

# 1 Embedded null subjects in Capeverdean<sup>1</sup>

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7 The status of Capeverdean as a *pro*-drop language is controversial. Baptista (2002)  
8 contends that this Portuguese-based creole has null referential subjects with some  
9 types of predicates, while Pratas (2002, 2007) proposes that it has only expletive null  
10 subjects. She argues that the rare cases of root null subjects can be analyzed as in-  
11 stances of null expletives. The aim of this paper is to show that in Capeverdean there  
12 is an asymmetry in the distribution of null referential subjects. These are ruled out in  
13 root contexts, but allowed in some embedded contexts; this is the case when the null  
14 subject is bound by a *wh*-operator or a quantifier. Following Holmberg's (2005) and  
15 Holmberg, Nayudu & Sheehan's (2009) analysis of null subjects, we offer an analysis  
16 of Capeverdean null subjects exploring the properties of T in the language (in par-  
17 ticular, the lack of a rich inflectional system), the syntax of subjects, and the type of  
18 null category available. We claim that Capeverdean embedded null subjects are  
19 variables, licensed by an operator in the matrix clause. We show that these specific  
20 properties explain minimal differences between null subjects in Capeverdean and  
21 Brazilian Portuguese.

## 22 I. INTRODUCTION

23 Recent descriptions and debates on the status of null subject languages reveal  
24 that classic views of the null subject parameter, such as Rizzi's (1982), are too  
25 simplistic; languages do not split into just two options, allowing or dis-  
26 allowing null subjects. Comparing languages like Italian and English, Rizzi  
27 concludes that the licensing of null subjects is a parametric option.  
28 Summarizing Rizzi's observations, the following set of properties derives  
29 from the language-particular value of the null subject parameter:

- (1) (a) Licensing of referential null subjects.
- (b) Licensing of expletive null subjects.

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- (c) Pronominal verbal inflection.
- (d) Availability of subject-verb inversion.
- (e) Lack of *that-t* effects.

30

31 Under the earlier formulations, the properties listed in (1) are expected to  
 32 cluster together if a language has a positive setting for the null subject par-  
 33 ameter. However, crosslinguistic research reveals that the correlations are  
 34 not so robust. In fact, after surveying around 100 languages, Gilligan (1987)  
 35 concludes that only four of the correlations hold, and all of them are uni-  
 36 directional:

- (2) (a) If referential null subjects are allowed, then null expletive subjects  
are allowed.
- (b) If there is subject–verb inversion, there are null expletives.
- (c) If there is subject–verb inversion, there are no *that-t* effects.
- (d) If there are no *that-t* effects, there are null expletives.

37

38 Recent studies confirm Gilligan’s (1987) view that the null subject parameter  
 39 cannot be viewed simply as a split between languages with and languages  
 40 without null subjects, in which all the properties in (1) cluster together.  
 41 Figueiredo Silva (1996), Holmberg (2005), Neeleman & Szendrői (2007) and  
 42 Holmberg et al. (2009), among others, show that there are several types of  
 43 null subject languages.<sup>2</sup> Holmberg et al. (2009) propose a split between  
 44 ‘consistent’ null subject languages and ‘partial’ null subject languages; in  
 45 partial null subject languages null subjects are allowed in a much more re-  
 46 stricted set of environments than in consistent null subject languages.  
 47 Brazilian Portuguese and Finnish are examples of partial null subject  
 48 languages. For instance, Brazilian Portuguese allows indefinite null subjects  
 49 and embedded referential null subjects controlled by a c-commanding ante-  
 50 cedent, but disallows referential third person null subjects in root contexts.  
 51 Holmberg (2005, 2010) explains these differences in terms of the properties of  
 52 the head of the inflectional domain – T.

53 Another productive line of inquiry addresses the issue of how different  
 54 types of null subjects are licensed, particularly in partial null subject  
 55 languages. Modesto (2007, 2008) and Miyagawa (2011) claim that null sub-  
 56 jects can be licensed by a c-commanding operator when the referential  
 57 properties of the inflectional domain are not available.

58 In this paper, we discuss null subjects in Capeverdean, a Portuguese-based  
 59 creole. We argue that this language is a clear case of a partial null subject

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[2] For a thorough review of the evolution of views on the null subject parameter, we refer the reader to Holmberg & Roberts (2010).

60 language, and describe an asymmetry between root and embedded null  
61 subjects. To anticipate that discussion, we will show the following:

- (3) (a) Capeverdean lacks root referential null subjects.
- (b) Capeverdean has expletive null subjects.
- (c) Capeverdean has embedded null subjects bound by a matrix oper-  
62 ator antecedent.

63 We provide an analysis of embedded null subjects in Capeverdean showing  
64 that both the properties of the inflectional head (along the lines of Holmberg  
65 2005) and the licensing mechanisms for the null subject (along the lines of  
66 Modesto 2007, 2008) need to be considered.

67 The paper is structured as follows. Section 2 spells out our assumptions  
68 regarding the syntax of null subjects, along the lines of Holmberg's work,  
69 namely, that the properties of the inflectional head T are relevant, and sets  
70 out the research questions:

- (i) Does Capeverdean allow null subjects?
- (ii) Is it a partial or a consistent null subject language (in the senses defined  
in Holmberg et al. 2009)?
- (iii) If it is partial, what is the distribution of the null subjects allowed?
- (iv) Furthermore, what is the licensing mechanism for these null subjects?

71 Section 3 discusses the properties of null subjects in root questions, showing  
72 that the language does not allow null referential subjects, but has null  
73 expletive subjects; these facts motivate the proposal that Capeverdean is a  
74 non-consistent null subject language. Section 4 focuses on embedded null  
75 subjects. Section 5 describes the difference between Capeverdean and  
76 Brazilian Portuguese in terms of the syntax of subjects and topics; we claim  
77 that the Capeverdean embedded null subject is a *pro*, licensed as a bound  
78 variable, as proposed in Modesto (2000) for Brazilian Portuguese, and not a  
79 deleted topic, licensed by a moved topic, as proposed, also for Brazilian  
80 Portuguese, in Modesto (2008). Finally, Section 6 presents the further pre-  
81 dictions of our proposal and offers some concluding remarks.

## 82 2. NULL SUBJECTS: BACKGROUND ASSUMPTIONS

83 As mentioned in the introduction, the null subject literature of the past two  
84 decades recognizes that, whereas certain languages have null subjects across  
85 the board (e.g. Italian, Spanish or European Portuguese), others only allow  
86 null subjects in certain syntactic environments. One of the earliest findings  
87 regarding asymmetries in the availability of null subjects was the difference  
88 between expletive and referential null subjects. German, for instance, has  
89 expletive null subjects in root contexts, but does not allow referential null  
90 subjects (Gilligan 1987).

91 Holmberg (2005, 2010) and Holmberg et al. (2009) suggest that the split  
92 between 'consistent' and 'non-consistent' null subject languages depends on

93 the properties of T. Following in the spirit of early proposals that null sub-  
 94 jects are available when the inflectional head (T) is pronominal (e.g. Rizzi  
 95 1982, Barbosa 1995, Alexiadou & Anagnostopoulou 1998), Holmberg (2005,  
 96 2010) and Holmberg et al. (2009) suggest that a definiteness feature in the  
 97 head of the inflectional domain (T) is relevant for characterizing a language  
 98 as null subject. In languages like English or Swedish, this feature is absent  
 99 (see Holmberg & Roberts 2010 for independent evidence). In consistent null  
 100 subject languages, T bears a D(efiniteness)-feature, which is licensed under  
 101 agreement with the referential subject or under incorporation of a related  
 102 pronominal category. On the other hand, in partial or non-consistent null  
 103 subject languages T is not specified for D(efiniteness) and, consequently, null  
 104 subjects are restricted to indefinite environments. Since *pro* does not bear a  
 105 D-feature in partial null subject languages, it may have a c-commanding  
 106 antecedent. This is schematized in (4):

- (4) Subj T[+Df] – T and Subj enter agree relation  
 Ø T[+Df] – T assigns interpretation to the subject under agree  
 Subj T[αDf] – Value of T determined by the subject  
 Ø T[αDf] – Only indefinite reading is possible

107 Another relevant factor for determining the syntax of null subjects is how  
 108 null categories are licensed. As clearly stated in Neeleman & Szendrői (2007),  
 109 not all null forms are licensed in the same way and this derives a wide  
 110 typology of constructions involving these categories.

111 Brazilian Portuguese provides a clear example of the relevance of the  
 112 licensing mechanism, as discussed in Modesto (2000).

113 Brazilian Portuguese is undergoing a change with respect to the setting of  
 114 the null subject parameter (Duarte 1995, among others). In a diachronic  
 115 study of popular theater plays written in the 19th and 20th centuries, Duarte  
 116 (1993a) provides clear evidence that Brazilian Portuguese is losing referential  
 117 null subjects. She observed an increasing rate of overt referential subjects in  
 118 the corpora she examined, as shown in (5).

- (5) *Rate of overt referential subjects in Brazilian Portuguese*

	1845 – 20%	1882 – 23%	1937 – 46%
119	1975 – 67%	1992 – 74%	

120 Duarte (1993b) also observed another piece of evidence indicating the  
 121 ongoing change in Brazilian Portuguese, which is that the language does not  
 122 display the typical effects of the Avoid Pronoun Principle (Chomsky 1981), in  
 123 that it allows embedded overt subjects co-referential with a matrix subject:

- (6) O povo brasileiro<sub>i</sub> acha que ele<sub>i</sub> tem uma grave doença.  
 the people Brazilian thinks that he has a serious illness  
 ‘Brazilian people think they have a serious illness.’

124 The intended reading for a sentence like (6) would be ruled out in a con-  
 125 sistent null subject language. For instance, in European Portuguese (6) is  
 126 ungrammatical with the co-referential interpretation for the two subjects.

127 However, it is not the case that Brazilian Portuguese has lost null refer-  
 128 ential subjects altogether. Figueiredo Silva (1996), among other authors,  
 129 notes that referential null subjects can still be found in some specific contexts.  
 130 One such context is question–answer pairs with 1st or 2nd person verbal  
 131 morphology, as in (7):

- (7) A: O que você comprou?  
           the what you bought  
           ‘What did you buy?’  
       B: Ø comprei um livro.  
           bought a book  
           ‘I bought a book.’

132

133 Referential null subjects are also found in embedded complement clauses, in  
 134 spite of the loss of the Avoid Pronoun Principle. As argued in Modesto  
 135 (2000), in a sentence like (8) the embedded pronoun is optional:

- (8) O Pedro disse que (ele) ganhou na lotto. (Modesto 2000: 44)  
       the Pedro said that he won in.the lotto  
       ‘Pedro said he won the lotto.’

136 The example in (8) is particularly interesting because the null subject  
 137 is possible but its interpretation is limited and different from what  
 138 happens in typical *pro*-drop languages such as European Portuguese  
 139 (Modesto 2000):

- (9) (a) *Brazilian Portuguese*  
       O Pedro<sub>i</sub> disse que Ø<sub>i/\*j</sub> ganhou na lotto.  
       the Pedro said that won in.the lotto  
       ‘Pedro said that he won the lotto.’  
       (b) *European Portuguese*  
       O Pedro<sub>i</sub> disse que Ø<sub>i/j</sub> ganhou na lotto.  
       the Pedro said that won in.the lotto  
       ‘Pedro said that he won the lotto.’

140

141 As shown in (9), the embedded null subject is obligatorily co-referential with  
 142 the matrix subject in Brazilian Portuguese, which is not the case in European  
 143 Portuguese. Modesto (2000) contends that in Brazilian Portuguese *pro* is  
 144 available but cannot be identified by the inflectional head. According to his  
 145 proposal, *pro* in Brazilian Portuguese is instead licensed and identified as a  
 146 null bound variable (along the lines of Cinque 1988). Crucially, for a variable

147 interpretation to obtain, it must be c-commanded by an antecedent. This  
 148 proposal explains why the embedded subject cannot have a disjoint reading.  
 149 Such a reading is only possible when *pro* is licensed as a pronoun with free  
 150 reference and not as a bound variable.

151 Modesto (2008) further develops this analysis in order to account for some  
 152 of the properties of embedded null subjects in Brazilian Portuguese. In par-  
 153 ticular, he aims to explain why they do not behave like PRO in control  
 154 structures, and also why they do not display features of A-movement, contra  
 155 Nunes (2008). Modesto (2008) proposes that null subjects in Brazilian  
 156 Portuguese are instances of topic deletion. This analysis explains, among  
 157 other things, the fact that the relation between a topic subject and a null  
 158 subject cannot cross islands, and also the existence of intervention effects,  
 159 when a *wh*-phrase is moved across a null subject to the left of a preverbal  
 160 subject.

161 We will return to Modesto's two analyses below. What is important at this  
 162 stage is the observation that two factors are relevant in the different null  
 163 subject constructions, both the properties of the head of the inflectional  
 164 domain (T) and the licensing mechanisms for null categories. Thus, several  
 165 possibilities emerge in evaluating a given language:

- (10) (a) Does the language allow null subjects or not?
- (b) If yes, does the language allow null subjects consistently or partially?
- (c) If partially, what is the distribution of null subjects?
- (d) What is the licensing mechanism for the null subjects allowed?

166

167 These are the questions we intend to address for Capeverdean.

### 168 3. NULL SUBJECTS IN CAPEVERDEAN

169 The status of Capeverdean with respect to the null subject parameter has  
 170 been the subject of some controversy in the literature. Baptista (2002) con-  
 171 tends that Capeverdean is a null subject language, whereas Pratas (2002,  
 172 2007) claims that the language is a non-*pro*-drop language, specifically, a  
 173 language with obligatory referential lexical subjects.

174 In part the debate was obscured by the fact that the authors used a uni-  
 175 form set of tests to determine the language's *pro*-drop status. However, we  
 176 know that languages may be consistent or non-consistent regarding the null  
 177 subject. As Gilligan (1987) has observed, languages do not behave uniformly  
 178 with respect to the null subject criteria listed in Rizzi (1982). In fact, as shown  
 179 in Pratas (2002), Capeverdean displays mixed properties. We describe these  
 180 properties in the next subsections.

181 3.1 *No root referential null subjects*

182 As shown in (11), root referential null subjects are ruled out in Capeverdean  
 183 for all persons:

- (11) (a) \*(N) papia txeu.  
           1SG speak much<sup>3</sup>  
 (b) \*(Bu) papia txeu.  
           2SG speak much  
 (c) \*(E) papia txeu.  
           3SG speak much

184

185 Baptista (2002) proposes that subject clitic pronouns are agreement markers  
 186 lexicalizing the head position of agreement projections, and not the subject  
 187 of the root clause. Under this analysis, the sentences in (11) are actually null  
 188 subject sentences because Spec,TP is empty.

189 To test these competing hypotheses, we draw on De Cat (2005). This paper  
 190 provides several arguments to decide between two competing analyses of  
 191 French subject clitics: one in which the clitic is an agreement marker (as in  
 192 Rizzi 1986), and one in which the clitic is an argument (as in De Cat 2005).  
 193 De Cat's argumentation is the following: if the clitic is the argument, it  
 194 should only be doubled in contexts in which a pronoun and a DP are inde-  
 195 pendently found to be doubled, as in contexts of contrastive topic or left  
 196 dislocation, for instance:

- (12) Jean, je l'ai vu.  
       Jean I him.have seen  
       'Jean, I saw him.'

197 If the clitic is an agreement marker, its role in the sentence is to mark  
 198 agreement and not argumenthood. In that case, it is expected that clitics  
 199 appear independently of the discourse function of the argument. As De Cat  
 200 (2005) notes, this is not the case, since subject clitics only double a DP in  
 201 topic contexts:

- (13) A: Qui est arrivé?  
       who BE arrived  
       'Who arrived?'  
       B: (a) #Jean, il est arrivé.  
           Jean 3SG BE arrived  
           'Jean, he arrived.'

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[3] Abbreviations used in example glosses: Ø=null subject; ADV=adverbial; BE=copula; COMP=complementizer; LOC=locative; NEG=negation; PASS=passive; PROG=progressive; PRON=pronoun; PST=past tense; SG=singular; TMA=tense/mood/aspect marker.

- (b) Jean est arrivé.  
 Jean BE arrived  
 ‘Jean arrived.’

202  
 203

- (14) A: Qu’est-ce que Jean a fait?  
 ‘What has Jean done?’

- B: Jean, il a chanté.  
 Jean 3SG has sung  
 ‘Jean sang.’

204

205 On the basis of this type of data, De Cat (2005) concludes that subject clitics  
 206 in French are true arguments and not just argument markers.

207 Returning to Capeverdean, the language has a full array of pronominal  
 208 forms. As shown in the table in (15), the language has strong, weak and clitic  
 209 pronominal forms:

(15) *Capeverdean pronominal forms*

	Strong pronoun	Weak pronoun	Subject clitics	Object clitics
1sg	<i>ami</i>	<i>mi</i>	<i>N</i>	<i>-m</i>
2sg (informal)	<i>abo</i>	<i>bo</i>	<i>bu</i>	<i>-bu/-u</i>
2sg (formal, masc)	<i>anho</i>	<i>nho</i>	<i>nhu</i>	<i>nhu</i>
2sg (formal, fem)	<i>anha</i>	<i>nha</i>	<i>nha</i>	<i>nha</i>
3sg	<i>ael</i>	<i>el</i>	<i>e</i>	<i>-l</i>
1pl	<i>anos</i>	<i>nos</i>	<i>nu</i>	<i>-nu</i>
2pl	<i>anhos</i>	<i>nhos</i>	<i>nhos</i>	<i>nhos</i>
3pl	<i>aes</i>	<i>es</i>	<i>es</i>	<i>-s</i>

210

211 As we can see in the following examples, clitic doubling by a strong pronoun  
 212 is possible, but limited to certain discourse settings. If the clitic is an argu-  
 213 ment, it should only be doubled in contexts in which a pronoun and a DP are  
 214 independently found to be doubled, as in contexts of contrastive topic or left  
 215 dislocation.

216 As De Cat finds from French, clitic doubling in Capeverdean is restricted  
 217 to topic doubling environments:<sup>4</sup>

- (16) A: Kenha ki txiga?  
 who that arrive  
 B: (a) #Djon, e txiga.  
 Djon 3SG arrive  
 (b) Djon./Djon ki txiga.  
 Djon Djon that arrive

[4] As in French, the SV order ‘Djon txiga’ is a legitimate order in wide focus contexts, and in answers to questions like ‘What happened?’



219

218 (17) A: Kusé ki Djon faze?

what that Djon do

'What has Djon done?'

B: Djon, e kanta./E kanta.

Djon 3SG sing 3SG sing

'Djon, he sang./'He sang.'

220

221 Given the logic of De Cat's statement that an argument clitic will only be  
 222 doubled where a pronoun and a DP are independently found to be doubled,  
 223 as in contrastive topic or left dislocation, we have evidence that the clitic in  
 224 Capeverdean is the subject of the clause, and that root null subjects are  
 225 ruled out.<sup>5</sup>

226 3.2 *Expletive null subjects*

227 Unlike languages with obligatory overt subjects, Capeverdean has expletive  
 228 null subjects, as illustrated in (18):

(18) Sata txobe na Lisboa.

PROG rain in Lisbon

'It's raining in Lisbon.'

229 The contrast between referential and expletive subjects is highly relevant.  
 230 A consistent null subject language will allow for both kinds of null subjects.  
 231 On the other hand, expletive null subjects are found in some languages  
 232 that do not have referential null subjects (Safir 1982, Vikner 1995, Holmberg  
 233 2005), which indicates that the licensing of null expletives is independent  
 234 of the licensing of referential null subjects. As such, one can set the  
 235 expletive data aside (see Pratas 2007 for an analysis of null expletives in  
 236 Capeverdean), and focus on the distribution of null and overt referential  
 237 pronouns.

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[5] Baptista (2002) mentions two other cases in which root null subjects would be possible in Capeverdean: with stage-level predicates, and with copular predicates, such as in (i) and (ii), respectively:

(i) (Bu) sta livri.  
you are free(ii) (El) e nha pai  
he is my father

Pratas (2002, 2007) shows that (i) is not productive at all in the language, based on corpus studies and judgments of native speakers who strongly reject null subjects in these contexts. As for (ii), it is ambiguous with a presentational sentence, involving an expletive subject, as in the French counterpart *C'est mon père* 'This is my father'. In that context, it is expected that the subject is null, since, as we will see, expletives are null in the language.

238 3.3 *Indefinite null subjects*

239 In contrast to referential null subjects, indefinite subjects in Capeverdean can  
 240 be null, as illustrated in the following example:

- (19) Li pode fumadu.  
       LOC may smoke.PASS  
       ‘People may smoke here.’

241 3.4 *Inversion restricted to unaccusative contexts*

242 Another property that is relevant for the current discussion concerns the  
 243 availability of VS word order. Some languages with referential *pro* may have  
 244 a VS word order with all verb classes, under specific discourse conditions (see  
 245 Rizzi 1982, and Gilligan 1987 for a refined version of the correlation). As  
 246 shown in (20), subject–verb inversion is disallowed in Capeverdean both with  
 247 transitive and with unergative verbs:

- (20) (a) \*Le Djon livru.  
           read Djon book  
       (b) \*Le livru Djon  
           read book Djon  
           ‘Djon read the book’  
       (c) \*Ta trabadja Djon.  
           TMA work Djon  
 248 ‘Djon works.’

249 This holds irrespective of the discourse settings and is independent of the  
 250 definiteness of the subject. As shown in (21), there is no improvement in  
 251 acceptability when the inversion occurs with indefinite subjects.

- (21) (a) \*Le tres omi livru.  
           read three man book  
           ‘Three men read the book.’  
       (b) \*Ta trabadja tres omi.  
           TMA work three man  
 252 ‘Three men work.’

253 The only verbs allowing subject–verb inversion are the unaccusatives. As  
 254 shown in the examples in (22), inversion is limited to indefinite subjects:

- (22) (a) (dja) Txiga tres omi.<sup>6</sup>  
           TMA arrive three man  
           ‘There arrived three men.’

---

[6] Some informants report that the TMA marker *dja* improves the grammaticality of the sentence. However, there is no consensus on this point. In Pratas (2007), several hypotheses regarding the nature of this TMA marker in this context are raised. One interesting view is that it acts as a lexicalization of a Davidsonian argument, required in presentational contexts with unaccusative verbs. If that is right, it can be assumed that it sits in Spec,TP, and if so these sentences should also be considered instances of null expletive contexts.

(b) \*(dja) Txiga Djon/\*(dja) More Djon.

TMA arrive Djon TMA die Djon

(c) Djon (dja) txiga./Djon (dja) more.

Djon TMA arrive Djon TMA die

255

‘Djon arrived.’/‘Djon died.’

256 Definiteness effects in inversion contexts show up in many languages that do  
 257 not have consistent referential null subjects (see Pinto 1997, among others).  
 258 Moreover, given that Capeverdean has null expletives (see (18) above), in-  
 259 version with unaccusatives may be the counterpart of English presentational  
 260 sentences like *There comes a man*, in which the preverbal position is occupied  
 261 by a null expletive and the argument is necessarily indefinite (assuming  
 262 Belletti’s 1988 analysis for expletive-associate constructions in unaccusative  
 263 contexts).

### 264 3.5 *No that-t effects*

265 As mentioned above, one of the properties typically associated with lan-  
 266 guages that have obligatorily overt referential subjects is *that-t* effects,  
 267 whereby extraction is barred from a subject position in the presence of a  
 268 complementizer. As shown in (23), and argued at length in Nicolis (2005), in  
 269 Capeverdean extraction out of an embedded subject position after an overt  
 270 complementizer is fully grammatical:

- (23) Kenha ki bu ta pensa ma kunpra livru?  
 who COMP 2SG TMA think COMP buy book  
 ‘Who do you think bought the book?’

271 This fact would be compatible with the view advocated by Baptista (2002)  
 272 that Capeverdean is a null subject language. However, as argued in Gilligan  
 273 (1987), lack of *that-t* effects is not a sufficient condition for the identification  
 274 of a language as *pro*-drop, since it implies only the availability of null ex-  
 275 pletives. These, as we have seen, are also possible in languages like German,  
 276 which require overt referential subjects.

277 In short, we have identified the following properties of null subjects in root  
 278 contexts in Capeverdean:

- (24) (a) Null subjects cannot be referential in root contexts.  
 (b) Null subjects can be expletive in root contexts, in expletive-  
 associate environments and with weather-predicates.  
 279 (c) Null subjects can be indefinite in root contexts.

280 On the basis of these properties, it is legitimate to postulate that Capeverdean  
 281 is a NON-CONSISTENT null subject language. Let us see, then, if Capeverdean  
 282 null subjects behave as predicted under Holmberg’s (2005) analysis.

283 As mentioned above, Capeverdean lacks a specification for person inflec-  
 284 tion. This may be taken as a sign that there is no incorporation of any kind in

285 T, making this functional category an inherent bearer of [+Definiteness]  
 286 feature. There are now two options: either there is no [D] feature in T, and no  
 287 kind of null subject is licensed, or the feature is underspecified. If the latter  
 288 option is right, two types of null subjects are possible: expletive and indefi-  
 289 nite. This is indeed confirmed by the facts, as we saw above. However, mat-  
 290 ters turn out to be more complicated. In the next section, we show that  
 291 referential null subjects are also possible in the language, but only in em-  
 292 bedded contexts.

293 4. NULL SUBJECTS IN EMBEDDED COMPLEMENT CLAUSES

294 Thus far we have only looked at matrix contexts, concluding that  
 295 Capeverdean is a non-consistent null subject language, which disallows  
 296 referential null subjects. One might expect that referential null subjects  
 297 are ruled out in both root and in embedded contexts, just as in English  
 298 or French (Chomsky 1981, Montalbetti 1984). On the other hand, if we  
 299 consider other non-consistent null subject languages, such as Brazilian  
 300 Portuguese, Capeverdean null subjects in embedded contexts might be ex-  
 301 pected.

302 *Prima facie*, the distribution of pronominal subjects in embedded contexts  
 303 does not challenge the conclusion that referential null subjects are ungram-  
 304 matical. Referential null subjects are also ruled out in the subject position of  
 305 complement clauses, even when their reference can be easily retrieved from  
 306 context:

- (25) (a) Djon fla m-e ta bai ku nos.  
 Djon say COMP-3SG TMA go with us  
 ‘Djon says that he goes with us.’  
 (b) \*Djon fla ma Ø ta bai ku nos.  
 Djon say COMP TMA go with us

307

308 However, this is not the whole picture. Certain embedded contexts permit  
 309 referential null subjects. Two such cases, an embedded complement clause  
 310 within a *wh*-question and a relative clause, are illustrated in (26) and (27),  
 311 respectively:

- (26) (a) Kenha<sub>i</sub> ki ta atxa ma Ø<sub>i/\*j</sub> kore faxi labanta mo.  
 who COMP TMA think COMP run fast raise hand  
 ‘Whoever thinks he ran fast raise (their) hand.’  
 (b) Kenha<sub>i</sub> ki ta atxa ma e<sub>i/\*j</sub> kore faxi labanta mo.  
 who COMP TMA think COMP PRON run fast raise hand  
 ‘Whoever thinks he ran fast raise (their) hand.’

312

- (27) (a) Ningen<sub>i</sub> ka atxa livru ki Ø<sub>i/\*j</sub> perdeba.  
 no.one NEG find book that lose.PST  
 ‘No one has found the book that (they) lost.’

- (b) Ningen<sub>i</sub> ka atxa livru ki el\*<sub>i/j</sub> perdeba.  
 no.one NEG find book that 3SG lose.PST  
 No one has found the book that he lost.’

313

314 As shown in the (a) examples, the subject of an embedded complement or  
 315 relative clause can be null.<sup>7</sup> There is, however, an important difference be-  
 316 tween the (a) and (b) sentences in (26) and (27). In the (a) sentences, the  
 317 embedded null subject is necessarily coindexed with the matrix subject,  
 318 whereas in the (b) examples, the overt subject is obligatorily disjoint from the  
 319 matrix subject. Thus, the subject is not really optional. Whether the subject is  
 320 null or overt crucially affects its interpretation.

321 This behavior is consistent with Chomsky’s (1981) Avoid Pronoun  
 322 Principle further qualified in Montalbetti (1984), according to which overt  
 323 pronouns in null subject languages are to be avoided whenever co-reference  
 324 is intended. What we observe in the data just presented is that Capeverdean  
 325 displays a mixed behavior. It has obligatory overt subjects in embedded  
 326 contexts when the matrix subject is a DP (see 25a, b), but the subject of the  
 327 embedded clause must be null when the matrix subject is a *wh*-operator, as in  
 328 (26), or a quantified DP, as in (27), and co-indexation is intended.

329 Holmberg’s (2005) analysis is compatible with the facts just presented, but  
 330 it is insufficient. As in root contexts, the embedded T in Capeverdean is  
 331 underspecified for the [D] feature, and is thus unable to license a null subject  
 332 (unless it gets an indefinite reading). If, on the other hand, the null subject is  
 333 a variable licensed by a matrix operator, then there is no clash. We expect,  
 334 then, that embedded null subjects in Capeverdean are restricted to operator-  
 335 variable contexts.

336 However, as shown for Brazilian Portuguese, non-consistent null subject  
 337 languages are not uniform. A full understanding of this pattern requires a  
 338 closer comparison between Capeverdean and Brazilian Portuguese.

### 339 5. TYPES OF NULL SUBJECTS AND EMBEDDED NULL SUBJECTS

340 As shown in Section 2 above, Brazilian Portuguese also has embedded null  
 341 subjects which are obligatorily co-referential with the matrix subject.  
 342 Modesto (2000) argues that the embedded *pro* in Brazilian Portuguese is a  
 343 variable, which explains its obligatory co-reference. In a modified version of  
 344 this analysis, Modesto (2008) suggests instead that the embedded null subject  
 345 is a deleted topic, licensed by a moved topicalized item.

---

[7] This is similar to other partial null subject languages. Whenever possible, languages select a null anaphoric form for an antecedent like ‘nobody’ (Menuzzi 1999). This is not the case for languages in which null subjects are completely ruled out (‘Nobody thinks that he is crazy’).

348 Let us test these two proposals, spelled out in A and B, against the  
 349 Capeverdean data:

- A. The embedded null subject is a *pro*, licensed as a bound variable, as proposed in Modesto (2000) for Brazilian Portuguese.
- B. The embedded null subject is a deleted topic, licensed by a moved topic, as proposed in Modesto (2008) for Brazilian Portuguese.

350 The two hypotheses make different predictions. If the null subject is a moved  
 351 (and deleted) topic, it creates a chain with a topic licensing it. This type of  
 352 chain is subject to locality and subjacency relations. As such, and as demon-  
 353 strated by Modesto (2008), null subjects in Brazilian Portuguese cannot  
 354 occur in islands.<sup>8</sup> If the null subject is a *pro* licensed as a variable, it is pre-  
 355 dicted that it can occur in islands. The latter prediction is borne out in  
 356 Capeverdean, as shown by a sentence such as (28), in which the null subject is  
 357 inside a relative clause:

- (28) Ningen<sub>i</sub> ka atxa livru ki Ø<sub>i</sub> perdeba.  
 no.one NEG find book that lose.PST  
 ‘No one has found the book that he lost.’

358 We will therefore adopt for Capeverdean a version Modesto’s (2000) analysis  
 359 of embedded null subjects in Brazilian Portuguese. We propose that *pro* is  
 360 available in Capeverdean, but is restricted to contexts in which it establishes  
 361 a relation with an operator. It follows that the subject must be c-commanded  
 362 by its antecedent, as in the examples presented above (see (26a) and (27a)).  
 363 We predict, however, that *pro* cannot be bound by a non-c-commanding ‘no  
 364 one’, as in (29).

- (29) [Amigu di [ningen]<sub>i</sub>]<sub>j</sub> ka atxa livru ki Ø<sub>\*i/j</sub> perdeba.  
 friend of no.one NEG find book that lose.PST  
 ‘No one’s friend has found the book that he lost.’

365

366 Other properties of the embedded null subject in Capeverdean confirm its  
 367 status as a bound variable.

- (30) *The antecedent of the null subject is not necessarily animate*  
 Mas di ses avion<sub>i</sub> ka ta lebaba ningen kantu Ø<sub>i</sub> kai.  
 more than six plane NEG TMA take.PST no.one when fall  
 ‘More than six planes didn’t take anyone when they fell.’

---

[8] As noted by an anonymous *JL* referee, this observation has been challenged for Brazilian Portuguese. See Rodrigues (2004) for discussion. We will not go into the discussion of the Brazilian Portuguese data here. For the purposes of this paper, it is sufficient to note that null subjects of the relevant type are legitimate in islands in Capeverdean.

370 As discussed in Holmberg & Sheehan (2010), the fact that this relation is not  
371 restricted to animate antecedents shows that this is not a logophoric relation.

- (31) *The binding relation is established with the subject in the first clause up*  
 Ningen<sub>i</sub> ka fla ma tudu algen<sub>j</sub> ta atxa ma Ø<sub>\*i/j</sub>  
 no.one NEG say COMP every person TMA think COMP  
 sta duente.  
 BE sick  
 ‘No one said that everybody thinks (they) are sick.’

- (32) *Sloppy readings*<sup>9</sup>  
 Ningen<sub>i</sub> ka fla ma Ø<sub>i</sub> kore faxi i tudu algen<sub>j</sub>  
 no.one NEG say COMP run fast and every person  
 fla ma Ø<sub>\*i/j</sub> laba mo.  
 say COMP wash hand  
 ‘No one said (they) ran fast and everybody said (they) washed their  
 hands.’

- (33) *Split antecedents allowed*<sup>10</sup>  
 Tudu alunus<sub>i</sub> fla tres omij pa Ø<sub>i+j</sub> laba losa.  
 every student tell three men for wash dishes  
 ‘Every student told three men for (them all) to wash the dishes.’

372 As a whole, these arguments confirm the hypothesis that the relation estab-  
373 lished between the antecedent and the embedded null subject is not one of  
374 control, replicating findings by Holmberg & Sheehan (2010).

375 Note that the analysis proposed by Modesto (2008) for Brazilian  
376 Portuguese cannot be fully extended to Capeverdean, since there is no perfect  
377 overlap between the two languages. In Capeverdean, the referential null  
378 subject is only available with *wh*-antecedents or when the antecedent is a  
379 quantified DP. In sentences in which the subject of the matrix clause is a non-  
380 quantified DP, *pro* is ruled out. In Brazilian Portuguese, the antecedent may  
381 be a non-quantified DP, as in (9a) above, repeated here as (34).

- (34) *Brazilian Portuguese*  
 O Pedro<sub>1</sub> disse que Ø<sub>1/\*2</sub> ganhou na loto.  
 the Pedro said that won in.the lotto  
 ‘Pedro said that he won the lotto.’

382 This difference calls for an explanation.

[9] We are using the type of examples Miyagawa (2009) uses to test strict and sloppy readings in pronominal forms in Spanish and Japanese. They do not involve VP-ellipsis, but rather the recoverability of antecedents from a first conjunct.

[10] The embedded sentence in this example is non-finite despite the fact that it may have a lexical subject (Pratas 2007).

383 Both Brazilian Portuguese and Capeverdean allow embedded null sub-  
 384 jects, and Brazilian Portuguese permits embedded null subjects if they are co-  
 385 referent with a matrix referential subject. Both Brazilian Portuguese and  
 386 Capeverdean permit embedded null subjects when the subject is coindexed  
 387 with a quantified or interrogative matrix subject. We suggest that in  
 388 Capeverdean, *pro* may be a bound variable. The crucial difference between  
 389 the two languages therefore lies in the nature of the subject antecedents.

390 Modesto (2008) argues that all subjects in Brazilian Portuguese occupy an  
 391 A-bar position from which they are able to bind a variable. This position is a  
 392 topic position in the left periphery of the clause, which attracts DPs, in par-  
 393 ticular the subject DP. According to Modesto (2008), this is a consequence of  
 394 the fact that Brazilian Portuguese is a topic-prominent language.<sup>11</sup> Modesto  
 395 (2000), Costa & Galves (2002) and Costa, Duarte & Silva (2006) argue that  
 396 the A-bar status of subjects does not follow from the fact that subjects oc-  
 397 cupy a peripheral position, but from the specific properties of the extended  
 398 IP in Brazilian Portuguese. Independent evidence for the mixed A- and  
 399 A-bar-status of the extended IP comes from the fact that topics can trigger  
 400 verbal agreement in the language, as shown in (35):<sup>12</sup>

- (35) *Essas florestas chovem muito.* (Galves 2001; Duarte 2008: 9, ex. (4))  
 those forests rain.3PL a.lot  
 ‘In those forests, it rains a lot.’

401 For Capeverdean, we assume a much simpler analysis. Following Pratas  
 402 (2002, 2004, 2007), we assume that the matrix subject is in Spec,TP, which  
 403 has A-properties. The fact that these subjects can serve as operators will then  
 404 depend on its inherent status. If they are quantified, they have an inherent  
 405 operator status and, as such, they can bind a variable. In Capeverdean, in  
 406 contrast to Brazilian Portuguese, only *wh*-antecedents (which occupy an A-  
 407 bar-position) or expressions that have an inherent operator status can serve  
 408 as binders for the null variable in embedded subject position.

409 Independent evidence for the claim that preverbal subjects in Capeverdean  
 410 remain in Spec,TP, in contrast to what Modesto (2008) argues for Brazilian  
 411 Portuguese, comes from the fact that subjects are adjacent to the verb in  
 412 Capeverdean but not in Brazilian Portuguese:

- (36) (Onti) Djon (\*onti) bai sinema.  
 ADV Djon ADV go movie.theater  
 ‘Yesterday Djon went to the movies.’

413 This gives independent support to the different nature of embedded null  
 414 subjects in Capeverdean and in Brazilian Portuguese. In the latter, the null

[11] See Costa (2011) for discussion. Topic here is meant as the current topic of discourse, syntactically present in the clause.

[12] For a discussion on the productivity of these structures, see Costa (2011).



415 subject is a deleted topic, which is confirmed by the fact that it establishes a  
 416 relation with a dislocated topic, as suggested in Modesto (2008). In  
 417 Capeverdean, it is a pronominal category, which remains in Spec IP, as  
 418 shown by the adjacency requirement. As such, the two languages have in  
 419 common the superficial fact that both have embedded null subjects. Their  
 420 different properties, however, suggest that they are not of the same type.

421 We are now able to provide an analysis of the full array of subjects in  
 422 Capeverdean:

- (37) (a) *Root referential lexical subject*  
 T bears an underspecified [D] feature. Its value is fixed by the lexical subject in Spec,TP, under Agree.
- (b) *Root indefinite null subject*  
 T bears an underspecified [D] feature. No subject is present to assign its reference. An indefinite reading obtains.
- (c) *Root expletive null subject*  
 T bears an underspecified [D] feature. No subject is present to assign its reference. An indefinite reading obtains.
- (d) *Root referential null subject*  
 T bears an underspecified [D] feature. There is no referent to fix the value of T. Indefinite reading clashes with the referential value. Ungrammaticality obtains.
- (e) *Embedded referential null subject bound by operator*  
 T bears an underspecified [D] feature. *pro* is a variable. *pro* is bound by overt operator.
- (f) *Embedded referential null subject bound by referential DP*  
 T bears an underspecified [D] feature. *pro* is a variable. Antecedent DP is not a legitimate binder. Ungrammaticality obtains.

423

424 Returning to the four questions raised in (10) at the end of Section 2 above,  
 425 we are now able to provide complete answers:

- (38) (a) Does the language allow null subjects or not?  
 Yes.
- (b) Does the language allow null subjects consistently or non-consistently?  
 Non-consistently.
- (c) If non-consistently, what is the distribution of null subjects?  
 Null subjects are allowed in root expletive and indefinite contexts, and in embedded contexts when bound by an operator.
- (d) What is the licensing mechanism for the null subjects allowed in the language?  
 Since T bears an underspecified definiteness feature, null subjects are licensed when their value is compatible with an indefinite

reading (in indefinite and bound variable contexts), cases where no clash obtains between the value of *pro* and the value of T.

426

427

## 428 6. PROPERTIES AND PREDICTIONS

429 The analysis of embedded null subjects as *pro* variables bound by A-bar–  
430 elements makes two further predictions. First, it is expected that quantifiers  
431 other than negative words and *wh*-expressions license embedded null sub-  
432 jects, which is confirmed by the following set of data:

- (39) Tudu/Mas di seis/Metade di alunos ka atxa livru  
all more than six half of the.students NEG find book  
ki Ø perdeba.  
that lose.PST  
'Every/more than six/one half of the students haven't found the book  
that they had lost.'

433 Secondly, the analysis proposed here has consequences for current debates  
434 on the nature of the null subject parameter. As has been observed by other  
435 authors (Rizzi 1986, Sigurðsson 1993, Coelho et al. 2001, Holmberg 2005,  
436 among others), the null subject parameter is not a uniform phenomenon.  
437 Given this view, the availability of *pro* is not the crucial criterion to deter-  
438 mine the status of a language as *pro*-drop, but rather the combination of its  
439 availability and its licensing and identification mechanisms. This predicts a  
440 much richer array of typological possibilities for null subject languages, as  
441 has been independently argued in Holmberg (2005). Note that, because we  
442 crucially involve T in the analysis of the null subject types, this proposal has  
443 no bearings on the typology of null objects available for the languages under  
444 discussion in this paper.

445 For Capeverdean, our analysis suggests that *pro* is available in the lan-  
446 guage as a bound variable. This is crucially different from what happens in  
447 consistent *pro*-drop languages, like Spanish or Italian, in which *pro* is  
448 licensed by a specific featural make-up of T.

449 If our analysis is broadly correct, Capeverdean enriches the typology of  
450 possible null subject patterns. It is a non-consistent null subject language, in  
451 which *pro* is licensed in a different way. It shares with Brazilian Portuguese  
452 the feature specification of T, which explains the lack of referential null  
453 subjects in root contexts, but it diverges from Brazilian Portuguese in the  
454 mechanism for licensing embedded *pro*, because of the different syntax of  
455 subjects and topics. This is in line with Holmberg's (2010) view on the null  
456 subject parameter, in which the parameter derives from properties of T and  
457 from the availability of licensing mechanisms for *pro*. In fact, Capeverdean  
458 provides direct evidence for Holmberg's (2010) claim that non-consistent  
459 null subject languages may constitute a case in which *pro* is available

460 only if bound. The specific type of binding will depend on independent  
 461 properties of each particular language. In the case of Capeverdean, we argue  
 462 that the specific type of binding depends on the availability of *pro* function-  
 463 ing as a variable, and on the syntax of subjects.

464 Our analysis indirectly contributes to another debate on the syntax of  
 465 embedded null subjects: the movement theory advocated in Nunes (2008)  
 466 and disputed in Modesto (2008). The availability of embedded null subjects  
 467 in islands supports the claim put forward in Modesto (2008) that embedded  
 468 null subjects are not derived by A-movement.

469 To conclude, in this paper, we summarize it as follows:

- (i) We have provided evidence against the view that Capeverdean is a *pro*-drop language.
- (ii) We have shown that in spite of its non-*pro*-drop status, Capeverdean allows embedded null subjects, obligatorily identified by a matrix quantified antecedent or a *wh*-antecedent.
- (iii) We have analyzed the embedded null subject available in Capeverdean as a variable only partly similar to the null subject available in Brazilian Portuguese.
- (iv) We have proposed that the difference between the licensing mechanisms for variable embedded subjects in Brazilian Portuguese and Capeverdean stems from properties of topics and subjects in the two languages.
- (v) We have argued that the behavior of subjects in Capeverdean contributes to a better understanding of the family of null subject constructions in that it provides evidence for further distinguishing the availability of null forms from their identification and licensing mechanisms.

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