On Partial Null Subject Languages:
Why Pro-Drop in Brazilian Portuguese and Russian Became Similar But Not Identical

Sobre as línguas de Sujeito Parcialmente Nulo:
Por que o pro-drop em português brasileiro e em russo se tornaram semelhantes, mas não idênticos

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Abstract: In this paper, I claim that a parametric view on change in pro-drop does not contradict the fact that not all the Partial Null Subject (PNS) languages display identical properties. I show that the contingent nature of diachronic change is the reason for the slight differences between PNS languages. Modern Russian (MR) and Brazilian Portuguese (BP) are two PNS languages that developed from Consistent Null Subject antecessors (Old Russian and European Portuguese) independently from each other. I account for the change in pro-drop experienced by these two languages, analyzing the properties usually related to the null subject parameter (verbal inflection, clitics, null objects, embedded and arbitrary null subjects), and show that the final parametric setting in both MR and BP was almost identical, with small differences that can be attributed to the different initial conditions for the change.

Keywords: Pro-drop; null subjects; null objects; clitics; Consistent Null Subject languages; Partial Null Subject languages; Brazilian Portuguese; European Portuguese; Modern Russian; Old Russian.

Resumo: Neste artigo, afirmo que uma visão paramétrica sobre a mudança em pro-drop não está em conflito com o fato de que nem todas as línguas de sujeito nulo parcial (PNS) apresentam propriedades idênticas. Mostro que a natureza contingente da mudança diacrônica é a razão para as pequenas diferenças entre as línguas PNS. O russo moderno

(MR) e o português brasileiro (BP) são duas línguas PNS que se desenvolveram a partir dos antecessores de sujeito nulo consistente (antigo russo e português europeu) independentemente uma da outra. Relato a mudança de pro-drop experimentada por essas duas línguas, analisando as propriedades geralmente relacionadas ao parâmetro de sujeito nulo (inflexão verbal, clíticos, objetos nulos, sujeitos nulos subordinados e arbitrários), e mostro que a configuração paramétrica final em ambas MR e BP foi quase idêntica, com pequenas diferenças que podem ser atribuídas às diferentes condições iniciais para a mudança.

Palavras-chave: Pro-drop; sujeitos nulos; objetos nulos; clíticos; línguas de sujeito nulo consistente; línguas de sujeito nulo parcial; português brasileiro; português europeu; russo moderno; russo antigo.

1 Initial remarks

A recurrent topic in the literature in recent years is the discussion about the nature of so-called Partial Null Subject (PNS) languages, since Holmberg (2005), Holmberg; Nayudu; Sheehan (2009), Biberauer; Roberts; Holmberg; Sheehan (2010), etc. On the one hand, there seem to be salient similarities between the languages making up this group, but at the same time, not all the features characterizing PNS languages are common to all of them.

This paper aims to contribute to a more accurate characterization of PNS languages, through the analysis of the current status and historical development of Null Subjects (NSs) in two Indo-European languages, Brazilian Portuguese and Russian, which shifted from a Consistent Null Subject (CNS) pattern into a PNS pattern independently from each other. The comparison of the diachronic development of these two languages will shed light on the reasons why PNS languages are different and similar at the same time. The similarities, it will be argued, stem from commonalities in parameter settings, while the differences will be proven to be a consequence of the contingent circumstances that surround change each time in each language (LIGHTFOOT, 1999).

In Section 2, I introduce PNS languages and some basic assumptions. In Section 3, I compare the pro-drop system in Brazilian Portuguese (BP) and Modern Russian (MR), pointing out their differences with respect to European Portuguese (EP) and Old Russian (OR), respectively.[1] In Section 4, I show that the emergence of the PNS status in these two languages correlates with the emergence of restrictions in licensing NSs, and explain why that happened. In BP, the old CNS system decayed with the "weakening" of the person inflectional paradigm, triggered by the reorganization of the pronominal system (cf., i.a., DUARTE, 1993, 2000; MODESTO, 2000; NUNES, 2011). In Middle Russian, however, the breaking point was the loss of V-to-T movement, due to the whole rearrangement of the verbal system around new aspectual distinctions, which replaced the old tense distinctions (JUNG, 2018; MADARIAGA, 2022a, 2022b).

2 Consistent Null Subject (CNS) languages and Partial Null Subject (PNS) languages

In recent years, the classical view on the so-called pro-drop parameter has been called into question after observing that its clustering effects, described by, i.a., Rizzi (1982), are less regular across languages than predicted by the standard parametric theory (cf. NEWMEYER 2005). To give an example, the correlation between the existence of NSs and the morphological richness of verbal agreement does not hold in a straightforward way. In addition, "morphological richness" (as opposed to "morphological poverty") has been shown to be difficult to characterize in a precise way (cf. BIBERAUER, 2008 for an overview).

Recently, Roberts (2010); Biberauer; Roberts; Holmberg; Sheehan (2010); Holmberg; Roberts (2014); and subsequent work, have revisited the properties of pro-drop and formulated new hypotheses about its parametric options. These authors emphasize the fact that PNS languages are especially heterogeneous, which in principle could be considered a problem if we want to propose a common parameter setting for all of them.

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[1] The change in pro-drop in Russian took place in the 16th century (between early and late Middle Russian), so I include early Middle Russian under the denomination OR, and late Middle Russian in MR. As for the synchronic description of BP, I follow the convention of Portuguese / Brazilian scholars (BARBOSA; DUARTE; KATO, 2005; DUARTE; SILVA, 2016. i.a.) and consider EP a comparable antecessor of BP.

However, in this paper, I will claim that the heterogeneous nature of PNS languages is not a problem for parametric setting. More specifically, I will show that, if two unrelated languages adopt the same parametric setting of pro-drop, the basic pro-drop properties will be essentially the same in both languages. However, some clustering properties, which are contingent on previous stages of the language, can differ between the two languages. In the following pages, I will prove this hypothesis by comparing the change in pro-drop experienced by two unrelated PNS languages, BP and MR. First, however, let us introduce some basic facts and assumptions about CNS and PNS languages, implied in the change analyzed in this paper.

In CNS languages (e.g., Romance languages, such as Spanish, European Portuguese, and Italian), non-emphatic, non-stressed, non-contrastive pronoun subjects are typically dropped; cf. Peninsular Spanish (1a-b), while stressed, focused, or contrastive subjects must be overtly realized (1c):

(Peninsular Spanish)

(1) a. – ¿Cómo (*tú) quieres (*tú) la sopa?

h ow (*you) want (*you) the soup

– (*Yo) la quiero caliente.

(*I) cl want hot

'– How do you want the soup? – I want it hot.'

b. – ¿Ha pasado Juan por casa?

– Sí, (*él) vino y se llevó el ordenador.

yes (*he) came and SE took the computer

'– Did Juan come home? – Yes, he came and took the computer away.'

c. – ¿Se ha llevado Juan el ordenador?

– No, se lo ha llevado María, *(él) sólo lo ha mirado.

not cl cl aux taken Maria *(he) just cl aux looked

'– Did Juan take the computer? – No, Maria took it away; he just took a look at it.'

PNS languages, on the other hand, form a heterogeneous group and are not easy to define. In general, the baseline realization of pronominal subjects in PSN languages is overt, but they can be dropped under certain conditions. Depending on the person or tense/mood, PNS languages vary their pro-drop pattern. For example, in Hebrew, Standard Finnish, Jakaltek, and Kenga, 1st and 2nd person NSs are available, as opposed to 3rd person (cf. VAINIKKA; LEVY, 1999), while the reverse

pattern, i.e., availability of 3rd person NSs, as opposed to 1st and 2nd person, is found in Shipibo, historical varieties of Germanic, Dinka, and Lamani (CAMACHO; ELÍAS-ULLOA, 2010; WALKDEN, 2012). The first contrast is illustrated for Finnish in (2a-b):

(2)　　a. (Sinä)　　puhut　　　　　　　　　englantia.

　　　　(you)　　speak.2sg　English

　　　　'You speak English'

　　　　b.*(Hän)　puhuu　　　englantia.

　　　　((s)he)　speaks.3sg　　　　　　　English

　　　　Intended: 'She/he speaks English.'(Finnish - Holmberg, 2005, p. 539)

　　　　In this paper, I will follow Holmberg (2005, 2010), Holmberg; Nayudu; Sheehan (2009), Roberts (2010), and subsequent work, in that the relevant parametric option for setting a CNS *versus* a PNS language is the acquisition of a [+D] feature on T. I will also follow these authors by assuming that NSs are deficient minimal φPs with unvalued interpretable φ-features ($\varphi P[_{i\varphi}:\_]$), which can in principle receive or not a referential value, and whose behavior varies according to the specific parametric setting on T in the language. The available structures for PNS *versus* CNS languages are described in detail in Madariaga (2022a, 2022b), and summarized here:

　　　　(i) In CNS languages, T is endowed with a [+D] feature, and a NS (a deficient φP), located at [Spec,T], automatically receives a referential interpretation by D-matching with T. In these languages, any Topic at CP (null or overt) is able to allow identifying the specific reference of the NS; more specifically, the referential index of a null or overt Topic at [Spec,CP] is copied by the unvalued D-feature of T, and, then, through Agree, by the NS, which at the same time matches its unvalued φ-features. The D-feature of T has no morphological expression of its own, and is "spelled out" by realizing person and number features, resulting in rich verbal morphology (HOLMBERG; NAYUDU; SHEEHAN, 2009).

(3)　　　$[_{CP}$ Topic$_i$ C $[_{TP}\varphi P_i$ T$_D:\_$ $[_{VP}$ …]]]$

　　　　In the Spanish examples (1a-b) above, referential NSs are naturally licensed by virtue of the D-feature on T and their topical nature, while a [+focus] or [+contrastive] feature at CP forces the overt realization of the subject (1c).

(ii) In PNS languages, T lacks a D-feature, so that a NS (a deficient φP) is able to match its φ-features with T, but does not necessarily raise to [Spec,TP], and does not automatically receive a referential index through T. In that case, the NS gets a generic or arbitrary interpretation. However, there can be some independent mechanism in the language, which is able to endow the deficient φP with a referential index (HOLMBERG; NAYUDU; SHEEHAN, 2009). In languages like Finnish, MR, and BP, there seem to be at least two alternative mechanisms to achieve this referentiality:

(a) The first mechanism is related to pragmatics: NSs can receive a referential interpretation by copying the index of some null topic at C. This null topic is part of the discourse common ground, shared by the speaker and the hearer, i.e., it can convey either deictic (situational / contextual) features or logophoric features (for the 1st and 2nd person), which allow the reference of the NS to be recovered (SIGURÐSSON, 2011; TSEDRYK, 2015). Depending on the particular conditions of the specific PNS language, it can be the case that referential NSs are licensed only in one or two grammatical person(s), or that all persons are licit in different pragmatic situations (TSEDRYK, 2022).

(4) $[_{CP} \text{Topic}_i \text{ C } [_{TP} {}_{\varphi}P_i \text{ T}...[_{VP} \text{ V}...]]]$

A subtype within pragmatically licensed referential NSs are NSs licensed as a part of a "topic chain" (FRASCARELLI, 2007), that is, as successive occurrences of a previous overtly expressed Sentence Topic (REINHART, 1981). This kind of topic chain is characteristic of MR, albeit in a very restrictive way, and licenses the presence of 3rd person NSs in matrix clauses, as we will see in Section 3.1.

(b) The second mechanism available in PNS languages involves embedded clauses: an embedded NS can enter an anaphoric relation with respect to a c-commanding antecedent in the matrix clause, and thus receive a referential interpretation. This phenomenon is also known as finite control; see, i.a., Landau (2004) for Hebrew; Rodrigues (2004), Boeckx; Hornstein; Nunes (2010) for BP; Livitz (2014); Tsedryk (2015) for MR. The embedded NSs in these contexts must be c-commanded by a coreferent antecedent in strict locality.

(5) $[DP_i \dots [_{CP} Op_i C [_{TP_\varphi} P_i T \dots [_{VP} V \dots]]]]$

In Section 4, I will revisit the structures introduced in this section, according to the specific languages and stages analyzed.

3 A compared characterization of NSs in EP-BP and OR-MR

In this section, I will revise the "bundle of properties" that often go hand-in-hand with pro-drop, and which tend to cluster in a similar way in PNS languages (BIBERAUER, 2008). I will check these properties in BP and MR, and compare them with their CNS "ancestors", EP, and OR, respectively (cf. fn. 1). The properties reviewed are the following: (i) pragmatically licensed referential NSs; (ii) finite referential embedded NSs; (iii) NSs with arbitrary and generic readings; (iv) null objects; (v) clitic pronouns; (vi) verbal inflection; and (vii) the role of infinitives.

3.1 Pragmatically licensed referential NSs

MR licenses 1st and 2nd person NSs related to logophoric topical features, on a hearer-speaker discourse basis (6a), in a similar way to several Germanic languages, analyzed by e.g., Sigurðsson (2011). According to Duarte (1993), written BP allows this kind of drop in restricted cases, e.g., with negation or in a verbal locution, as in (6b), although some authors indicate that NSs in root sentences are not generally licensed in BP (MODESTO, 2000), or that they are on their way to being lost (DUARTE; SILVA, 2016):

(6)   a. Privet! Xorošo,   čto   (vy)   prišli!
          hi   well   that   (you)   came.pl
       'Hi! So good that you came!' (MR - MADARIAGA, 2022a, p. 79)
       b. (Eu)   não   posso   mais   ficar aqui   a tarde   toda.
           (I)   not   can.1sg   more   stay here   the evening   whole
       'I cannot stay here the whole evening any more' (BP - DUARTE, 1993, p. 119)

In MR, this kind of dropping is blocked by any fronted referential overt argumental NP introduced between the CP and the NS (LIVITZ, 2014; TSEDRYK, 2015). In example (7), the fronted object blocks referential subject drop, and the only way to interpret the NS is as a generic in an impersonal sentence (see Section 3.3 below):

(7)   Svetu   *pro*   nedavno   videli   na rynke.

       Sveta.acc   recently saw.pl   at market

       'Sveta was seen recently at the market.' / '*We saw Sveta recently at the market.' (MR - TSEDRYK, 2015, p. 349)

Additionally, MR licenses 3rd person NSs related to Given or Familiar Topics or as successive occurrences of a Sentence Topic in a topic chain (LIVITZ, 2014; TSEDRYK, 2015), as in (8a). As in the previous case, any fronted referential NP can block subject drop (8b).

(8)   a. Oni$_i$ idut   na ozero. *pro*$_i$ Nadejutsja   tam   vstretit'   Ivana$_j$.

       they.nom go.3pl   to lake   hope.3pl there   see   Ivan.acc

       *(On$_j$)   obeščal   im   peredat'   ključi.

       he.nom   promised.m.sg   them   pass   keys

       'They are going to the lake. (They) hope to see Ivan there. He has promised them to pass the keys.' (MR - TSEDRYK, 2022, p. 42)

       b. Ja$_i$ tol'ko čto videl   Svetu$_j$.   Mne$_i$ *(ona$_j$) skazala,

       I.nom   just   saw   Sveta.acc me.dat   she.nom said.f.sg

       čto   naš dom uže   prodan.

       that   our house already sold

       'I have just seen Sveta. She told me that our house had already been sold.' (MR - TSEDRYK, 2015, p. 349)

Notice that Sentence Topics themselves cannot be dropped in MR; thus, in example (8a), the subject of the second sentence in this sequence is the first identical occurrence of the initial subject *oni* "they" in a topic chain and, therefore, can be dropped. However, the topic chain finishes here, because the third sentence introduces new propositional content; i.e., it shifts from "us going to the lake and doing something there" to "information about Ivan". Thus, the new subject, *Ivan*, qualifies as a Sentence Topic and cannot be dropped. In example (8b), the presence of a fronted indirect object (*mne*) blocks subject drop, and the pronominal subject must be overtly realized.

In BP, it seems that a subject can be dropped only in those cases in which it is topically very prominent, as in question-answer pairs (9a). Barbosa; Duarte; Kato (2005) also report examples of 3rd person referential NSs in BP tied to Topics; they state that it is required "that the antecedent is in an adjacent sentence", as shown in (9b). The latter are very similar to those NSs inserted in topic chains in MR (8a).

(9)   a. – E   o João$_i$? – *pro*$_i$ Viajou.

and   the Joao?   travelled.3sg

'– What about Joao? – He travelled.' (BP - DUARTE; SILVA, 2016, p. 239)

b. O homem$_i$ finge   que   é   um certo   tipo de homem

the man   pretends   that   is   a certain   type of man

para escrever.   Ou seja,   *pro*$_i$ trai   o homem.

to write   or be   betrays   the man

'A man pretends to be a certain type of man in order to write. In other words,

he betrays himself.' (BP – BARBOSA; DUARTE; KATO, 2005, p. 26)

As for OR and EP / early BP, as well-behaved CNS languages, they show no locality effects in licensing referential NSs. Example (10a) shows that, in OR, a NS can take its reference not from the closest subjectual antecedent, i.e., the patriarch, but from a previous Sentence Topic, Olga. In MR, there would need to be an overt subject "she" in the place of the NS; otherwise, the antecedent of the NS would have to be interpreted as the patriarch, the last overt subject previously mentioned. Similarly, in EP an overt pronoun tends to be avoided unless its reference is impaired (BARBOSA; DUARTE; KATO, 2005), but the lack of proximity, or the syntactic position of the antecedent, as well as the presence of intervening elements, as in (10b), are not a problem for a NS to be licensed. According to Duarte (1993), in early BP texts, the rate of NSs was similar to that of EP, so we can assume that the situation was similar in both languages.

(10)   a. I   bl(ago)s(lo)vi jui   patrearxъj.   I   *pro*$_i$ ide

blessed.3sg   her.cl.acc.f patriarch.nom and   went.3sg

s miromъ vъ   svoju   zemlju. (OR - *Laurentian Chronicle* 18)

with peace   to   own   land

'And the patriarch blessed her (=Olga). And (she) went to her land in peace.'

b. As coisas   não   têm corrido tão bem como   [as Nações Unidas]$_i$

the things not   have run   so well as   the nations united

queriam, (...).   A violência   não   pode ser   dinamizadora

wanted.3pl   the violence   not   can be   propeller

da   mudança. Mas   muito rapidamente *pro*$_i$ concluíram   que

of the   change   but   very   quickly   concluded.3pl that

todas as   condições estavam   reunidas.

all the   conditions were   gathered

'Things are not going as well as the United Nations expected (…). Violence cannot be the propeller of change. But very quickly they (=the UN) concluded that all the conditions were gathered.' (EP – BARBOSA; DUARTE; KATO, 2005, p. 27.)

3.2 Coreferent NSs in embedded finite clauses

As in other PNS languages (e.g., Finnish, Hebrew, and Marathi; cf. HOLMBERG; NAYUDU; SHEEHAN, 2009; LANDAU, 2004), both BP and MR display coreferent NSs in embedded finite clauses (i.a., LIVITZ, 2014; MODESTO, 2009; NUNES, 2010; TSEDRYK, 2015). In both cases, these NSs are licensed only in strict conditions of control, i.e., c-commanded by the closest antecedent in a sort of "control" relation (11b, 12b).[2]

(11)   a. Vrač$_i$ skazal,   čto   pro$_{i/*j}$ primet   bol'nyx$_j$.

doctor   said   that   will receive.3sg   sick people

'The doctor said that he will see the patients.' (MR – MADARIAGA, 2022a, p. 83)

b. *Majja$_i$ boitsja, čto   roditelj$_j$ dumajut, [čto   pro$i$ ne

Maia   fears   that   parents   think   that   not

pridët   vovremja].

will come.3sg   on time

Intended: 'Maia is afraid that her parents think that (Maia) won't arrive on time' (MR – MADARIAGA, 2022a, p. 85)

(12)   a. Só   o João$_i$ acha   que   pro$i/*j$ vai ganhar   a corrida.

only   the João   thinks   that   goes win   the race.

'Only João thinks that he (=João) will win the race.' (BP – NUNES, 2011, p. 333)

b. *O pai$i$ [da Maria$j$]   acha   [que   pro$j$ está   grávida]

the father   of the Maria   thinks   [that   is   pregnant.f]

Intended: 'Maria's father thinks that she is pregnant.' (BP – NUNES, 2011, p. 333)

As in the case of matrix clauses, in OR and EP, embedded NSs are freely licensed in non-stressed non-contrastive positions, and do not display locality or c-commanding effects. In (13a), I show the lack of a local c-commanding antecedent of an embedded NS in OR; example (13b) illustrates the same lack of locality in EP:

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[2]   Some authors analyze these instances as finite Obligatory Control (BOECK; HORNSTEIN; NUNES, 2010; LIVITZ, 2014; MADARIAGA, 2018; TSEDRYK, 2013). Other hypotheses for this structure have been put forward by, e.g., Modesto (2009), Landau (2004), and Sheehan (2018). I will leave aside this discussion and stick to the fact that embedded finite NSs in both languages require a local c-commanding antecedent.

(13)   a. Slyšavše   že   derevljanei   jako   proj   opjat'   idetь…

　　　　earing.pl   part   Drevlians   that   again   come.3sg

'When the Drevlians heard that (he = prince Igor) was coming again…' (OR - Laurentian Chronicle 14R)

　　　　b. O amigo$_i$ do Pedro$_k$ disse   que   pro$_{i/j/k}$ ganhou   na loto.

　　　　the friend   of the Pedro   says   that   won   in the lottery

'Pedro's friend says that he (=Pedro, his friend or someone else) won the lottery.' (EP – Modesto, 2000, p. 151)

3.3 NSs with generic or arbitrary reading

According to Holmberg (2010), 3rd person singular NSs automatically get an indefinite reading in PNS languages, as opposed to CNS languages, which resort to other mechanisms to achieve arbitrariness or genericity of the NS, like the Romance *se*-strategy. This is true for BP (14a-b), which patterns with Finnish and Marathi in this respect, contrasting with EP (14c).

(14)   a. Aqui   vende   sapato.

　　　　here   sells.3sg   shoes

'Shoes are sold here.' (BP - DUARTE; SILVA, 2016, p. 242)

　　　　b. É   assim   que   faz   o doce.

　　　　is   thus   that   makes.3sg the sweet

'This is how one makes the dessert.' (BP – HOLMBERG, 2010, p. 92)

　　　　c. É   assim   que   se   faz   o doce.

　　　　is   thus   that   se   makes.3sg the sweet

'This is how one makes the dessert.' (EP – HOLMBERG, 2010, p. 92)

In MR, however, only 3rd person plural NSs are available in impersonal sentences with an indefinite subject (15a), i.e., 3rd person singular is not available (TSEDRYK, 2022). For impersonal sentences with a generic reading, impersonal sentences of the type of (15b), with an adverbial plus an infinitive, are generally used.[3]

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[3]   A further available variant is a generic NS displaying 2nd person singular agreement, which is disregarded here; for an analysis in MR, cf. TSEDRYK (2022).

(15)   a.Tut   prodajut   / *prodaёt obuv'.   (MR)

   here   sell.3pl   / *sell.3sg shoes

   'Shoes are sold here.'

   b. Na stule bylo   udobno   / možno   bylo   sidet'.

   on chair past.3sg   comfortably   / possible   past.3sg   sit.inf

   'It was comfortable / possible to be sitting on the chair.'

OR functioned in the same way as MR; NSs could be used with an arbitrary reading with a 3rd person plural verb (16a) (BORKOVSKIJ, 1978), while generic NSs did not exist and impersonal clauses of the "adverbial + infinitive" type were used instead (16b).

(16)   a. Ože   ubьjutь   novgorodca   posla   za   morem…

   if   kill.3pl   Novgorodian   consul   beyond sea

   'If someone kills a delegate from Novgorod in a foreign land…' (OR – Novgorod letter 1189-1199, ap. BORKOVSKIJ, 1978, p. 221)

   b. Ne   bĕ   lzĕ   slyšati   pĕnьje   vo plači.

   not   past.3sg   possible   hear.inf   song   in crying

   'It was not possible / one could not hear the chants because of the crying.' (OR – Laurentian Chronicle 68)

As stated before, EP does not license 3rd singular person generic or arbitrary NSs (like OR / MR), and uses either 3rd person plural to convey arbitrariness of the subject or a *se*-impersonal strategy for generic NSs (DUARTE; MATOS; GONÇALVES, 2005; DUARTE; SILVA, 2016). The first strategy, illustrated in (17a), is fully available in BP. The second strategy, with the *se* pronominal (17b and 14c above), was not completely lost in BP, but it gave rise to a sort of diglossia as it also developed into an impersonal construction with a 3sg NS (14b).

(17)   a. Dizem   que   o governo vai   aumentar   os impostos.

   say.3pl   that   the government goes raise   the taxes.

   'People say that the government will raise taxes.' (EP - DUARTE; SILVA, 2016, p. 242)

   b. Trabalha-se   demasiado.

   work.3sg-se   too much

   'One works too much.' (EP – DUARTE; MATOS; GONÇALVES, 2005, p. 119)

3.4 Null objects and weak objectual pronouns

Null objects and weak objectual pronouns are licensed in both BP and MR, although not unrestrictedly (CYRINO, 1993; GALVES, 1989; GRIBANOVA, 2013; KATO, 1993; LIVITZ, 2014; McSHANE, 2005). In both (18a) and (18b) the pronominal object is usually dropped, but can be occasionally replaced with an overt pronoun.

(18)	a.	– Moja	šlapa	zastrala	v kustax.		(MR)
		my	hat	got stuck	in bushes		
		– Ne	pereživaj,	ja	(eë)	dostanu.	
		not	worry	I	(her)	will get	

'– My hat got stuck in the bushes. – Don't worry, I'll get it for you.'

	b. Eu	entreguei	(ele)	pra	Maria.	(BP)
	I	delivered	(him)	to the	Maria	

'I delivered it to Maria.' (NUNES, 2011, p. 344)

EP does not allow weak pronouns in object position; thus, (18b) would be ungrammatical in EP with the weak pronoun variant. In addition, as Cyrino (1993) notes, early BP as well as EP also displayed null objects, but they were less common and more restricted.

Finally, OR displayed strong pronouns, used in contrastive, stressed, or focused positions (MEYER, 2011; ZALIZNJAK, 2008) and clitic pronouns in all other positions (cf. Section 3.5). Null objects are not found in the texts before Middle Russian, approximately during the 16th century (BORKOVSKIJ, 1978). Thus, the null object in example (18a) would be ungrammatical in OR, and a clitic pronoun would be used instead. Weak pronouns as such did not exist, and their typical positions were distributed between strong pronouns and clitics, sometimes giving rise to "mixed" positions. For example, after a preposition selecting an accusative complement, a strong pronoun was regularly used, while clitics could occasionally surface as well (ZALIZNJAK, 2008).

3.5 Existence of clitic pronouns

Clitic pronouns were completely lost in MR, but not in BP.[4] However, in regular conditions, in BP, cliticization displays proclisis (19a), while EP resorts to enclisis (19b).

(19)	a. Me	diz	uma	coisa!	(BP / *EP)
	me	say	one	thing	
	b. Diz-me	uma	coisa!		(EP / *BP)
	say me	one	thing		

'Tell me something!' (NUNES, 2011, p. 343)

In OR and EP, clitics display the typical behavior of CNS languages, that is, they are phonologically deficient pronouns used in non-stressed positions, with a non-contrastive or non-focal value (like NSs). I will assume that they are generated in VP and then raise higher to find a proper phonological support, depending on the specific conditions in each language (BLEAM, 1999; URIAGEREKA, 1995, among many others). In the case of OR and EP, the neutral position of object clitics is enclisis (19b, 20a-b), although in both languages, some specific elements, such as wh-words, sentential negation, complementizers, etc., trigger clitic proclisis (21a-b):

(20)	a. poneže	ljublju	tja	pače	brati	tvoeje.
	because	love.1sg	you.cl.acc	more	brothers	yours

'Because I love you more than your brothers.' (OR - Laurentian Chronicle 72)

	b. O João	disse-o		à Maria.
	the João	told-cl.acc.3sg		to Maria

'João told it to Maria.' (EP – DUARTE; MATOS; GONÇALVES, 2005, p. 122)

(21)	a. na	čto	mja	este	pribavili,	ose	esmъ.
	for	what	me.cl.acc	aux.2pl	call.pl	here	am.1sg

'Why did you call me? Here I am.' (OR – Laurentian Chronicle 92)

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4 However, in the specific case of 3rd person accusative clitics in BP, Corrêa (1991, apud NUNES, 1993, 2011), claims that they are not "native," i.e., are not acquired by children as a part of their core grammar, but are instead acquired artificially via schooling. As we will see in Section 4, according to Nunes (1993, 2011), the factual loss of 3rd person accusative clitics in colloquial BP was due to a change in the directionality of cliticization with respect to EP. As Nunes (2011) shows, even in formal BP these clitics differ from 1st / 2nd person clitics and from their counterparts in EP.

    b. O João não   lhe   mandou   a carta.

    the João   not   cl.dat.3sg sent   the letter

    'João did not send him/her the letter.' (EP – DUARTE; MATOS; GONÇALVES, 2005, p. 128)

3.6 Verbal inflection

EP / early BP and present-day BP differ with regard to the richness of their inflectional patterns. In most early BP finite paradigms, just as in EP, leaving aside the polite forms for the 2ⁿᵈ person, all the six forms available are unambiguous, as shown in Table 1. In present-day colloquial BP, finite inflection displays only one unambiguous form out of three total forms; in some moods or tenses, there are no unambiguous forms out of just two total forms (DUARTE, 1993, 2000; NUNES, 2011).

In contrast, both Old and Modern Russian display full-fledged forms in non-past tenses, as shown for MR present tense in Table 1. This pattern remained essentially the same as in OR. However, MR has defective inflection (only gender and number, no person) in past tense.

Table 1 – present tense paradigm in EP and BP (adapted from Duarte 1993, p. 109), and present and past tense in MR. Verb *cantar* / *pet'* 'to sing'

Person and number	Early BP = EP	Colloquial BP	MR non-past	MR past
1st sg	Eu canto	Eu canto	Ja poju	Ja/ty/on pel (m.)
2nd sg	Tu cantas	Você/(tu) canta	Ty poëš'	Ja/ty/ona pela (f.)
2nd sg polite	Você canta	Você canta	Vy poëte	(Vy peli - polite)
3rd sg	Ele/ela canta	Ele/ela canta	On/ona poët	
1st pl	Nós cantamos	A gente canta	My poëm	
2nd pl	Vós cantais	Vocês cantam	Vy poëte	My/vy/oni peli
2nd pl polite	Vocês cantam	Vocês cantam	Vy poëte	(pl.)
3rd pl	Eles/elas cantam	Eles/elas cantam	Oni pojut	

As for OR, all the tenses (present, future, and past) were fully-inflected. The past perfect tense was a compound form with distributed features: a participle (so-called *l*-form) inflected for number and gender plus an auxiliary clitic form inflected for person and number (21a, 22). As we will see, the loss of the clitics in the language, including auxiliaries, conveyed the loss of person agreement only in past perfect tense (rendering the MR defective inflectional past pattern illustrated in Table 1). A second (synthetic) past form, the aorist, also fully-fledged, existed in early OR, but had decayed by the 14ᵗʰ century. Here is an early

example of the co-occurrence of an aorist (*reče* 'he said'), and a perfect compound form (*perekljukala esi* 'you deceived'):

(22)	I	reč(e)	c(ěza)rъ	perekljukala	mja	esi,	Olьga.
	and	said.3sg	tsar	deceived.f.sg	me.cl	aux.2sg	Olga

'And the tsar said: "You tricked me, Olga."' (OR – Laurentian Chronicle 17v)

3.7 The role of infinitives

Infinitives underwent a process of impoverishment in BP in parallel with that experienced by finite forms. EP displays four unambiguous forms out of five total forms: *eu / ele/ela cantar* 'I / he/she to sing', *tu cantares* 'you (sg) sing', *nós cantarmos* 'we sing', *vós cantardes* 'you (pl) sing', *eles cantarem* 'they to sing'. In contrast, BP infinitives display no unambiguous forms: *eu / ele/ela / a gente cantar* 'I / he/she / we to sing', *vocês / eles cantarem* 'you (pl) / they to sing' (cf. i.a., DUARTE; GONÇALVES; SANTOS, 2012; MODESTO, 2018; NUNES, 2011; RAPOSO, 1987). The only inflectional form for the infinitival in BP is 2nd-3rd person plural -*em*, alternating with the zero ending (23), while other persons and numbers invariably show a zero ending.

(23)	Eles	saíram depois	de jantar	/ jantarem	cedo.
	they	left after	of dine.inf	/ dine.inf.3pl	early

'They left after having dinner early.' (BP – NUNES, 2011, p. 336)

Neither OR or MR displayed inflected infinitives, but OR had the possibility of using overt dative subjects in embedded infinitive clauses. These subjects could be non-coreferent DPs or coreferent overt strong pronouns in strong or emphatic positions (24a), alternating with coreferent non-emphatic null pronouns (24b). This alternation was completely parallel to the interplay between the overt emphatic (25a) and null non-emphatic pronouns in finite clauses (25b) (cf. MADARIAGA, 2018).

(24)	a. [Ty	so mnoju]$_i$	cělovalъ	kr(e)stъ	[xoditi	nama$_i$
	you	with me	kissed.SG	cross	go.INF	we.DAT
	po odinoj dumě	oběma].				
	by one decision	both.dat				

'You and me swore (lit. kissed the cross) that we both (i.e. not only me) would do it the same way.' (OR – Laurentian Chronicle, 71R)

	b. Egdаž(e)	trebuetъ	na voinu	iti,	sii$_i$	xotjat(ь)
	if	is needed	to war	go	these	want.3pl

[*pro*_i   počti   c(ĕza)rja   vaše(go)] (. . .)   da budutъ.

          honour.inf tsar   your   let be.pl

'If you need to gather an army (lit. to go to war), and these (=the Russians) want to join your tsar (. . .), so it be.' (OR – *Laurentian Chronicle*, 18R)

(25)   a.Vižъ   sego   ty   ježe   esi   xotĕlъ.

        look   this   you   what   aux.2.sg   wanted.m.sg

'See, this is what you (i.e., but not me) wanted.' (OR – *Laurentian Chronicle*, 23R, MADARIAGA, 2018, p. 181)

b. Počto   *pro*_i   ideši   opjatь, *pro*_i   poimalъ esi

   what for   go.2.sg   again   took.m.sg aux.2.sg

vsju   danь.

whole   tax

'Why did you come back? You collected the tribute already'. (OR – *Laurentian Chronicle*, 14R, MADARIAGA, 2018, p. 181)

Overt infinitive subjects alternating in this way are not found in EP or early BP. As we will see in Section 4.1, this property of OR will be significant for the rise of embedded control in MR.

3.8 Interim summary

In Table 2, I offer a revised summary of the similarities and differences between the four relevant languages with respect to the features usually ascribed to the pro-drop parameter:

Table 2 – clustering properties ascribed to the pro-drop parameter in OR, MR, EP, and BP

	OR	MR	EP	BP
1. Referential NSs	free	restricted	free	restricted
2. Finite control	no	yes	no	yes
3. Generic 3sg NSs	no	no	no	yes
4. Null objects	no	yes	restricted	yes
5. Clitic objects	yes	no	yes	restricted
6. Finite verbal person inflection	yes	yes (only non-past tenses)	yes	very defective
7. Inflected infinitivals	no	no	yes	very defective

In view of these correlations, we can affirm that the change in Russian pro-drop affected defective referential pronouns (referential null subjects, including finite control, and clitics / null objects), but it did not have a strong impact on generic/arbitrary NSs or verbal inflection.

In BP, all defective subjects (referential or generic) changed, together with a clear impoverishment in verbal inflection (finite and non-finite), and perhaps minor consequences concerning defective objects (null or clitic). In the following section, I offer a unified account for these facts.

4 An explanation for the change in pro-drop in BP and MR

In this section, I will develop the idea that variation among PNS languages is the effect of historical change, whose contingent properties can partially shape grammars.[5] The fact that pro-drop is triggered by the confabulation of a few recurrent factors, which can be diachronically modified in different ways, gives us the slight differences between BP and MR with respect to their pro-drop properties, rendering thus a satisfactory explanation for the parametrical "mismatches" we observe in these PNS languages.

I will show: (i) how the final setting of the PNS parametric stage was essentially the same in both BP and MR; and (ii) in which way the triggers of the change were different in the two languages, and why the clustering ways of the properties reviewed above also differed at some points.

4.1 Structures and change in NS licensing in Russian

The most striking fact about referential NSs in Russian (27a-b), contrasting with Hebrew (26a-b) or Chamorro, is that their conditions of licensing, described in Section 3.1, are completely equal regardless of the richness or the poverty of personal inflection on the verbal form. That is, whether the verbal form displays morphologically overt personal features (in non-past tenses, endowed with overt personal morphology, 27b) or not (with past impoverished *l*-forms, lacking personal morphology, 27a), the

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[5] I assume a Lightfootian (LIGHTFOOT, 1999, and subsequent work) approach to change. In neutral conditions, any modification of the Primary Linguistic Data (PLD) can lead learners to diachronic change, i.e., parse a different grammar with respect to previous generations. However, change is contingent on the unpredictability of the external factors conditioning it. The most frequent triggers modifying the PDL that learners receive are the following: (i) changes that have taken place previously in the language and can condition the "clustering" effects, like the ones we are considering in this paper (traditionally termed "chains of changes" in historical linguistics); (ii) phonological erosion or attrition (which can have an impact on morphological material); (iii) language contact and other sociolinguistic factors.

conditions for licensing referential NSs apply equally; in example (27), logophoric features license dropping of any of the subjects. In Hebrew, however, rich agreement licenses subject dropping (26a), while defective non-personal agreement does not (26b):

(26)	a. Etmol		šama't		harca'a.			
	yesterday		hear.past.2sg.f		lecture			

'Yesterday you heard a lecture.' (Hebrew – DORON, 1988, p. 205)

	b. *Axšav	šoma'at			harca'a.			
	now	hear.pres.sg.f			lecture			

Intended: 'You are hearing a lecture now.' (Hebrew – DORON, 1988, p. 207) (MR)

(27)	a.(Ty)	v magazin xodil,	ili	doma	sidel	ves'	den'
	you	to shop	go.past.m.sg	or	home	sit.past.m.sg	
	all	day					
	pered	televizorom?					
	before	TV					

'Have you gone to the shop or were you sitting in front of the TV all day long?'

	b. (Ty)	v magazin pojdëš'	ili	doma	budeš'	sidet'
	you	to shop	go.fut.2sg or	home	fut.2sg	sit
	pered	televizorom?				
	before	TV				

'Will you go shopping or are you going to be sitting in front of the TV?'

The diachronic process that gave rise to the PNS character of Russian evidences the fact that the role of verbal inflection in the change was marginal (cf. MEYER, 2011; JUNG, 2018, *contra* MÜLLER, 2006); changes in verbal inflection did not constitute the initial trigger for the change and, in fact, verbal inflection only changed in past tenses (as a side-effect of a previous change, as we will see), whereas present and future tenses preserved their inflection paradigms completely untouched.

Let us briefly review the process of loss of the referential NSs in Russian step-by-step. The following description is based on the works by Borkovskij (1978), Borkovskij; Kuznecov (1965), Ivanov (1990), Jung; Migdalski (2015), Kibrik (2013), Meyer (2011), Migdalski (2013), and Zaliznjak (2008).

(1) Old Russian was a well-behaved CNS language (cf. Section 3). Referential subjects were dropped in pragmatically "neutral" conditions, regardless of the type of topic characterizing the NS, as shown in example (10a, 25b) above. Referential subjects had to be overtly realized as pronouns only in emphatic positions (foci or contrastive topics, ex. 25a). This was the situation until approximately the 14-15th century.

The verbal system was inflectionally rich, there existed 4 past forms, a present, and several forms to express the future. However, in OR, some tense paradigms started to fall into disuse: in early Slavic there were two synthetic past forms (the imperfect and the aorist) and two analytic forms (perfect and pluperfect). Analytic verbs were formed by an auxiliary conveying person and number morphemes, and a participle (an *l*-form) conveying the lexical verbal content plus gender and number morphemes (examples 21a and 22 above). The auxiliaries corresponding to the 3rd person singular and plural had already been lost by early OR, and the synthetic past forms were in decay, too: the imperfect was almost inexistent, and the aorist was archaic, restricted to literary language. The fall into disuse of most tense distinctions led to the eventual rearrangement of the Russian verbal system in favor of aspectual distinctions (the MR pattern) rather than tense distinctions.

Deficient pronouns other than subjects, as well as auxiliary verbs, were formally clitics. Auxiliary verbal forms, just like other clitics, were raised to a high position in the sentence, as in examples (21a) and (25a) above. Synthetic verbal forms were also raised higher (compare the OR example (28) and the later Middle Russian example (29b) below). This high verbal position is common to other CNS languages and is usually considered to reflect the existence of V-to-T movement in these languages.

(28)   i   *pro* poklanęju ti   sę.
        and   bow.1sg   you.cl.dt   refl.cl.acc
        'I greet (lit. bow) you.' (OR – Birch bark letter 798, 12th c., JUNG, 2018, p. 105)

Pronominal clitics in OR raised to be adjacent to the raised verb or auxiliary (MIGDALSKY, 2013; JUNG, 2018). They were used in the same pragmatic situations as NSs, that is, in non-emphatic non-stressed positions (28), while strong pronouns were used in contrastive or focused positions.

(2) Early Middle Russian: by the 14-15th century, verbal auxiliaries
started to surface in a lower position (29a), and synthetic verbs
also remained low in the structure (29b); compare the position of
the synthetic verbal form in the OR example (28) and the Middle
Russian one (29b). In other words, long verb movement got lost.

(29) a. estъ   u menei   edinъ   s(y)nъj   doma   menšii,   a   *pro*$_i$ sъ četyrmi
         is   at me   one   son   at home   young   and   with four

         esmь   vyšelъ,   a   onъj   doma.
         aux.1sg   left.m.sg   and   that   at.home

      'I have a little son, and I came here with my other four children, and the young one stayed at home.'
      (Middle Russian – *Hypathian Chronicle* 46, 14th c.)

      b. jęza   tobe   koloneju-sę.
         I.nom   you.strong.dt   bow.1sg-refl

      'I greet you.' (Middle Russian – Birch bark letter 501, 14th c., JUNG, 2018, p. 105)

Very soon, between the 15th and 16th centuries, verbal auxiliaries
(of 1st and 2nd person; remember that 3rd person auxiliary had been lost
long ago) were lost in the language, after a short period of lowering.
At the same time, pronominal clitics were also being lost, and being
replaced with strong pronominal forms. Auxiliary clitics were not eroded
phonologically or progressively worn out; the whole forms, all of them
disyllabic (sg. *esmь*, *esi*, pl. *esme*, *este*), were lost altogether (30). Almost
simultaneously, overt pronouns of 1st and 2nd person were realized in
neutral positions (non-emphatic, non-stressed), as in (30) and (29b), in
the places where formerly only NSs were used (28).

(30) A   az   stal   v dolu   s polkom,
      and   I.nom   stood.l-form.m.sg in valley with army,

      a   Vasilьju   prikazal…
      and   Vasili.dt ordered.l-form.m.sg

      'And I stood in the valley with the army and I ordered Vasili…' (Middle Russian –
      Pervoe pis'mo Vasilija Grjaznogo Ivanu IV Groznomu 1576, 20)

This rendered a new pattern with "impoverished" personal
morphology, but only in past tense, which happened to be the one
formerly including a clitic auxiliary (which, in turn, happened to be
the part of the verbal complex bearing personal morphology). At the
same time, present and future personal morphology remained intact but,

nonetheless, showed similar rates of overt non-emphatic pronominal subjects as past impoverished forms (MEYER, 2011). In other words, overt non-emphatic pronouns were realized in the place of NSs at a fixed rate regardless of the "richness or poverty" of agreement in the specific verbal form in the sentence.

> (3) Late Middle Russian: by the 16-17th centuries, when the modern system of 1st and 2nd pro-drop was already well-established, 3rd person sentences experienced the same shift as 1st and 2nd person. 3rd person verbal auxiliaries in perfect > past tense had already been lost in early OR (approx. 5-6 centuries before), but no personal pronoun existed in the language for the 3rd person. In stressed or emphatic positions, when the pronominal subject had to be overtly realized, various demonstrative pronouns were realized instead. One of these demonstratives, *onъ* 'that', was reanalyzed in Late Middle Russian as the personal pronoun of 3rd person and immediately spread to non-emphatic and non-stressed positions (31), following the pattern of the 1st and 2nd person pronouns.

(31) Prosi   y nego   na brašna deneg, i   on   tebe   dast   sto rublej.
      ask   from him for food   money and   he   you   will give hundred rubles
      'Ask him for money for food, and he will give you a hundred rubles.' (Middle Russian – *Story about Karp Sutulov*, 17th century)

As for pronominal clitics, 1st and 2nd person object clitics were lost by the 15-16th century, while 3rd person clitics were lost approximately a century later. The delay in the loss of 3rd person clitics as compared to 1st and 2nd person parallels the development of 3rd person vs. 1st / 2nd person overt pronominal pronouns in the place of the old NSs.

Null objects are found in texts roughly by the 16th century, and became more common later on:

(32) A   ženix$_i$ po nevestu$_j$ ne ezdit, a   privezet pro$_j$ družka   da   svaxa.
      and groom for bride   not goes but carries   best man and   matchmaker
      'The groom does not go for the bride; the best man and the matchmaker bring (her).' (Middle Russian – Putešestvija russkix poslov, BORKOVSKIJ, 1978, p. 314)

In Table 3, I summarize the development of the change in the relevant pro-drop features in Russian:

Table 3 – diachronic succession of changes in the pro-drop system between OR and MR

When	Changes		
11-12th c	Loss of 3rd person auxiliary	Loss of past tenses in favor of aspectual distinctions	
15th c	Loss of long verb movement = lowering of auxiliaries and synthetic verbs		
15-16th century	Loss of 1st/2nd auxiliaries	Extension of 1st/2nd overt pron. subjects	Loss of 1st/2nd pron. object clitics
16-17th century	Extension of *onъ* as 3rd p. overt pronoun	Loss of 3rd person object clitics	Extension of null objects

Now let us interpret the change in formal terms (cf. MADARIAGA, 2022a; 2022b). As I explained in Section 2, in OR, the minimal φP subject, located at [Spec,T], automatically received a referential interpretation from a higher topic by D-matching. The referential index was copied by the unvalued D-feature of T, and, then, through Agree, by the NS, which at the same time matched its unvalued φ-features. The D-feature of T was "spelled out" in the form of rich verbal morphology. Overt V-to-T movement conveyed the presence of rich agreement morphology high in the sentence, which constituted a clear cue for learners to establish the presence of a [+D] feature on T.

(33) $[_{CP} \text{Topic}_i \text{ C } [_{TP} {}_{φ}P_i \text{ TD:}\_+V [_{VP} V…]]]$

The loss of 3rd person auxiliaries and the obsolescence of most past forms in early OR led to a reorganization of the tense – aspect system in Russian. Because of the loss of 3rd person verbal auxiliaries, analytic past forms in 3rd person could seem to speakers like low "synthetic" *l*-forms, marked for gender and number (not person), which did not raise to T. V started to be interpreted as undergoing short movement (to Asp or a similar intermediate node, as it does nowadays (cf. GRIBANOVA, 2013); confirmed by experimental work by Kallestinova; Slabakova (2008)), and the old tense-based system disappeared in favor of a new system based on aspect distinctions. As for non-past synthetic forms, they preserved person marking but, analogically to past *l*-forms, they stopped moving to T. 1st and 2nd person auxiliaries also displayed a low position at this time (ZALIZNJAK, 2008). In other words, V-to-T movement was lost.

The loss of long verb movement modified the cue that learners needed to posit an unvalued D-feature on T, that is, the overt

morphological realization of the operation of D-feature valuing, which was person agreement on T (cf. a similar idea in Jung, 2018, who proposes D-feature lowering rather D-feature loss). The loss of overt morphology at T prevented the acquisition of T as playing a role in D-feature transmission together with Agree. In addition, once V remained in AspP, V's low position preempted the establishment of the direct syntactic relation between T and C the way it did before. The loss of the D-feature on T was completed between the 15th and 16th centuries, with the total loss of personal auxiliaries in the language.

After T's D-linking ability was lost, pronominal subjects had to be overtly realized in order to be interpreted as referential. However, learners of Middle Russian kept on receiving referential subject gaps in their linguistic input in the form of NSs generated by older generations of speakers, and subject gaps in control infinitive clauses (PRO). As a common output in historical processes, residual structures and elements after diachronic change can die out or be "recycled" (reanalyzed) with a new value. The old NSs in Russian experienced the second path. Speakers of Middle Russian, in the absence of a D-linking T, had two ways to acquire the finite subject gaps they received: (i) as generic or arbitrary NSs (they retained 3rd person plural, as in OR), or (ii) as referential NSs when they were able to find a proper mechanism of index transmission, whether a prominent or logophoric null topic at CP, or a higher c-commanding referential antecedent in the case of embedded NSs.

As for other non-subjectual deficient pronominals, namely, pronominal clitics, the change reviewed here also had a direct impact on them. I will assume the classic proposal by Cardinaletti; Starke (1999); namely that prosodic, phonological, and morphological deficiency of clitics correlates with less syntactic structure, as compared to full pronouns. Thus, a clitic is a minimal noun projection, i.e., just an agreement projection. In our terms, clitics would have the same basic structure as NSs, i.e., minimal φPs with unvalued interpretable φ-features (φP[iφ:_]). Cf., i.a., BLEAM, 1999; DUARTE; MATOS; GONÇALVES, 2005; ROBERTS, 2010; BOŠKOVIĆ, 2016, for a similar idea.[6]

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[6] OR deficient pronouns qualify as φP clitics, rather than mere agreement markers (cf. contrastive properties of the two types of clitics in Bleam, 1999; Ormazabal; Romero, 2013; and references therein). Accusative clitics in Slavic, including its earlier periods,

As in the case of NSs, OR clitic φPs are not D-complete elements, so they must have their reference defined in the course of the derivation. As discussed before, the reference of a minimal φP is determined by some (null or overt) Topic at CP. Getting a reference from this high Topic conveys also φ-feature valuation on the clitic, as in the case of NSs. In the case of CNS languages, licensing minimal φPs (NSs and clitics) is tied to the presence of an unvalued D-feature on T (HOLMBERG; NAYUDU; SHEEHAN, 2009), which copies the referential index of the higher Topic, and transmits it downwards during the Agree operation of φ-feature matching by the φP. In the case of subjects, as a result of Agree, the valued features of T are "spelled out" in the shape of rich verbal morphology, and NSs can be realized as null. However, objectual φPs can receive their reference, but they lack the Agree relation with T described above for subjects, so they must be overtly realized, albeit in a prosodically deficient way.

In the specific case of OR and other Slavic languages, following, i.a., Progovac (1999); Migdalski (2016); Bošković (2016), clitic licensing is parasitic on verb movement, like *pro* subjects in CNS languages. Being prosodically deficient, in the specific case of OR, objectual φPs had the requirement to be adjacent to the verb (JUNG; MIGDALSKI, 2015). Thus, when the verb raised in OR, the φP moved together with the verb up to their final common landing site, in which V attached to T. In this pattern, both elements moved "for a reason"; the V to get its inflectional suffix, and the clitic to get prosodic support and referential interpretation.

(34) $[_{CP}$ Topic$_1$ Topic$_2$ … C $[_{TP}$ φP$_1$ (=NS) T-v-V φP$_2$ (=clitic) $[_{vP}$ φP$_1$ v+V φP$_2$ $[_{VP}$ V φP$_2$]]]]

After V-to-T movement was lost, clitics could not raise, and had to remain low in the structure, together with their prosodical host, the verb. The clitics' new low position, however, led to their unavoidable loss, as they were too far from C, and could not get a suitable reference. Therefore, very soon clitics were completely replaced by either (i) full, phonologically independent, and syntactically complete pronouns, or (ii) null objects, which, following the new reanalyzed pattern of the other null φPs in the language, the NSs, could raise as much as they needed

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cannot double DPs or override Principle B, in contrast to clitics in other languages, which are better analyzed as agreement elements.

(being silent, they did not need phonological support), and thus could be licensed by a suitable topic at C.

As for embedded finite "control", as explained in detail in Madariaga (2018), Russian learners started to identify embedded referential subject gaps in finite and non-finite clauses, whenever the embedded NS was c-commanded by an antecedent in the matrix clause (in coreference). In other words, embedded finite referential coreferent NSs were reanalyzed as "controlled", following the model of their embedded non-finite counterpart, PRO. The reason for learners to identify embedded finite and non-finite coreferent subject gaps was the loss of the alternation existing in OR between coreferent emphatic overt pronouns and coreferent non-emphatic null pronouns in embedded infinitive clauses (24a-b), which had been thus far the same as in finite clauses (25a-b). When the old CNS pattern of "free" referential NSs was lost, and overt pronouns started to be realized in non-emphatic positions, the old alternation holding in both finite and non-finite clauses disappeared, and a suitable way to preserve referential subject gaps in embedded finite contexts was by reanalyzing coreferent subject gaps as in non-finite sentences, following the model of PRO. As a second side-effect of the loss of this alternation, in Late Middle Russian, all the embedded non-finite subject gaps that did not fit the pattern of PRO, i.e., non-coreferent overt subjects in infinitive sentences, were completely lost (BORKOVSKIJ, 1978).

Finally, generic/arbitrary NSs did not play a role in the change process. Impersonal infinitive clauses and 3rd person plural arbitrary sentences remained essentially the same in MR as they were in OR. The only difference, derived from the loss of the D-feature on T, is that a NS in a 3rd person plural sentence is automatically interpreted as arbitrary in MR, unless there is a proper D-linker in the sentence, whereas in OR, those sentences were ambiguous between impersonal and referential.

As for the role of rich agreement, verbal inflection by itself was marginal in the change reviewed. The crucial trigger was a general reorganization of the tense – aspect system in the language, derived from the falling into disuse of certain past forms, and which led to the real trigger of the change: the loss of long verb movement. It just so happened that, in OR past forms, personal morphology was conveyed by the auxiliary, which happened to be a clitic element, lost in the language after the loss of V-to-T movement. The features overtly expressed on the

l-form (the former participle), i.e., gender and number, remained the same. Non-past forms were synthetic forms and included all the morphology, including person. Thus, these forms remained intact in the history of Russian; they just stopped undergoing V-to-T movement.

4.2 Structures and change in licensing NSs in BP

Unlike MR with respect to OR, BP displays severely deficient inflectional verbal paradigms, as compared to EP. In fact, it seems that most authors accept the hypothesis that the change in the pro-drop character of BP was triggered by the weakening of its verbal morphology (cf. i.a., BARBOSA; DUARTE; KATO, 2005; DUARTE, 1993, 2000; GALVES, 1993; NUNES, 2011). According to these authors, NSs in BP have dropped by 60% in the last 150 years, and the process is still ongoing, which is evidenced by the fact that younger speakers tend to drop referential subjects less often than older speakers (DUARTE, 1993; 2000).

It also seems, similarly to MR, that the referential NSs that survived in BP have been relegated to special contexts, in which their reference is recoverable thanks to certain special strategies (SILVA, 2000), that is, finite control (in embedded contexts), logophoric 1st-2nd person, and prominent topics for 3rd person.

As noted previously in Section 3.1 (Table 1), the final stage of the impoverishment of verbal inflection in BP renders a system with almost no person distinctions, except for the 1st person singular, while the old system displayed rich person agreement. According to Galves (1993), the simplification experienced by BP verbs concealed the loss of the semantic value of the person feature, while only a grammatical value of person was left in the language. Her proposal about the distribution of features in BP is as follows:

(35)   a. Ending –o   +person   –plural

          b. Ending –ø   **–person**   –plural

          c. Ending –m   **–person**   + plural

The simplification of person inflection was parallel in finite and infinitive paradigms (cf. Table 1), and it was not due to phonological decay or erosion of the morphological endings, as happened in English or French, but to the reorganization of the pronominal system in the language, presumably, for contingent extra-linguistic / sociolinguistic

reasons. As happened in varieties of Spanish in the Americas, in BP, too, the 2nd person inflection collapsed with the 3nd person, after the polite forms *você* / *vocês* 'you' replaced the former familiar *tu* / *vós* 'you' for the 2nd person. In colloquial BP, additionally, the 1st person plural was conflated with the 3rd person singular when the corresponding personal pronoun *nós* 'we' was replaced with the generic *a gente* 'the people, one'. Let us see the change step-by-step, following Duarte (1993):

(1) First period of change (1910-1970): Duarte (1993) shows that the decreasing use of NSs in BP occurred at the same time as the simplification of person inflection: until approximately the 1920-30's, BP displayed a pro-drop system, which was similar to that which EP has nowadays. The breaking point for the change was precisely the 1930's, when two things happened: (i) the use of the second direct person (non-polite) decayed in favor of the polite forms; in fact, mixed treatments addressed to the same person are used in some passages in texts of this period, cf. (36); (ii) freely licensed referential NSs started to be replaced by overt pronouns in certain conditions. This process was particularly clear in the case of 2nd person NSs. On the other hand, 1st person singular and plural still show person agreement at this point (*canto* / *cantamos*), and 1st person still shows a high rate of NSs in this period.

(36)

Não	digas	tolices,	menino (…)		Não	seja		bobo,
Not	say.2sg	nonsense	boy		not	be.3sg(=2pol)		silly
menino!	Sabe		que	dia	é	hoje?		
boy	know.3sg(=2pol)		what	day	is	today		

'Don't say nonsense, boy (…) Don't be silly, boy! Don't you know which day is today?' (BP – A vida tem três andares (1951), p. 74, ap. DUARTE, 1993, p. 114)

(2) Second period of change (1970-): from the 1970s on, a further change in the pronominal system has become prominent, in which the 1st person plural *nós* is replaced in colloquial language by the generic *a gente*, and the decay of 1st person NSs becomes clear only at this point (DUARTE, 1993).

As for 3rd person NSs, their number decayed by just 25% in the whole period analyzed by Duarte, contrasting with subject drop in 1st

and 2nd person; NSs in these persons experienced a decrease of 80% and 70%, respectively, during the whole period. In addition, the loss of 3rd person NSs was progressive, without any sharp drop or visible breaking point, while 2nd person, for example, dropped from 69% to 25% only in the first period. Duarte (1993) attributes the availability of 3rd person NSs in BP to the presence of a prominent topic ("tema" in her words), which is able by itself to license the reference of such NSs, as in example (37).

(37)	– O que	é	que	o nosso	anjo$_i$	tem	hoje?
	what	is	that	the our	angel	has	today
	– pro$i$ Tá com essa cara desde que				pro$_i$	chegou	do ginásio.
	is.3sg	with that face		since that		arrived.3sg	from gym

'– What's the matter with our angel today? – (He) has been with that face since he returned from the gym.' (BP – *No coração do Brasil* (1992), ap. DUARTE, 1993, p. 118)

Galves (1993), citing Tarallo (1989), discovers a further correlation: null objects increase in the texts approximately in parallel with the loss of NSs. In 1880, the rate of overt pronominal subjects was 32.7%, while overt pronominal objects constituted 60.2%. A century later, in 1981, the figures were almost reversed: overt pronominal subjects represented 79.4%, and objects, 18.2%. Cyrino (1990), in turn, observes a decrease in the use of object clitics during the second half of the 20th century (from 81.6% to 47.3%), a general loss of 3rd person clitics, and the total replacement of clitic enclisis by clitic proclisis with respect to the verb; see examples (19b) and (19a) in Section 3.5.

The conditions of licensing null objects became more flexible with time; null objects in EP cannot appear within a syntactic island (38), which points to the fact that they can be just traces left by null operator movement (RAPOSO, 1986). Galves (1989), Cyrino (1993) and Kato (1993) claim that, in contrast, null objects in BP do not obey such grammatical restrictions (38), but correlate instead with the presence of a topic that allows their reference to be recovered (like in MR), which reveals that they are real null pronominal categories (*pro* or a null clitic), in our terms, a φP.[7]

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[7] There is an ongoing discussion about the nature of null arguments in the generative literature, whether they are *pro* or instances of ellipsis (cf. i.a., CYRINO; ORDÓÑEZ, 2018 specifically for BP).

(38) Eu   arquivei   o libroi   sem   ler   øi   (*EP / OKBP)

      I   filed   the book   without read.inf

      'I filed the book without reading it.' (KATO, 1993, p. 225)

Finally, Nunes (1991) detects an increase in the lack of verbal agreement in *se*-sentences (from 62% in the 19th century to 84% in the 20th century). He shows that what really happened was the loss in colloquial BP of the passivizing value of *se* (39a), and the gain of an indeterminative value (indefinite or arbitrary reading), illustrated in (39b), which correlates with the lack of verbal agreement.

(39) a. Alugam-se   casas.

         rent.3pl-se   houses.pl

      b.Aluga-se   casas.

         rent.3sg-se   houses.pl

      'Houses are rented.' (BP – NUNES, 1991, p. 33)

As for the emergence of 3rd person singular constructions with an indefinite or arbitrary reading in BP, as in (14a-b) in Section 3.3, Nunes (1991) shows that, by the time in which *se*-constructions became indefinite (in the 19th century), the *se* clitic started to be suppressed (in just 9% of the cases in the texts), but the suppression of *se* in impersonal sentences has overwhelmingly increased in present-day colloquial BP, reaching nowadays 78% of the instances.

In Table 4, I summarize the change in the relevant pro-drop features in BP.

Table 4 – changes in the pro-drop system between early BP and present-day colloquial BP (approximate dates)

When	Changes					
1910-1970	Loss of 2nd p. agreement	Decay of 2nd p. NSs		Proclisis of 1st-2nd p. clitics replaces enclisis	Change in null objects	Loss of 3rd person clitics
1970-	Loss of 1st p. pl. agreement	Decay of 1st p. NSs	Loss of *se* in arbitrary 3rd sg sentences			

Now let us interpret all these data in formal terms, keeping in mind the assumptions about NSs and null objects adopted so far. In BP, as a result of the reorganization of the pronominal system (for extralinguistic reasons), the verbal agreement paradigm was severely impoverished and

learners received too little morphological evidence from finite verbs to be able to detect a D-feature on T anymore. As a consequence, the D-feature on T was lost, and pronominal subjects had to be overtly realized, unless speakers were able to relate the subject gap to a proper logophoric or very prominent topic feature endowing it with a proper reference. Thus far, the picture is very similar to Russian, except that the initial triggers of the change were different, namely, the change from a tense-based verbal system into an aspect-based system in OR *versus* the rearrangement of the pronominal system in BP. However, the crucial parametric setting (the loss of a D-feature on T) was common to MR and BP.

A further difference with respect to Russian involves infinitives and embedded NSs. According to Nunes (2011), the availability of inflected infinitives in BP and, most importantly, the parallel process of the impoverishment of person values in both finite and infinitive verbal forms led speakers to identify -partially inflected- finite forms with -partially inflected- infinitives. Learners of BP, unlike learners of European Portuguese, receive clear cues that infinitivals are ambiguous between being φ-complete or not (i.e., *cantar* specified only for singular number; *cantarem* specified only for plural). The little inflection present in finite and non-finite T signaled the presence of the same defective set of φ-features on both types of T and forced learners to reanalyze embedded referential NSs as controlled elements in finite embedded clauses too, generalizing from the already existing controlled NSs in infinitive clauses (PRO). In Russian, inflected infinitives never existed, and the important cue to identify embedded finite and non-finite subject gaps was the loss of the old alternation existing in OR between coreferent emphatic overt (dative) pronouns and coreferent non-emphatic NSs in infinitive clauses, paralleling the situation of finite clauses, as explained in Section 4.1. All in all, BP speakers "saved" referential embedded subject gaps in the same way as learners of Middle Russian did -albeit for different reasons-, by reanalyzing those gaps and identifying them with the other embedded referential subject gaps that were preserved in the language, i.e., coreferent infinitive subjects (PRO).

Further, Galves (1994) shows that BP lacks long verb movement, contrasting with EP, which does display long verb movement (cf. i.a., MODESTO, 2009, p. 103; PIRES, 2005; TESCARI NETO, 2012). Therefore, long verb movement was lost at some point in the history of BP, and verbs started to undergo short movement (to Asp or a similar

intermediate position, as in Russian), as a side-effect of the loss of rich person agreement. It seems that the change in pro-drop in BP and in Russian represented two sides of the same coin: in Russian, the loss of V-to-T movement modified the cue that learners needed to posit an unvalued D-feature on T, the overt morphological realization of the operation of D-feature valuing, i.e., person agreement overtly realized in a high position (at T). Thus, T was considered not to take part in D-feature valuing any more, and the D-feature of T was lost. In BP, on the other hand, the overt morphological realization of D-feature valuing, person agreement, was lost altogether, and this automatically led to the loss of the D-feature on T. At the same time, the loss of person agreement had the side-effect that V-to-T movement could be perceived by BP learners as unmotivated and decayed as a result.

Clitic objects did not change in BP as much as in Russian, in which clitics were totally replaced by strong pronouns or newly created null objects. In BP, 1st and 2nd person clitics were preserved, but the low position of the verb brought with it a change in the cliticization direction of clitics. Duarte; Matos; Gonçalves (2005) claim that variation in clitic order, and its different patterns in EP and BP depend on the ability of T and Asp to attract V *versus* T's capacity to check uninterpretable features through Agree without attracting V. In EP, clitics are always enclitic, whether the preceding word is a verb or not (NUNES, 2011); when the verb is attracted to T, the clitic "remains" to its right, as in (19b) above, and in case there is some element at C (a wh-word, negation, etc.), leftward cliticization takes place with respect to the C-element (21b). On the other hand, in BP the verb remains low and the clitic is spelled-out "to its left"; thus, learners interpret this pattern as proclitic cliticization. In this sense, the change from enclisis to proclisis in the 1st and 2nd person clitics in BP could be a further consequence of the change in the position of V after the loss of rich person agreement.

With regard to the loss of 3rd person clitics, Nunes (1993) argues that it was due to the change of directionality in cliticization in BP. The new system of proclisis made impossible for learners to acquire 3rd person clitics, whose syllabic onset was incompatible with rightward cliticization.[8] The loss of 3rd person clitics led to the emergence of weak

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8   Nunes (1993) notes that 3rd person clitics in Portuguese (*o, a, os, as*) lost the onset of their syllable (the initial *l-*, present in other Romance languages, like the Spanish *lo, la, los, las*). He

pronouns in object position, as well as the expansion of the already existing null object constructions.

As was the case in Russian, the new ways of licensing referential NSs in pragmatically motivated specific situations in BP paved the way to reanalyze the old null objects, traces of wh-movement in EP (RAPOSO, 1986), as real null pronouns (GALVES, 1989, i.a.) by analogy with the new NSs. Thus, null objects in BP became more unrestricted from the grammatical point of view than in EP, as they only needed to be pragmatically motivated. In that sense, the final result of the change in MR and BP, being initially quite different, resulted in a similar output.

Finally, arbitrary sentences in BP retained the old patterns (3rd person plural agreement and the *se*-construction), and created a new pattern with 3rd person singular agreement, which arose after the loss of the *se* clitic element (NUNES, 1991), probably in relation to the loss of 3rd person clitics in general in the language. This process differs from Russian, because in OR, unlike EP, impersonal sentences were never formed with a *sja* clitic (equivalent to Romance *se* clitic), and thus the corresponding arbitrary construction in MR did not have a suitable ancestor with 3rd person singular agreement, on the basis of which learners could build the construction that arose in BP.

5 Conclusion

In this paper, I have shown that the contingent nature of change determines the fact that one and the same parametric change can be biased by slightly different historical conditions, which can render slightly different results. However, the final parametric setting will be very similar, as proven by the detailed examination of the change in pro-drop, experienced by MR and BP independently from each other.

These two languages developed from a CNS stage into a PNS stage for different reasons and according to different pathways of change, but ended up having basically the same properties. From a parametric

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argues that the onset of the syllable of 3rd person clitics is licensed via phonological cliticization to the preceding word as happens in EP, in which clitics are always enclitic to whatever word they need to be. However, in BP cliticization is always rightward, which prevented the onset of the syllable of 3rd person clitics to be phonologically licensed, and led to their disappearance. 1st and 2nd person clitics (*me, te, nos, vos*) did not lose their syllabic onset, so they were preserved in BP, albeit in the new position.

point of view, both languages lost the D-feature on T, associated with a series of common properties (short verb movement, reanalysis of NSs as pragmatically licensed, automatic interpretation of a NS as arbitrary or generic, finite control, expansion of null objects, weakening of clitics, reanalysis of embedded NSs), even if the exact pathways of change differed between the two languages. The small differences in the final results of the change have been attributed to different initial conditions in the CNS stage of pro-drop; namely, the existence or not of impersonal *se* constructions, the role of the impoverishment of agreement, the differences in non-finite embedded clauses, and the initial trigger of the change (reorganization of the tense–aspect system vs. rearrangement of the pronominal system).

Acknowledgements

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