number of researchers (cf. Tarallo 1982, Duarte 1995, Figueiredo Silva 1996, 2000, Modesto 2000a, 2000b, Ferreira 2004, Rodrigues 2004), that Brazilian Portuguese is such a language. In this chapter, I will assess the explanatory adequacy of the proposed theory with respect to these more complex instances of pro-drop.

In fact, under Rizzi's (1986) GB approach to null subjects, the notion of 'licensing' might have been amended on a language-specific basis in order to deal with partial-pro-drop languages.[1] However, the parsimonious requirements of the Minimalist Program

[1] Ian Roberts (p.c.) points out that an empirically motivated modification of the notion of licensing might not involve the introduction of extra machinery. However, the only a priori form of 'licensing' available in the MP is agreement. It is true that movement triggered by agreement is

require us, where possible, to derive the distribution of null subjects in partial pro-drop languages from independent properties of these languages, without introducing additional machinery. In this chapter I will suggest that it is, in fact, possible to derive the distribution of null subjects in BP from the setting of the PF-realised IP parameter, along with independently attested facts about topicalisation and the universal properties of uninterpretable features and phase theory.

6.1.1. Outline of the chapter

I begin by discussing the empirical distribution of null subjects in BP in some detail. It will be argued that it is not possible to provide a single, unified account of all null subjects in BP, and that rather, two distinct kinds of null subjects are instantiated in the language. However, it will also be argued that, of these two phenomena, one is the result of a universal property of natural languages and the other is a parametric effect. The first is a process of pronoun zap, not unlike that seen in German, English and child non-NSLs, whereby a pronoun in the highest spec position is subject to deletion. The second is the availability of movement from subject position of a finite clause, something which is banned in languages like English, but which appears to be possible in a number of languages which do not require spec IP to be PF-visible. Possible reasons for this split are also discussed.

It can thus be maintained that BP has an EPP requirement of the type 'merge XP', as has been argued for Null Subject Romance (contra Alexiadou and Anagnostopoulou 1998, Rodrigues 2002, 2004). Moreover, in BP, nominative Case is strong, as it is in English, EP and French, triggering movement of the subject to spec IP. Spec IP is only empty at PF where it contains a deleted expletive or locative or the deleted copy of a moved DP.[2]

The organisation of the chapter is as follows. In section 6.2, I will introduce the BP data, illustrating that null subjects in BP are not like those found in NSLs. In fact, it

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largely believed to be parameterized, however, the structural restrictions on agree are widely assumed to be universal.

[2] See chapter 3 for an analysis of locative inversion in BP, and Romance more generally.

will be argued that null subjects in BP represent two distinct phenomena. In the remainder of the section, I will provide a straightforward account of a subset of the null subjects described in section 6.2. The remainder of the chapter will deal with bound embedded null subjects in BP. In section 6.3.1, I will discuss Modesto's (2000a, 2000b) A-bar binding analysis of the facts. This will then be contrasted with a movement account of BP null subjects in section 6.3.2, following Rodrigues (2000, 2002, 2004) and Ferreira (2000, 2004). The following sections will show that both analyses can account for the majority of properties associate with embedded null subjects in BP, but that the movement account is theoretically more 'Minimalist'. It will also be shown that a number of instances of null embedded subjects in BP must actually be analysed as parasitic gaps, as detailed in section 6.3.3. Section 6.3.4 is a theoretical assessment of the two competing approaches. In section 6.4 it will be concluded that this analysis is highly compatible with the account proposed for the rest of Romance. By showing that null subjects in BP are distinct, both semantically and syntactically, from those seen in Romance NSLs, we can maintain the analysis of the NSP proposed in chapters 1-5.

6.2. The data

6.2.1. The pronominal paradigm in Brazilian Portuguese

Brazilian Portuguese (BP) has seen a change in its pronominal paradigm during the 20th century, as studied by Duarte (1993, 1995, 2000):

Figure 1 Simplification of the BP paradigm [taken from Duarte (2000)]

Person & number	Pronoun	Paradigm 1	Paradigm 2	Paradigm 3
1s	Eu	Amo	Amo	Am**o**
2s	Tu	Amas	*	*
2s	Você	Ama	Ama	Am**a**
3s	Ele/Ela	Ama	Ama	Am**a**
1pl	Nós	Amamos	Amamos	*
1pl	A gente[3]	*	Ama	Am**a**

[3] Literally 'the people'.

2pl	Vós	Amais	*	*
2pl	Vocês	Amam	Amam	Am**am**
3pl	Eles/Elas	Amam	Amam	Am**am**

Duarte (1995) claims that in colloquial speech this has led to an increase in the use of overt pronouns.[4] According to her findings, older speakers use more null pronouns in written, and formal spoken, language, whereas young people use more overt pronouns, having trouble switching between the formal and informal systems (Duarte 1995:143, citing Kato 1992). The null subject, for young people has become "pra quando a gente escreve", and the overt subject "pra quando a gente fala" (Duarte 1995:143).[5]

In this chapter I will refer to the variety of spoken BP which no longer licenses null referential subjects of the type seen in EP, Spanish and Italian. Rather, this dialect of BP permits null subjects only under strict conditions. In terms of the 'rich agreement parameter' outlined in chapters 4, this dialect of BP lacks an uninterpretable D feature in I, and hence does not permit deletion of referential subjects.

6.2.2. Lack of deictic null subjects

At first glance it might appear that BP is an NSL, like its European counterpart, because of sentences like (1):

(1) (Eu) comprei os livros ontem.
I Bought:1s the books yesterday

[4] It is important to note also that the same is not yet true of written language:

> "[A lingua escrita] ainda mantém um paradigma funcionalmente rico, exibindo resultados radicalmente opostos aos encontrados para a fala espontânea." (cf. Paredes da Silva 1988, 1993)
>
> (The written language still maintains a functionally rich paradigm, displaying radically different results from thos found in spontaneous spoken speech)

[5] For when we (lit. the people) speak…for when we (lit. the people) write.

However, the fact that null subjects are not possible in a fronted wh-question, or in instances where another constituent is fronted suggests otherwise, as Figueiredo Silva (1996) has shown:

(2) O que (que) *(eu) comprei ontem [BP]
The what that I bought:1s yesterday

(3) a. O José vai trazer a salada?
b. *Não, O VINHO vai trazer.
b'. Não, O VINHO ele vai trazer

Sentences such as (2)&(3) would be grammatical in EP with a null subject. The fact that pro-drop is not permitted in these environments in BP calls into question the status of root null subjects in BP.[6] For this reason, it has been widely acknowledged since Tarallo (1983), that, unlike European Portuguese, Colloquial Brazilian Portuguese is not a fully pro-drop language.

6.2.3. Other null subjects in Brazilian Portuguese

As well as these root null subjects, it is widely accepted that BP licenses/requires null subjects in the following environments:

(a) In the response to yes-no questions:

(4) Q- O Pedro telefonou? A- Telefonou
the Pedro telephoned? telephoned
'Did Pedro call?' 'Yes he did.'

(b) Where the subject is quasi-argumental:

(5) (*Ele) está chovendo

[6] Note however, that EP does tend to use more overt subjects than Spanish and Italian, according to the data studied by Duarte as a control. She isolates a few contexts in which a subject is likely to be overt in EP, including in wh-questions of this kind. That said, there is still a genuine contrast between the two languages with regard to the availability of null subjects.

It is raining
'It's raining'

(c) When the subject is expletive.

(6) (*ele) já está tarde demais
it already is late too-much
'It's already too late.'

(d) When the subject is impersonal (not including the speaker).

(7) (*Eles) mataram o presidente
They killed the president
'The president was/has been murdered.'

(e) When the subject is generic.

(8) Aqui vende sapato
Here sells shoe
'Shoes are sold here.'

(f) In embedded CPs, where co-referential with a referential matrix subject.

(9) O Pedro$_1$ disse que pro$_{1/*2}$/ele$_{1/2}$ ganhou na loto.
The Pedro said that he won on-the lottery
'Pedro said that he won on the lottery.'

(g) In embedded CPs, where bound by a quantifier phrase subject.

(10) Ninguém$_1$ disse que pro$_{1/*2}$/ele$_{*1/2}$ ganhou na loto.
Nobody said that he won on-the lottery
'Nobody said that he won on the lottery.'

According to Holmberg (2003), property (a) is due to the expression of polarity in a given language and, as such, is probably unrelated to the NSP. In fact, this is the analysis proposed by Martins (2004) for EP and BP.[7] Properties (b) and (c) can be explained by the analysis already proposed for full NSLs, as discussed below. Property (d), surprisingly,

[7] Her analysis involves raising of the verb to the polarity head and then ellipsis of IP.

is also characteristic of NSLs. It is not clear what the correct analysis of these null subjects is, and why BP, like NSLs should also license them. Note, however, that these null subjects are not 'referential', and, as such, do not contradict the claim that BP fails to license deictic pro-drop. I leave this matter for future research.

In what follows, I will concentrate on the various analyses posited to explain properties (e)-(g), which Holmberg (2005) claims to be properties of partial pro-drop languages. However, let us first examine how we can account for (i) the root null subjects described in section 6.2.2, and (ii) properties (c)-(d) (recalling the analysis proposed in chapter 5).

6.2.4. Root null subjects

Most researchers dealing with BP null subjects agree that the root null subjects described in section 6.2.2 are derived differently from the null subjects described in section 6.2.3 (Figueiredo Silva 2000, Modesto 2000a, 2000b, Rodrigues 2002, 2004). In fact, the null subjects described in section 6.2.2 are akin to the null subjects permitted in many non-NSLs in the spec of the highest root. In this much, these null subjects are similar to those found in diary styles of English, as described by Haegeman (1999), or child speech in non-NSLs, as summarised by Rizzi (2002). Rodrigues (2002:166) points out the further parallel with German (as well as Swedish and Dutch) 'Pronoun Zap', described by Ross (1982), which, again, like BP root null subjects is only permitted in the highest spec position of the clause:

(11) (ich) hab'ihn schon gesehen
I have-him already seen
'I have already seen him.'

(12) Ihn hab'*(ich) schon gesehen
Him have-I already seen
'Him, I have already seen.'

All the evidence seems to point to the fact that these null subjects are simply open to deletion because of their high structural position. This has been analysed, variously,

as truncation (Rizzi 1993/4), or as the availability of a null category in the 'specifier of the root', by virtue of its un-c-commanded status (Rizzi 2002). I leave open the specifics of this process, assuming that it is universally available in non-NSLs, unless blocked by an interfering parameter. Interestingly, whereas this process is typically blocked in embedded clauses as well as wh-questions in child speech and diary styles (cf. Haegeman 2000, Rizzi 2002), it seems that independent properties of BP conspire to make embedded topic-drop possible. I would like to argue that null embedded subjects, which also get a topic interpretation, are deleted because they have raised to the spec of root position via Topicalisation.

Embedded subjects can also be null in BP in embedded clauses, provided that a linguistic topic is salient enough to act as an antecedent, as Moreira da Silva (1983) and Modesto (2000b:149) have pointed out. Modesto (2000a) describes the contrast between BP and EP with respect to pro-drop thus: whereas in EP a pronoun can be identified from the pragmatic context, by pointing or looking at a photograph, in BP only linguistic antecedents can act as binders. Thus in the following context, where there is a pragmatic, but not linguistic antecedent, pro-drop is fine in NSLs, but is ungrammatical in BP:

(1) Mr. A comes back home from the doctor. Mrs. A says: 'Tell me what he said.'

Spanish:	Dime	qué	(te)	dijo.
	Tell-me	What	you	said-3sg

Greek:	Ti	(sou)	ipe ?			
	What (you-cl) said-3sg?					

BP:	Me	diz	o	que	*(ele)	falou.
	Me	say	the	what	he	spoke
	'Tell me what he said.					

However, a question like 'what about Paulo?' allows a null subject in the response to pick up the linguistic antecedent 'Paulo':

(13) a. E o Paulo$_1$?
And the Paulo
'What about Paulo?

b. A Maria$_2$ disse que EC$_1$ estava doente.
The Maria said that was ill
'Maria said he was ill.'

b'. EC$_1$ está doente.
Is ill
'He's ill.'

This makes BP different from NSLs, but also from English and German, which fail to license pro-drop in embedded clauses. Following Huang (1984), and Raposo (1986), [8] it is possible to propose that these null subjects are actually variables bound by a null topic, or a null operator.[9,10]

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[8] In actual fact Raposos's account of EP differs somewhat from Huang's analysis of Chinese. Raposo argues that a null PRO is moved from object position to C, where it becomes an empty operator. By claiming that this null category starts off as PRO, Raposo is able to motivate its movement to the CP layer without stipulation. This is because PRO cannot be governed, and therefore PRO generated in object position, a lexically governed position, is forced to move to a higher, non-governed position. The subject position of a finite clause in BP is also a governed position, and so movement can be motivated in the same way.

[9] Huang's approach is actually developed in order to account for the behavior of null objects, and would need some alterations to be carried over to null subjects. Huang claims that the combination of binding theory and the generalised control rule (GCR - see chapter 1), which states that an empty pronominal must be co-indexed with the closest nominal element, rules out the possibility of true null object pronouns in the absence of agreement. The GCR requires the null object to be co-indexed with the immediate subject. This is, however, ruled out by condition B of the binding theory.

[10] Superficially, this approach is especially appealing, given the existence of null objects in BP. However, there is evidence that BP null objects do not display all the properties of topic-bound variables, being permitted in all strong islands, including relative clauses, which do not allow wh-extraction (Farrell 1990):

(1) Eu vou beber a cerveja antes de brigar com

The difference between BP on the one hand, and English and German, on the other, is that BP also allows topicalisation of a subject from an embedded finite clause to the matrix clause, presumably via successive cyclic movement:

(14) Eu$_1$, a Maria disse que EC$_1$ comprei um carro muito caro
I, the Maria said that bought:1s a car very expensive
'Me, Maria said that I bought a very expensive car.'

(15) A Maria$_1$, o José disse que EC$_1$ comprou um carro
The Maria, the José said that bought a car
'Maria, José said that she bought a car.'

There seems to be good evidence that subject Topicalisation, unlike object topicalisation is derived via wh-movement in BP. For instance, it is sensitive to strong islands (relative

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I go drink the beer before of fight:inf with
[a pessoa que deixou ec fora da geladeira].
the person that left outside of-the fridge
Lit. 'I'm going to drink the beer before fighting with the person who left out of the fridge.'

(2) *O que eu briguei com [a pessoa que deixou ec
The what I fought with the person that left
fora da geladeira].
outside of-the fridge
'What did I fight the person who left outside the fridge?'

This, along with several other properties of BP null objects, forces Farrell to reject the null topic analysis, and to propose that these null objects are true pronominals.

More recently, Maia (2000) has proposed that these null objects are null epithets of the type later proposed by Huang (1991) for Chinese. This approach no longer assumes object gaps to be the result of movement. Rather, null objects, being both pronominal and referential, cannot be A-bound, but can be optionally A-bar bound. For this reason, the null epithet picks up topics as its reference but not c-commanding arguments. This appears to account for the BP facts extremely well, albeit in descriptive terms, especially since BP null objects, unlike Chinese null objects, are limited to a 3rd person interpretation. Unfortunately, this means that there is no independent evidence for the existence of a null topic operator in BP, but that there is evidence for the existence of a further kind of null category.

clauses and adjuncts) but less so to weak islands (wh-islands and factives) (Figueiredo Silva 2000:136):

(16) ?A Maria$_1$, o João$_2$ não sabe [pra quem EC$_1$ vai dar o livro]
The Maria, the João not knows for who goes give the book
'Maria , Joao doesn't know who she'll give the book to.'

(17) ?A Maria$_1$, o João$_2$ acha uma pena [que EC$_1$ vendeu o carro]
The Maria, the Joao finds a shame that sold the car
'Maria, Joao finds it a shame that she sold the car.'

(18) *A Maria$_1$, o João$_2$ achou [um carro que EC$_1$ tem grana pra comprar]
The Maria, the Joao found a car that has money for buy
'Maria, Joao found a car that she has the money to buy.'

(19) *A Maria$_1$, o João$_2$ olha pro pé [toda vez que EC$_1$ fala com ele]
The Maria, the Joao looks for-the foot every time that speaks with her
'Maria, Joao looks at his feet every time that she speaks with him.'

Similar effects are true of wh-movement in BP, as discussed by Negrão (2000):

(20) Que aluno você nao sabe quando vai entregar o trabalho?
What student you neg know when goes hand-in the work
Lit. 'Which student don't you know when will hand in the work?'

(21) *Quem$_1$ o João saiu da festa antes que t$_1$ tivesse entregado o presente?
Who$_1$ John left of the party before that t$_1$ had given the present

I therefore propose that all null 'topics' in BP are actually the result of topicalisation and subsequent deletion of the specifier of the root. Under this approach, a pronoun might be said to enter the derivation in the normal way and then move to spec TopP, where it is deleted/zapped by virtue of its high position. The process by which this takes place is presumably the same which allows for root null subjects in a variety of non-NSLs. The idea that all of these null 'topics' are really just the result of Rizzi's spec of the root effect

is theoretically appealing as it unifies root null subjects in BP with phenomena observed in other languages.[11]

6.2.5. Null expletives and quasi-referentials

The availability of null expletives and quasi-referential arguments falls out from the fact that BP does not have a PF-interpretability requirement for spec IP, unlike non-NSLs. In chapter 3 we saw evidence that BP, like NSLs, also has a null locative, which renders VS order felicitous in out-of-the-blue contexts with unaccusative verbs:

(22) a. O que aconteceu? [Brazilian Portuguese]
What happened
'What happened?'

b. Chegou o João.
Arrived the João
'John arrived (here).'

b'. O João chegou.
The João arrived
'João arrived (somewhere).'

This kind of inversion does not display definiteness effects and so, under Minimalist criteria, cannot involve a null expletive. I argue, therefore, that in answer b. in (22), a

[11] In actual fact there seems to be an additional recovery requirement active in cases of root subject drop. In German and English, dropping of the 1s pronoun is the most common unmarked possibility. However, the presence of additional information to aid recovery, such as tags, permits the deletion of other pronouns in English:

(3) *Thinks he's really great.

(4) Thinks he's really great, doesn't he.

BP, likewise, prefers root pro-drop with 1s pronouns. I assume that this is because they are in some sense pragmatically salient. This also provides further evidence that agreement morphology in these non-NSLs is not sufficient to aid recovery, even where it is unambiguous. This is an interesting effect which is worthy of future research.

null locative satisfies the EPP, triggering the subtle change in meaning discussed in chapter 3. This serves to explain the fact that weather predicates take a null subject in BP, given that these verbs require locative subjects (see chapter 5 for further details).

It remains to be seen, however, how the EPP is satisfied where null anaphoric subjects occur in BP. In what follows, I review the main proposals in the literature, taking into consideration empirical and theoretical issues.

6.3. Null embedded subjects

There are two main approaches to BP null embedded subjects in the literature. The first argues that the empty categories like that in (23) are bound variables, and the second claims that they are the trace of movement:

(23) Ninguém$_1$/Pedro$_1$ disse que EC$_{1/*2}$ ganhou na loto.
Nobody said that he won on-the lottery
'Nobody said that he won on the lottery.'

Both of these analyses have the same empirical coverage in many cases, accounting for much of the complex distribution of embedded null subjects in BP. In this section I first give a brief depiction of both analyses. I then consider how they are similar in accounting for certain empirical effects, and then, how they differ, arguing that, while both analyses are empirically adequate, the movement account is theoretically more 'Minimalist'.

6.3.1. Null subjects as ΦPs

Modesto (to appear), building on Modesto (2000a, 2000b) claims that BP has a traditional EPP property and that null embedded subjects in BP are instances of null ΦPs (following Holmberg 2005). These ΦPs are bundles of interpretable phi-features with no PF form.[12] The bundle serves to value the uninterpretable phi-features on I, but lacking a deictic/referential [D] feature, it cannot refer (following Holmberg 2005). For this reason, in order to be rendered interpretable, ΦP must be bound by a higher A-bar binder. This, coupled with the assumption that preverbal subjects always occupy an A-bar position in BP, captures the main empirical details of null subject distribution and interpretation in BP: [13]

(24)	O	$Pedro_1$	disse	que	$\Phi P_{1/*2}$	ganhou	na loto.
	The	Pedro	said	that	he	won	on-the lottery

'Pedro said that he won on the lottery.'

In Modesto's terms, languages like English lack null embedded subjects, precisely because subjects in English do not occupy A-bar positions, and hence cannot act as binders for embedded ΦPs.[14]

Modesto (2000a, 2000b) offers the following theoretical evidence that subjects occupy an A-bar position in BP. His theoretical argument can be summarised thus:

- Verbs raise to T in BP, therefore spec TP is a Case position.
- Following Koopman and Sportiche (1991) only positions to which Case is assigned are A-positions.
- All other positions occupied by DPs are A-bar positions.

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[12] Under a deletion account it might be possible to argue that these elements are deleted anaphoric pronouns.

[13] Extending on this, based on work by Rizzi (1986), we can assume that where it fails to be identified, this *pro* receives an arbitrary interpretation.

[14] Note, however, that this does not rule out sentences such as the following:

(5) *Who_1 did John convince that ΦP_1 should leave.

- This in turn means that spec AgrP is available as an A-bar position in BP.

In Modesto (to appear), he provides more convincing empirical evidence, suggesting that BP has five of the six properties of a topic prominent language, as detailed by Li and Thompson (1976):[15]

(i) Dummy subjects are not found
(ii) The topic typically controls co-referential constituent deletion,
(iii) There is a "surface coding" for topics (i.e. sentence initial position)
(iv) They use "double subject" constructions
(v) Passive constructions are absent, marginal, or rarely used in speech

As we have seen above, BP has no overt 'dummy' subjects, and (descriptively) allows the deletion of bound embedded subjects. Moreover, topics always appear in the preverbal position in BP:

(25) O bolo a Maria comeu.
The cake the Maria ate
'Maria ate the cake.'

Kato and Raposo (1994:268)]

Double subject constructions are common, unlike in NSLs:

(26) Eu, eu acho que sim.
I I think that yes
'Me, I think so.'

Finally, Modesto claims that (v) is also true. He claims that pseudo-middles, as in (27), are replacing true passive constructions, as in (28):

(27) O prédio já construiu. [BP, *EP]

[15] The missing property states that Topic prominent languages tend to be verb-final.

the building already constructed
'The building has already been constructed.'

(28) O prédio já foi construído. [EP, infrequent in BP]
the building already was built
'The building has already been built.'

Modesto takes this as strong evidence that BP has become a topic-oriented language. This 'topic' position is a specifier position above spec IP which has an EPP feature, requiring it to be filled. However, it appears that it is only optionally associated with topic-hood. XPs raising to CP-internal positions, which are often not topics (i.e. wh-phrases) obligatorily raise through this position. He further claims that where no other phrase has to raise to, or through, the topic position, the subject raises there as a kind of default. These assumptions buy us a great deal of empirical coverage. Before we consider possible objections, let us consider the alternative analysis, and how both can account for the empirical properties of embedded null subjects in BP.

6.3.2. Movement

The alternative to Modesto's proposal attributes BP null subjects to A-movement. This draws on work by Hornstein (1999, 2003) which proposes that, under the parsimonious requirements of the Minimalist Program, an anaphoric construal relationship should be derived via movement. More specifically, Hornstein proposes that obligatory control (OC) is derived via A-movement, being essentially identical to raising, but with the moved DPs picking up extra theta-roles through agree (cf. Manzini and Savoia 2002):[16,17]

(29) John promised [<John> to leave]
(30) John seems [<John> to be happy]

[16] Hornstein also extend s this analysis to cover other anaphor binding relationships such as –self type anaphors in English.

[17] I will not review Hornstein's arguments here for reasons of space. The reader is referred to Hornstein (1999, 2003) for details. For arguments against control as movement see Landau (2003). Interestingly, many of the arguments Landau raises against non-finite control cannot be raised against BP finite control, which does not include partial or non-obligatory control.

Following Hornstein (1999), Ferreira (2000, 2004) and Rodrigues (2000, 2002, 2004) both independently propose a movement account of null subjects in BP. Here, though, A-movement targets finite CPs. As BP appears to license hyper-raising (raising from finite CPs) as shown by Duarte (1995), this extension is appealing:

(31) Eu pareço que *ec* vou explodir de tanta raiva
I seem that I will-go explode from so-much anger
Lit. 'I seem that I will explode from so much anger.'

Note that while examples such as (31) are marginal with 1s pronouns for most speakers, examples with 2nd and 3rd person subjects are fully acceptable:

(32) O José parece que está doente.
The José seems that is ill
'José seems to be ill.'

The fact that these raised subjects can be weak pronouns or non-referential quantifiers belies the idea that they might involve topicalisation, as Ferreira (2004) shows:

(33) Cê parece que *e* está doente.
you seem that are ill
'You seem to be ill.'

(34) Alguém parece que *e* está doente.
Somebody seems that is ill
'Somebody appears to be ill.'

[examples from Ferreira (2004)]

Fereirra and Rodrigues both argue that the most minimal analysis of such cases is to assume that they involve A-movement from finite CPs.

6.3.2.1. The semantics of null subjects in Brazilian Portuguese

Ferreira (2004) and Rodrigues (2004) both take the semantics of null subjects in BP as evidence for movement, as these null subjects behave like bound variables. The problem is that Modesto's A-bar binding analysis also predicts that null subjects will be interpreted as variables. BP bound null subjects display the following diagnostics of obligatory control (OC): they must have a minimally c-commanding antecedent (35); cannot take split antecendents (36); require a sloppy reading under ellipsis (37); get a bound reading with *only (38)*; and trigger a *de se* reading (39):

(35) *João disse [que a Maria acha [que *ec* é esperto]]
John said [that Mary thinks [that *ec* is smart-masc]]
'John said that Maria thinks that he is smart'

(36) *João disse [que a Maria acha [que *ec* são espertos]]
João said [that Mary thinks [that *ec* are smart-pl]]
'João said that Mary thinks that they are smart.'

(37) O João$_1$ [acha [que *ec* vai ganhar a corrida]] e a Maria também
The J thinks that go win the race and the Maria also
(i) 'João thinks he's going to win the race and Maria thinks she will too.' [sloppy]
(ii)*'João thinks he's going to win the race and Maria thinks he will too.' [strict]

(38) Só o José acha que *ec* vai ganhar as eleições
(i) 'José is the only candidate who expects to win the elections.' [bound]
(ii) *'José is the only person who expects José to win the elections.' [co-ref]

(39) O Reagan está convencido de que *ec* foi um dos melhores presidentes dos EUA
'Reagan is convinced that he himself was one of the best presidents of the USA.'

As Hornstein has pointed out, many of the properties of OC stem from the inherent properties of movement without further stipulation. For instance, the fact that BP bound null subjects always trigger sloppy readings under ellipsis, and get a bound reading with only, (unlike null subjects in NSLs), groups them with raising. Consider the following:

(40) John seems to be tired and Mary does too.

a. John and Mary both seem to be tired.

b. *John seems to be tired and Mary seems John to be tired.

(41) Only John seems to expect to win

(i) 'John is the only candidate who seems to expect to win.' [bound]

(ii) *'John is the only person who expects John to win.' [co-ref]

This might be taken as evidence that the two instantiate the same syntactic structure.[18]

6.3.2.2. C-command

It is widely accepted (though with some slight complications), since first noted by Negrão (1997), that only c-commanding antecedents can act as antecedents of embedded null subjects in BP. Thus pro-drop fails in the following kinds of sentences:[19]

(42) A opinião do Zé$_1$ é que *(ele$_1$) vai ganhar

The opinion of Zé is that he goes to-win

'Zé's opinion is that he is going to win.'

In Modesto's terms, the possessors do not occupy an A-bar position, do not c-command *pro,* and so are not possible binders. In the movement analysis, a DP cannot raise to a non-commanding position. Once again, both approaches make the correct predications regarding the ungrammaticality of null subjects in examples like (42).

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[18] Alternatively, it might be argued that the strict reading is ruled out with raising predicates for independent semantic reasons.

[19] Note that examples showing that the possessor of an animate DP cannot act as binder are misleading:

(6) [A mãe do João$_2$] $_1$ acha [que *pro*$_{*2/1}$ é esperto]

John`s mother thinks [that *ec* is smart-m]

Pilar Barbosa (p.c.) points out that these examples are also ungrammatical in EP, and so must have a more sophisticated explanation. I leave this matter to future research.

6.3.2.3. Intervention

A null subject in BP must be bound by the closest c-commanding DP binder:

(43) *O João$_1$ disse [que a Maria$_2$ acha [que *pro*$_1$ é esperto]]
The João said that the Maria thinks that is smart
'João said that Maria thinks that *he/she is smart.'

(44) *O José acha [que os rumores revelam [que ec é inteligente]]
The José thinks that the rumours reveal that is intelligent
'José thinks that the rumours reveal that he's intelligent.'

Assuming, as Modesto does, that all preverbal subjects occupy an A-bar position, the highest subject 'João' cannot bind *pro* in (43) because another potential A-bar binder intervenes between the two. It is less clear that *os rumores* should intervene in (44), as it fails to agree in phi-features with ΦP, however, this depends on the definition of 'potential binder' adopted. In short, the effects seen in (43)-(44) can be attributed to intervention in an A-bar binding approach.

Under an A-movement account, locality also falls out, essentially without stipulation. If it is accepted that A-movement is allowed from subject position of finite clauses then it is predicted that such movement will be strictly local, to the next available A-position. Where another XP occupies the intermediate subject position, movement will be blocked, as is the case in (43)-(44).

Even the fact that a raising clause can intervene between a binder and a null subject in BP is predicted by both analyses:

(45) A Maria$_1$ me disse que parece que e_1 vai ser promovida
the Maria me told that seems that will be promoted
'Maria told me that it seems that she will be promoted.'
[Example from Rodrigues (2004:139)]

Under a binding approach, the grammaticality of (45) is due to the fact that the raising clause contains no topic-like intervener. The expletive subject, as it is not referential, does not intervene (cf. Modesto 2000).

From a movement perspective, on the other hand, given the status of BP as a hyper-raising language, it is predicted that such configurations will be grammatical as the subject will have the possibility of raising through the intervening subject position. The problem with this explanation, as Rodrigues notes, is that the raised subject cannot trigger agreement on the intermediate raising verb in these instances:

(46) *? Os meninos1 me falaram que parece que *e*1 vão ser promovidos
the boys me told that seem that will be promoted
'The boys told me that it seems that they will be promoted'

For this reason, Rodrigues advocates the availability of long A-movement, over the intervening subject position. According to her analysis, verb morphology serves to satisfy the EPP in BP and so there are no expletive subjects, and no spec IP in the intermediate clause. For this reason, A-movement over the intervening clause does not violate Minimality.

An alternative explanation of theses facts comes from phase-theory (Chomsky 2001). Assume that the raising verb, as is commonly assumed, fails to merge a little 'v' head, as it lacks an external argument. In this case, the lower (CP) phase will only be spelled out when the next C is merged. The embedded subject *os meninos*, being a Topic, has raised to a C-position, and so evades spellout at this point. When the next phase head is merged, in this case the little 'v' of the matrix clause, the subject can avoid spellout by instantaneously raising to spec vP.

(47) [$_{CP}$ **que** parece [que [$_{topP}$ Os meninos [$_{TP}$ vão ser promovidos]]]

~~(48)~~ [$_{vP}$ Os meninos falaram [$_{CP}$ que EXPL parece [que [$_{topP}$ <Os meninos> ~~vão ser promovidos]]~~

Assuming a version of phase-theory like that developed in Chomsky (2001), the facts fall out without stipulation.[20]

6.3.2.4. Subject orientation

Another curious aspect of embedded null subjects in BP is that, in the normal case, only matrix subjects and not objects can act as binders:

(49) O Pedro$_1$ convenceu o João$_2$ que EC$_{1/*2}$ tinha
The Pedro$_1$ convinced the João that had
que ir embora.
that go away
'Pedro$_1$ convinced João that he$_1$ had to leave'

(50) O Pedro$_1$ convenceu quem$_2$ que EC$_{1/*2}$ tinha
The Pedro$_1$ convinced who$_2$ that he$_1$ had
que ir embora.
that go away
'Who did Pedro convince that he had to leave?'

Modesto captures this fact by arguing that only subjects, and not objects, occupy an A-bar position in BP. As null subjects in BP must be A'-bound, it follows that in-situ objects cannot act as binders.

Under a movement approach, these facts are more difficult to capture. This is especially true, given the fact that obligatory control is not restricted to subject-control, but actually prefers object control, as Modesto (2000a, to appear) has shown:[21]

[20] It remains unclear, however, why hyperraising in such circumstances should be so very marginal, given its relative acceptability into matrix clauses.

[21] As is the case in English, this is subject to some variation. Verbs like promise also involve subject control in BP.

(51) O Feco$_1$ convenceu a Dani$_2$ a PRO$_{*1/2}$ fazer o teste.
The Feco convinced the Dani to do the test
'Feco convinced Dani to take the test.'

Rodrigues and Ferreira both argue that the finite CP in examples like (49) is actually an adjunct, whereas the non-finite embedded clause in (51) is a complement. This difference captures the fact that the object fails to c-command the embedded null subject in examples like (49). Rodrigues attributes this to the process of 'argument demotion', of the type which Larson (1991) claims obtains with promise-type verbs in English. The evidence they give is as follows:

(i) Extraction of an adjunct from the embedded CP leads to ungrammaticality
(ii) Subject epithets are possible in subject position of the embedded CP

Rodrigues (2000) shows that extraction of an adjunct from the embedded CP leads to relative ungrammaticality:

(52) ?? Quando$_i$ você convenceu a Maria [que consertou o carro t$_i$] ?
when you convinced the Maria that fixed the car
'When$_i$ did you convince Maria [that you fixed the car t$_i$]?'

This is unexpected if the embedded CP is a complement, as extraction of an adjunct from a complement is typically fine in BP, as it is in English:

(53) Quando$_1$ você disse [que tinha consertado o carro t$_1$] ?
When did you say [that you fixed the car t]
For what time x did you say that he fixed the car at x?

Ferreira (2004:17) provides additional evidence from the fact that an epithet subject in the embedded CP can be bound by a matrix object:

(54) João convenceu a Maria$_i$ [de que [a idiota]$_i$ deveria assaltar um banco]
John convinced Mary$_i$ [that [the idiot]$_i$ should rob a bank]

Epithets behave like pronominal R-expressions with regard to binding theory and so are subject to principle C, (where it is active in a given language). Example (55) shows that condition C is active in BP. This means that (54) is evidence that the matrix object does not c-command the embedded CP in BP. This, in turn, is explained if the CP is, in fact, an adjunct:

(55) *A Maria$_1$ acha que a idiota$_1$ vai ganhar
The Maria finds that the idiot goes win
'Maria thinks that the idiot will win.'

Further evidence for this position comes from the fact that null objects are marginally licensed in these CPs:

(56) ?Você$_1$ informou quem$_2$ que *pro*$_1$tinha de despedir t$_2$?
You informed who that had of fire
'Who did you inform that you had to fire?'

The null object in (56) cannot be a parasitic gap, as the wh-object is in situ. BP null objects behave like null epithets in that they cannot be c-commanded by a binder in an A-position (cf. Maia 2000). The fact that the null object can be co-referential with the in-situ object therefore suggests, again, that this object does not c-command the embedded CP. There is considerable evidence, therefore, that the finite CP is an adjunct. If the embedded CP is an adjunct then it stands to reason that movement can never proceed to the non c-commanding object position. However, this raises the, more serious problem, that adjuncts are commonly believed to be strong islands, and so extraction of any kind should presumably be banned in such cases. In fact, null subjects are widely available in adjuncts in BP. An explanation for these facts is at hand, but let us first consider how BP null subjects behave with respect to islands more generally.

6.3.2.5. Island facts

Modesto points out that under an A-bar binding analysis, there is nothing preventing null subjects in weak/strong islands. Indeed, Modesto shows that BP *pro* is licensed in (weak) wh-,and complex nominal islands, and strong adjunct islands. However, null

subjects in BP are banned in (strong) object relative clauses, as Figueiredo Silva (1996) has shown:

Wh-island

(57) A Maria$_1$ não sabe [$_{CP}$ quem$_2$ e_1 entrevistou t_2]
Maria doesn't know who (she) interviewed
[Modesto 2000b:100)]

Definite DP island

(58) O presidente$_1$ negou [$_{DP}$ os rumores de que e_1 tinha
The president denied the rumors that had
recebido dinheiro de empresários]
received money from businessmen.'
'The president denied the rumours that he had received money from businessmen.'
[Modesto (2000b:99)]

Adjunct island

(59) A Maria$_1$ quase chorou [depois que e_1 viu o estrago]
Maria almost cried after that (she) saw the damage
[Modesto (2000b:99)]

Object relative island

(60) *A Maria$_1$ achou [um carro [Op$_2$ que *pro*$_1$ tem grana pra comprar t$_2$]
The Maria found a car that had cash to buy
[Figueiredo Silva (2000:139)]

According to Modesto, the ungrammaticality of (60) is again due to intervention: the operator in a relative clause acts as an intervener, as the closest c-commanding A-bar binder.

The fact that BP null subjects are licensed in island configurations is a potentially serious problem for the movement analysis.[22] In fact Figueiredo Silva (2000) dismisses the possibility of a movement analysis, precisely because these null subjects surface in both weak and strong islands. In actual fact, it is not so clear that movement is ungrammatical from weak islands in BP. Let us assume, following Starke (2001), that extraction from weak islands is not *a priori* ungrammatical, but merely odd, due to (a version of) Relativised Minimality (Rizzi 1990:7):

(61) X α governs Y only if there is no Z such that
Z is a typical potential α governor for Y, and
Z c-commands Y and does not c-command X.

In Minimalist terms, this amounts to Chomsky's (1995) Minimal Link Condition. In fact, as Starke (2001) has shown, extraction from weak islands is possible in English, but is associated with a particular (marked) interpretation. In BP, wh-extraction from weak islands is also possible, as Negrão (2000) and Negrão and Viotto (2000) have shown. The null subject data, therefore, neatly parallels the wh-extraction data:

Wh-islands

(62) Que aluno$_1$ você não sabe [quando$_2$ t$_1$ vai entregar o trabalho t$_2$]?
Which student$_1$ you do not know when$_2$ t$_1$ is going to hand in the paper t$_2$
[Negrão (2000:159)]

Definite DP island

(63) ?Quem$_1$ o Pedro ficou chocado com [$_{DP}$ a notícia de que t$_1$
Who$_1$ thePeter got shocked with the news of that t$_1$

22 Rodrigues and Ferreira both claim that these null subjects are derived by 'A-movement', as the subject moves to a theta-position to pick up a theta-role. However, in the Minimalist Program, the A/A-bar distinction is somewhat blurred. Chomsky himself points out:

> "[Wh-movement] would be point-by-point analogous to A-movement if the wh-phrase has an uninterpretable [wh-]feature and an interpretable feature [Q], which matches the uninterpretable probe Q of a complementiser in the final stage.' [Chomsky 2000:44)]

This seems to suggest that both A- and A-bar movement should be restricted by island constraints.

está namorando a Maria?
is dating the Maria
Lit. 'Who did Peter get shocked by the news that was dating Maria?'

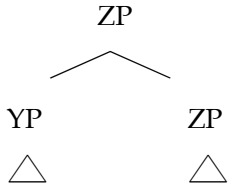
The fact that null subjects in BP are licensed in weak wh-islands does not, therefore, rule out the possibility that said null subjects are derived via movement.

Strong islands are, however, a different matter. It is generally accepted that direct extraction from strong islands always leads to ungrammaticality (Johnson 2002:1). The syntactic description of what constitutes a strong island offered by Truswell (2005), and attributed to Uriagereka 1999, Johnson 2002 and Sabel 2002, among others, is as follows:

(64) A *strong island* is the non-projecting phrasal sister of a phrasal constituent.

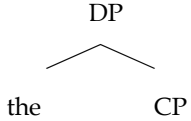
In geometric terms, this means that, in Figure 2, YP is a strong island:

Figure 2: strong island configuration



This definition (correctly) predicts that adjuncts, subjects, and relative clauses will be strong islands.[23] Notice that this definition distinguishes between complements of nominals and complex nominals containing a relative clause.

[23] This holds whether we assume a traditional analysis of relative clauses involving adjunction of the relative CP to the head DP, or a Kaynean (1994) approach, whereby the nominal originates in the relative and moves to the outer specifier of CP, assuming, as Kayne does, that bare nominals are NPs rather than Ns. The fact that the nominal must be phrasal rather than a simple head is shown by the fact that it can be modified 'the many pictures that Bill liked.' etc:



As predicted wh-extraction in BP is ungrammatical from adjunct islands, subjects, and relative clauses:

Adjunct islands

(65) *Quem$_1$ o João saiu da festa [antes que t_1 tivesse entregado o presente]?
Who$_1$ John left of the party before that t_1 had given the present
[Negrão (2000:144)]

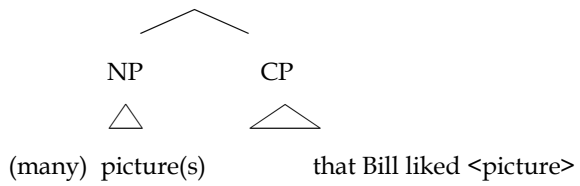
Object relative island

(66) *A Maria$_1$ achou [um carro que e_1 tem grana pra comprar]
The Maria found a car that had cash to buy
[Figueiredo Silva (2000:139)]

(67) *?Que animais$_1$ a telvisao mostrou as criancas$_2$ que t_1 atacaram t_2
What animals the telvision showed the children that attacked
[Negrão and Viotto (2000:121)]

As such, the movement account, like Modesto's binding analysis correctly predicts that null embedded subjects should be banned in non-subject relative clauses. The problem here, though, is that null embedded subjects are widely accepted by native speakers to be fully grammatical, and natural, in adjunct islands. Despite the fact that adjunct islands are known to be 'weaker' than relative clause islands, this is a potential problem for the movement account.

However, Nunes and Uriagereka (2000), building on work by Nunes 1995, 1999a, 1999b, 2000), point out that extraction from adjuncts is, in fact, possible, in the configuration of parasitic gaps. Contra Cinque (1990), they propose that these gaps are derived via a specific kind of sideways movement. In fact, the null subjects in adjunct clauses in BP display the properties of parasitic gaps, as Rodrigues (2004) has argued.



6.3.3. Parasitic gaps

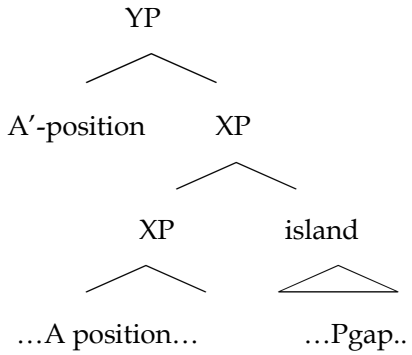
The derivation of parasitic gaps (Pgaps) is controversial, however, the empirical generalisations surrounding them are clearer (cf. Chomsky 1982, Engdahl 1985). Pgaps must surface in islands, and, as Stowell and Lasnik (1991) report, the licensing trace may not occur in a position that c-commands the parasitic gap, or vice versa:

(68) Who$_1$ did Mary [$_{vP}$ gossip about t_1 [despite your having vouched for e_1]

(69) *Who$_1$ t_1 gossiped about you [despite your having vouched for e_1]

Moreover, both gaps must be locally A-bar bound by the same c-commanding element. The correct configuration can be roughly represented as follows:[24]

Figure 3: parasitic gaps



More recently, espousing a copy theory of movement, Nunes (1995) and Nunes and Uriagereka (2000) have proposed that Pgaps are derived via sideways movement. For both conceptual and empirical reasons, Nunes follows Chomsky (1995:250) in assuming that Move is a composite operation, comprising:

(i) copy
(ii) merge
(iii) chain formation
(iv) deletion at PF

[24] Note that the Pgap cannot occur inside an islands embedded inside another island (cf. Chomsky 1986).

Nunes and Uriagereka (2000:24), following Nunes (1995), capitalise on copy-theory to claim that the computational system allows sideways movement, whereby the syntax copies a constituent α from object K and merges α with L, which "has been independently assembled and is unconnected to K". They point out that copying of α is possible because K has not been spelled out and so K and its constituents are visible to the syntax, at the point at which copying occurs. This forces us to assume that adjuncts and specifiers are assembled at the same time that main clauses are. On the other hand, before a phrasal adjunct/subject K can be merged with an XP (essentially as a specifier), L must be spelled out, hence (strong) island effects of the type described above.

The special status of Pgaps is therefore due to the fact that, after sideways movement, two A-bar chains are formed, which in turn enable both the lower copies to be deleted in PF in the manner related in Nunes (1995, 2005).[25]

6.3.3.1. Parasitic gaps in Brazilian Portuguese

BP, like English, licenses object Pgaps:

(70) [$_{CP}$ Que artigo [$_{AgrP}$ você jogaria fora <que artigo>] [$_{AdvP}$ antes que
what article you would-throw away what article before that
(você) tivesse de ler <que artigo>]?
You had of to-read what article
'Which article would you throw away before you'd read?'

However BP, unlike English, also appears freely to license subject Pgaps.[26] As is usually the case with Pgaps, this is true of finite and non-finite clauses:[27]

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[25] Nunes claims that it is more economic to delete lower copies, rather than higher ones, as the former bear more uninterpretable features which need to be deleted before PF. See Nunes (1995, 1999) for further details.

[26] Ian Roberts (p.c.) points out that English does allow Pgaps from subject position of non-finite clauses:

(7) ?Which book did you read t [before PRO claiming [t to be a work of genius]?

(8) Which student did you fail [after PRO assuming [t to be the best]

(71) Quem$_1$ [a Maria visitou <quem>] [quando e_1 foi para Brasília]]
who the Maria visited -3Sg when went-3Sg to Brasilia
'Who did Maria visit when he was in Brasilia?'
[example from Rodrigues (2004:228)]

(72) *[A Maria visitou o José$_1$] [quando e_1 foi para Brasília]
The Maria visited José when went to Brasilia
'Maria visited José when he was in Brasilia?'

(73) Quem$_1$ que [você viu <quem>] [antes de e_1 ir embora]?
Who that you saw before of go away
Lit. 'Who did you see before (his) leaving?'

(74) *Quem viu o José$_2$ antes de e$_2$ ir embora?
Who saw the José before of go away
Lit 'Who saw José before (his) leaving.'

The equivalent English examples are impossible:

(75) Who did you visit when e_1 was in Brazil?
(76) Who$_1$ did you see before e_1 leaving?

Personally, I find these examples very marginal. Moreover, they are odd as they clearly improve with an overt pronoun, unlike object Pgaps:
(9) Which student did you fail after assuming him to be the best.
(10) ??Which book did you read before buying it?
In any case, there is a sense in which these 'subjects' are also 'objects', as they can undergo passivisation:
(11) The book was claimed to be a work of genius.
(12) The student was assumed to be the best.

[27] Note that there is also an alternative way to derive this linear string, where subject-to-subject movement occurs. In this case the null embedded subject receives a different (subject-oriented) interpretation.

Question (75) is ungrammatical, presumably for the same reason that comp-trace effects are observed in English. Question (76) is grammatical only under the interpretation where the matrix subject acts as a binder. If we accept the existence of PRO and treat 'before' as a complementiser in (76), then this fact can also be attributed to whatever rules out that-trace effects. Alternatively, if we follow Hornstein in assuming PRO is really also the trace of movement, then we can attribute the ungrammaticality of (76) to the [nom] assigning power of the affix –ing in English, which rules out subject-to-object movement in the English example. Alternatively, if *leaving* is a nominal, as the genitive Case of *his* suggests, then (76) might actually be a left branch violation:

(77) Who did you see before [$_{DP}$ [his] leaving]

Either way, there is a clear difference between BP and English. A simple way to capture this difference is to argue that the bound BP null subjects in adjuncts are really parasitic gaps, leaving open the question of whether English PRO is the trace of movement or not.[28]

Support for this position comes from the fact that extraction from an island within an island is ungrammatical, as Rodrigues 2004 shows:

(78) *O João me disse [$_{CP}$ que choveu [quando *ec* chegou em casa]]
the João me told that rained when arrived at home
'João told me that it rained when he arrived at home'
[example from Rodrigues 2004:218]

In (78), the finite clauses '[que choveu…]' is an adjunct, according to the analysis put forth by Rodrigues and Ferreira. The finite adjunct headed by *quando* is therefore an island within an island. According to Chomsky (1986), the unavailability of parasitic gaps in such configurations is universal.

[28] Note that the English-type reading is also possible in BP:

(13) Quem$_1$ que [você$_2$ viu <quem> [antes de PRO$_2$ ir embora]?
'Who did you$_1$ see before PRO$_1$ leaving?'

6.3.3.1.1. Wh-movement and binding

Modesto (2000a) first noticed that fronted wh-objects are transformed into possible binders in BP:

(79) Quem$_2$ que o Pedro$_1$ convenceu t$_2$ que EC$_2$
Who$_1$ that the Pedro$_2$ convinced that
tinha que ir embora?
had that go away?
'Who did Pedro convince that he had to leave?
[BP from Modesto (2000a)]

Again, in Modesto's terms, this falls out from the fact that fronted wh-objects occupy an A-bar position, unlike an in-situ object.[29] In order to derive this, he argues that wh-movement moves through the 'Topic' position on the way to spec CP, blocking subject movement. This involves a certain amount of look ahead as, in strictly derivational terms, the subject movement should occur before the wh-object is even probed. Modesto claims that this look ahead is permitted as raising of the subject will block wh-movement under relativised minimality. A further problem comes from the fact that wh-words are not standardly considered to be topics.

Under a movement account, these anomalous null subjects, like subjects more generally in adjuncts, might be parasitic gaps. In fact, if the embedded CPs are actually adjuncts, as Rodrigues and Ferreira claim, then parasitic gaps are predicted to be licensed where wh-movement occurs:

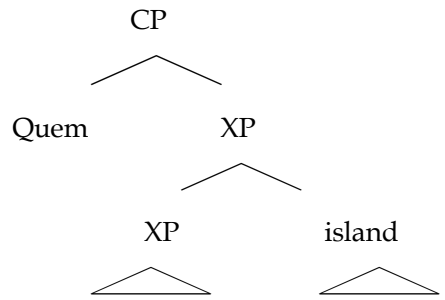
(80) Quem$_2$ que o Pedro$_1$ convenceu t$_2$ que PG$_{1/2}$
Who$_1$ that the Pedro$_2$ convinced that
tinha que ir embora?

[29] There is some debate in the literature as to whether the subject remains a possible binder of *pro* where a wh-phrase moved over it. Modesto himself claims that it does not, whereas Rodrigues (2004) claims that both the subject and object are possible binders in such cases, depending on the pragmatics.

had that go away?

This fits the (simplified) configuration given below:

Figure 4



O Pedro convenceu <quem> que <quem> tinha que ir embora

These null subjects can therefore be accounted for by whatever mechanism allows for the derivation of Pgaps. If the correct mechanism is, in fact, sideways movement, as Rodrigues and Ferreira claim, then a degree of uniformity is given to BP null subjects.

6.3.4. Theoretical assessment

As both accounts are empirically accurate, they can be assessed purely on theoretical grounds.

6.3.4.1. Movement

6.3.4.1.1. Phase impenetrability

The main theoretical objection to the movement approach is that it requires us to permit movement from finite clauses, apparently violating the phase impenetrability condition, and Case-theory. However, Rodrigues (2004) claims that the movement account of BP null subjects is not a problem for phase theory (Chomsky 2001). According to Chomsky (2001), once the next highest phase head is merged, the lower phase, with the exception of the phased head and its specifiers gets spelled out and thus become "impenetrable":

(81) Phase-Impenetrability Condition (Chomsky, 2000: 108)
In phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such computations.

Rodrigues avoids this problem by positing an intermediate FP projection between TP and CP, which, being non-phasal is not spelled out when the higher v head is merged. Rather than FP, I assume, following Negrão (2000), and the arguments put forward by Modesto, that this 'escape hatch' is actually a Topic position, responsible for the Topic-prominent status of BP. As such the movement posited for BP is not ruled out by the PIC.

6.3.4.1.2. Improper movement

So far we have shown that a movement account is empirically viable for BP null subjects. It remains to be seen exactly how movement of this (unusual) kind is accounted for in theoretical terms. Given that subjects in BP appear to raise to an obligatory Topic position, subject movement to a higher clause would be from an A-position, to an A-bar position to an A-position and therefore non-uniform. This is the kind of movement which Chomsky calls 'improper'. In the best-case scenario the stipulative distinction between A-movement and A-bar movement should no longer exist in a Minimalist framework. However, as long as there are empirical facts to be captured by appealing to improper movement, we must consider whether the distinction is genuine or not. Butler (2004b) shows that the ban on improper movement can be eradicated from a theory of grammar if phase theory is elaborate enough to capture the improper movement facts, and the idea that an XP must be active and therefore visible to a probe, is maintained.

Let us review the kind of movement proposed here in relation to Chomsky's examples of improper movement to see how and why this kind of movement is permitted in BP. Following Rodrigues and Ferreira, I have proposed that movement from an A-bar topic position to a theta-position is licit in BP:

(82) [$_{TopP}$ o José [$_{IP}$ <o José>[$_{vP}$ acha [$_{FinP}$ que [$_{TopP}$ <o José> [$_{IP}$ <o José>[$_{vP}$ vai ganhar]]]]]
José think that will win
'José thinks that he will win.'

At first sight this appears to be equivalent to the kind of movement that is ruled out in English, (cf. Chomsky 1995):

(83) *John seemed [$_{CP}$ t [$_{TP}$ Bill would see t]]

(84) *John is possible [$_{CP}$ t [$_{TP}$ Bill will see t]]

In (83) and (84) a topicalised object cannot be raised to a matrix clause, even though it resides at the phase edge and is therefore accessible to the higher V in purely phasal terms. The ungrammaticality of the above examples is attributed to 'improper movement' by Chomsky (1995) as it represents movement from an A-bar to an A-position. However, Butler (2004b) rightly points out that these examples are ruled out on independent (Case) grounds. The topicalised object in (83) and (84), just like the subject in (85) is not visible to the higher probe as it is inactive, having had its Case feature valued in the embedded clause:

(85) *Bill seemed [$_{CP}$ (t) [$_{TP}$ t would see John]]

Butler convincingly shows that the notion of improper movement is not in fact required in a Minimalist Framework.

6.3.4.1.3. Nominative Case

What is required, however, is an explanation as to why embedded subjects, but not objects, are visible to probes in a higher clause in BP. The following is ungrammatical in BP, just as it is in English:

(86) *[O João falou [$_{CP}$ que [$_{TopP}$ ~~<O João>~~ [$_{IP}$ o Pedro viu ~~<O João>~~]
The João said that the Pedro saw
'João said that Pedro saw him.'

In fact, this is reminiscent of the fact that null subjects, but not objects, are also permitted in English:

(87) John wants PRO to leave

(88) *John wants Mary to see PRO

If cases such as (87) are to be analysed as movement, then a similar problem arises here, as Chomsky and Lasnik (1993) have convincingly argued that PRO needs Case. In many ways, it is unexpected that subject movement should be legitimate where object movement is banned as, in other contexts, objects are easier to extract than subjects. Thus object wh-extraction does not trigger that-trace effects and wh-object extraction from weak islands is generally better than subject extraction (cf. Rizzi (1990:73).

In these A-extraction cases, however, it seems that, for some reason, subjects but not objects are 'active', and therefore 'visible' to the higher phase. This cannot be derived purely from superiority, as in (86), as in the English example, the Topicalised object is not able to raise to a matrix theta-position, despite the fact that it is not prevented from doing so by the PIC. This fact indicates that there is something special about subjects, which renders them visible to the theta-domain of the higher clause. In descriptive terms, only subjects seem to be able to raise to a theta-position in BP.[30]

It seems necessary to posit some parametric difference between English-type languages, and BP-type languages in order to account for the fact that the subject of a finite CP is still 'active' in BP, but not in English. There have recently been two slightly different proposals in the literature, both relying on the properties of [nom] Case.

Rodrigues (2002, 2004) proposes that the verbal morphology in BP is rich enough to satisfy the EPP in BP, but not to delete the Φ-features of T. As Chomsky (2000) and others have underlined, there is no reason why Case and EPP checking need be one and the same process. In fact there are many well-known examples where the two are divorced. In English, the expletive 'there' seems to satisfy the EPP but does not absorb Case:

[30] I gloss over some parasitic gaps data here. However, as object Pgaps are also permitted in English we do not need to account for any difference in this respect.

(89) There entered a sinister-looking man

Icelandic quirky Case is another example. According to Rodrigues' analysis, agreement morphology in BP retains a D feature and so is rich enough to satisfy the EPP:

(90) "V moves to T carrying Agr, which checks the EPP-feature of T." (Rodrigues 2002:177)

She goes on to claim that, having undergone a weakening in its paradigm, agreement morphlogy in BP is no longer rich enough to delete the uninterpretable Φ-features of T. An overt subject is therefore required to check/value these features. Moreover, any overt DP subject must raise to spec TP to check nominative Case:

(91) a. A structural Case feature is checked in a spec-head relation
b. Agreement in ϕ-features prompts movement to check Case
[Rodrigues (2004:123)]

This creates a situation in which a subject is not required to satisfy the EPP but must raise to spec TP under 'greed' to check its own Case feature. In a simple sentence the derivation will crash unless the subject raises to this (spec TP) Case position, as all DPs must be assigned Case. In an embedded CP, the subject need not move through spec TP provided that it goes on to raise into the matrix spec TP to receive Case. By jumping over spec TP the subject avoids getting "frozen in place". There are thus two options for an embedded subject: either the subject moves to embedded spec TP and gets spelled out; *or* it raises to the higher subject position, receiving Case from the higher T. As a pre-theoretic justification of this operation Rodrigues claims the following:

(92) "Taking greed to be enlightened self-interest, the system can delay the movement of a DP to check Case until the higher T is merged." (Rodrigues 2002:177)

This raises important issues regarding look-ahead and phase theory.

Ferreira's (2000) approach, on the other hand, is to claim that T, or in our terms, Agr, is optionally defective in BP (but not English) and, therefore, only optionally assigns

nominative case. Where T is defective the caseless subject of an embedded clause can raise to a higher subject position, as it remains 'visible', having an unvalued Case feature. Where the embedded T fails to assign nominative case, the subject pronoun moves to the higher spec TP to receive Case. Where the embedded T assigns nominative Case the DP is frozen in place and invisible to further probing. As a Caseless DP will lead to a crash at LF, derivations in which the DP fails to raise and fails to receive Case are ruled out. Although this analysis seems to capture the basic differences between BP and English, it is not linked to any independent differences between the two languages. Ferreira claims that the defective nature of T is connected to the loss of inflectional richness which BP has undergone (see Duarte 1995). However, the same correlation does not hold in English, which has even weaker agreement morphology than BP. As Rodrigues (2004) points out Ferreira's analysis is impossible to disprove, and therefore, can be taken as little more than a description of the facts.

Both of the above accounts capture the essence of the problem, without providing a totally satisfactory solution. It is possible, however, to approach this difference from the opposite point of view: what is it that prevents movement of the subjects of finite CPs in English? This has the potential to provide us with a more insightful answer. English, in fact, displays many restrictions on the extraction of subjects from finite clauses, which many other languages fail to share: comp-trace effects, subject/object do-support asymmetries etc. In the best-case scenario, a single parametric difference might be responsible for all of these disparate effects. In fact, typological indications suggest that these might all be effects of the requirement to fill IP at PF. Gilligan (1987) surveyed 100 unrelated languages and found a correlation between languages allowing that-trace violations and null expletives, and Nicolis (2004) carried out an extension of this study on Creole languages, supporting it. BP, likewise allows that-trace violations despite lacking free inversion. Typologically speaking, then, languages with non-PF IP appear to allow freer extraction of subjects through A, and A-bar movement, as well as lacking 'pure' expletives. In a Minimalist framework, this requires further explanation, and at present I offer no explanation as to how this correlation manifests itself on a derivational level. For now, however, let us consider the predications this correlation would make.

If a language can delete copies in spec IP then it is predicted that it will allow movement of subjects to higher positions, both A and A-bar. If the language is also

Topic-prominent, then it is predicted that *all* subjects will be able to raise, as subjects move to TopP in the CP-layer as a default, making them visible to higher phases and immune to the freezing power of the PIC. There is some evidence to suggest that the Topic-prominent status of BP does play a role in making the embedded subject visible to the higher clause, by avoiding the PIC. This comes from Capeverdean Creole, a language which permits null embedded subjects only where the matrix subjects is a QP or Wh-phrase (Costa and Pratas 2006).[31]

6.3.4.2. A-bar binding

The theoretical objections to the A-bar binding approach are greater. Firstly, Modesto's account requires us to posit the existence of a null ΦP, an anaphoric pronominal which must be bound in the syntax. Modesto's account relies crucially on a specific local binding relation which is not identical to the kind of A-bar variable binding seen elsewhere in natural language. Whereas wh-variable binding is derived via movement, quantifier-variable binding is subject only to c-command. The binding of ΦPs in BP, on the other hand, is subject to (next-clause-up) locality and relative clause islands, as we have seen:

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[31] The relevant examples are as follows:

(14) Kenha ki buta pensa ma ta kumpra livru?
Who REL you TMA think COMP TMA buy book
'Who do you think is going to buy the book?'

(15) Kenha ki fla ma *pro* /*m-e ta kumeba katxupa?
Who REL said COMP / COMP-he TMA eat.TMA katxupa
Who said that he was eating katxupa?'

(16) Djon fla *ma *pro*/m-e ta bai ku nos.
Djon say COMP /COMP-he TMA go with us.
'Djon said he is going with us.'

This seems to be an example of a language in which movement from a finite clause is possible only where the subject is a QP or a wh-phrase. This is predicted given the fact that CVC does not display the hallmarks of a Topic-prominent language, as Costa and Pratas show. Because Wh-phrases and QPs raise to the CP layer, they are visible to the higher clause, whereas normal subjects in spec IP are invisible to the higher phase.

(93) *O José acha [que os rumores revelam [que *ec* é inteligente]]
The José thinks that the rumours reveal that is intelligent
'José thinks that the rumours reveal that he's intelligent.'

(94) *A Maria$_1$ achou [um carro [Op$_2$ que *pro*$_1$ tem grana pra comprar t$_2$]
The Maria found a car that had cash to buy
[Figueiredo Silva (2000:139)]

(95) [[Everybody$_1$ knows [that the company's growth wont mean [that he/she$_1$ is less valued]]]

(96) [Every politician]$_1$ betrays [the people who vote for him$_1$]

While these conditions fall out directly from a movement account, they therefore require certain stipulations under a binding approach. For this reason, and given the virtually identical empirical coverage of the two approaches, a movement account has theoretical advantages.

6.3.5. Remaining problems

The fact that subjects, by moving to spec TopP, can also license Pgaps, leaves us with the following problem: why is it that subject Pgaps are not licensed where object wh-movement occurs? Modesto (to appears) proposes that this is because wh-objects raise through the Top position, but we have shown the problems with this approach, as wh-phrases are not topics.

However, as Rodrigues (2004) has shown, this blocking of the subject as a binder does not appear to be very robust, as examples of the following kind are also acceptable:

(97) [$_{CP}$ Que artigo [$_{AgrP}$ você jogaria fora <que artigo>] [$_{AdvP}$ antes que
what article you would-throw away what article before that
<você> tivesse de ler <que artigo>]?
You had of to-read what article

In order for the null embedded subject to be licensed, the matrix subject would need to occupy a Topic position. This is not blocked by the presence of a wh-object.

It is possible, then, that speakers prefer the object reading in example (79), repeated here as (98), for minimality reasons, because sideways movement to object position is, in some sense, more minimal than sideways movement to subject position:

(98) Quem$_2$ que o Pedro$_1$ convenceu t_2 que EC$_2$
Who$_1$ that the Pedro$_2$ convinced that
tinha que ir embora?
had that go away?
'Who did Pedro convince that he had to leave?

6.3.5.1. Montalbetti's effects

Returning, again, to Montalbetti's effects, it is interesting to note that, in some contexts, BP patterns with Romance NSLs in allowing a bound variable reading only with null subjects:

(99) Quem$_1$/ninguém t_1 acha que (*ele$_1$) é inteligente?
Who/nobody thinks that he is intelligent
'Who/nobody thinks that he/she is intelligent.'

In other contexts, it appears to behave differently, disobeying Montalbetti's generalization:

(100) Where the opposition overt/null obtains, overt pronouns cannot be bound unless linked to a bound variable.

In real terms, 'the opposition obtains' only in subject position, as Spanish and Italian do not license other forms of pro-drop.[32] The contexts in which it fails to obey (100) are strong evidence in favour of a movement account. Consider the following contrast:

(101) Quién$_1$/nadie t_1 dijo que *pro*$_1$ piensa que él$_1$ es inteligente? [Spanish]
who/nobody said that (he) thinks that he is intelligent

(102) *Quem$_1$/ninguém t_1 disse que *pro* acha que ele$_1$ é inteligente? [BP]
who/nobody said that (he) thinks that he is intelligent

This contrast is indicative of the different ways in which the two kinds of languages instigate dependency relationships in the syntax. In BP it is not possible for a nominal to be bound by virtue of being 'linked to a bound pronominal'. Binder-subject variable dependency relations are derived via movement in BP. Where movement fails then the binding relationship becomes impossible:

(103) *Ninguém t_1 disse que a Maria acha que *pro*$_1$ é inteligente? [BP]
who/nobody said that (he) thinks that he is intelligent

This in a result of the fact that in Romance NSLs, as is the case in English, pronouns can act as bound variables, whereas in BP they cannot (cf. Negrão 1997)

In this much, it is actually an accident that BP appears so similar to NSLs with respect to examples like (99). In NSLs the effect is due to the fact that topics, being A-bar doubled structures act as interveners and block binding. In BP it is due to the fact that binding is derived via A-movement.

6.3.5.2. A note on optionality

So far I have provided a tentative account of how null embedded subjects are derived in BP. I have not, however, discussed the apparent optionality of these null embedded

[32] Null indefinite objects, as discussed by Campos (1986), appear to behave like null topics, derived via null operator movement.

subjects. Uncontroversially, I will argue that the fact that (104) and (105) are equally well-formed because they represent different construal relationships:

(104) A Maria acha que é inteligente [BP]
The Maria thinks that is intelligent

(105) A Maria acha que ela é inteligente
The Maria thinks that she is intelligent

For this reason, the system appears to be unminimalist in permitting two distinct derivations of the same sentence. Following Safir (2004 :70) I argue that it is necessary to make the distinction between "dependent and co-referent readings". Whereas (104) is an instance of binding, a dependent construal involving movement, (105) instantiates co-reference. Co-reference involves the (arbitrary) assigning of the same reference to two independent nominals. The fact that in NSLs only null subjects are permitted in such contexts is also to be predicted, as deletion is required in cases of co-reference and binding. As Safir (2004 :70) points out "there are cases where a single surface string could be derived from distinct numerations". I argue that this is the case in Romance NSLs:

(106) A Maria acha que (*?ela) é inteligente [EP]
The Maria thinks that is intelligent

In BP, there are actually two distinct numerations which could give rise to (106). The first involves movement of the matrix subject 'a Maria', and is a dependence relation, the second involves a deleted pronoun, and is a co-referent relation. The fact that the co-referent pronoun needs to be deleted in NSLs can be derived from general principles of economy. In BP, on the other hand, such deletion is ruled out because BP lacks the uninterpretable D feature in I, which permits deletion of referential subjects.

6.4. Conclusions

There are many areas of this proposal which remain unresolved. It is not entirely clear, for instance what allows movement from a finite clause in BP, but not in semi-pro-drop

languages. It is clear that languages like English and French do not license such movement as they have a requirement to fill spec IP at PF. However, it has been shown that languages such as Icelandic have no such requirement, and yet fail to allow movement if this kind. Accounts based on stipulations capture the facts, but remain stipulative. The data from CVC suggest that the Topic-prominence of BP might play a role, but note that null bound subjects are also blocked in Icelandic, even in the case of wh-phrases and QPs. Further crosslinguistic research is required in this area.

It is not my intention here to discuss the various merits and shortcomings of Hornstein's control-as-movement analysis, where theta-roles can be 'picked-up' as features, rather than being assigned as 'relations', as Chomsky maintains. There is a long, and ongoing, debate in the literature surrounding the status of theta-roles (cf. Hornstein 1999, Landau 2000, 2004, Manzini and Savoia 2002). What does seem clear, however, is that the null subjects observed in BP are distinct from those observed in NSLs. Moreover, a movement analysis allows a 'Minimalist' and elegant account of the BP data. It enables us to maintain the contention that agreement is merely the PF spellout of uninterpretable valued features, and that an EPP applies universally in subject-initial languages. As agreement is no longer rich in BP, due to a simplification in the verbal paradigm (Duarte 1995), there is no uninterpretable D feature on Agr and so deletion of a subject pronoun under identity is not possible. However, null subjects are still possible where a deleted locative or expletive satisfies the EPP, or where a DP/pronoun raises to a higher clause leaving behind a copy which is deleted at PF. In this way, null pronouns in BP are also the result of PF deletion.