

Russian as a Partial Pro-Drop Language Data and Analysis from a New Study

Camilla Bizzarri
(Università degli Studi Roma Tre, Italia)

Abstract This paper explores the grammaticality and interpretation of referential null subjects (NSs) in Russian in distinct clausal types. Based on the results of an online survey (carried out by about 140 respondents), we show that in contrast with generalizations typically hypothesized for partial pro-drop languages (Holmberg, Nayudu, Sheehan 2009) Russian exhibits properties which seem to be nearer to consistent pro-drop languages than to partial pro-drop languages. Such peculiarities can be accounted for within an interface approach to the interpretation of pro. The relevant online survey compares and analyzes data concerning the grammaticality and interpretation of pro under bridge verbs, factive verbs, and in adverbial clauses (e.g., conditionals and temporal clauses). In particular, Control and Locality requirements (and related intervention effects) are tested by means of interposed subjects endowed with different inflectional features and in different non-local c-command contexts. Our analysis shows that the situation is not clear-cut and that several factors cooperate in the licensing of NSs in Russian. Evidence will be provided that a strictly syntactic approach has to be rejected and, based on Frascarelli's (forthcoming) study, an alternative Interface approach is proposed. Thus, in order to distinguish Russian from consistent pro-drop languages and justify its partial pro-drop status, a proper Interface Visibility Condition is formulated.

Summary 1 Introduction. – 2 The Null Subject Parameter in Russian. – 2.1 Preliminary Observations. – 2.2 Previous Studies on This Subject. – 3 Data and Analysis from an Original Study. – 3.1 Methodology and Diagnostics. – 3.2 NS Embedded under a Bridge Verb. – 3.3 NS Embedded under Factive Verbs. – 3.4 Interface Visibility Condition (for Partial NS Languages). – 3.5 NSs in Adverbial Clauses: Conditionals vs. Temporal Clauses. – 3.6 The Interpretation of NSs against Control and Locality. – 3.7 Silent A-Topics as Chain Heads. – 4 Conclusion.

Keywords Pro-drop. Null subject. Interface. Russian.

1 Introduction

This paper explores the grammaticality and interpretation of referential null subjects (NSs) in Russian.

This language is generally considered a partial pro-drop language. Differently from consistent pro-drop languages (like Italian, Spanish, etc.), partial pro-drop languages allow NSs under more restricted conditions. Holmberg, Nayudu and Sheehan (2009) argue that these «conditions in-

clude when the subject is a generic pronoun corresponding to English 'one', and when the subject is controlled by an argument in a higher clause». In particular, the Authors suggest that in partial pro-drop languages NSs are necessarily licensed by strictly syntactic requirements such as c-command and Locality: NSs must be locally controlled to be realized by their intended antecedent, and a control relation across another subject is not allowed (even if its features are incompatible with the NS).¹

Assuming an information-structural approach to NSs, Frascarelli (2007) argues that the interpretation of a referential *pro* in consistent pro-drop languages depends on a matching relation with a specific type of Topic, namely the Aboutness-shift Topic (A-Topic): this is merged in the highest Top position in the C-domain and is endowed with the [+aboutness] edge feature (Frascarelli, Hinterözl 2007). As we will see further in this paper, the Author proposes a Topic Criterion² to account for the identification of referential NSs (Frascarelli 2007), and in Frascarelli (forthcoming) argues for an extension of this interface approach to partial pro-drop languages as well (like Finnish).

Following Frascarelli (2007), the present work intends to provide data concerning the licensing and the interpretation of referential *pro* in a partial pro-drop language like Russian, focusing especially on embedded

1 Holmberg, Nayudu and Sheehan (2009) argue that partial pro-drop languages generally have null expletive subjects. In other words, these languages do not generally have an overt subject in the absence of a theta-marked subject. One such case is weather predicates. In this respect, Russian does not completely follow the relevant tendency. As we can see in (a)-(b), the most common way to express weather predicates in Russian is a complex structure with a generic verb of motion. Nevertheless, some exceptions can be found, as is shown in (c)-(d):

- a) Идѣт дождь.
Idĕt dožd'.
go.PRES.3SG rain.NOM
Lit.: goes rain ('It is raining')
- b) Идѣт снег.
Idĕt sneg.
go.PRES.3SG snow.NOM
Lit.: goes snow ('It is snowing')
- c) *pro*_{espl} гремит.
proespl gremit.
proespl thunder.PRES.3SG
'(It) thunders'
- d) *pro*_{espl} темнеет.
proespl temneet.
proespl darken.PRES.3SG
'(It) is getting dark'

A discussion on expletive subjects is however beyond the aims of the present work. For a recent account of this distribution of NSs, see Biberauer (2010).

2 The formulation of the Topic Criterion (Frascarelli 2007) and further details will be provided in this paper (3.4).

contexts, and to show the validity of the Topic Criterion for this language as well. To this purpose, the results of an original survey will be illustrated and discussed. Evidence will be provided that a strictly syntactic approach has to be rejected and, based on Frascarelli's (forthcoming) study, an alternative Interface approach is proposed. Thus, in order to distinguish Russian from consistent pro-drop languages and justify its partial pro-drop status, a proper Interface Visibility Condition is formulated.

2 The Null Subject Parameter in Russian

2.1 Preliminary Observations

In spite of its Case system and its rich verbal inflection, Russian does not allow for a consistent use of NSs in the written language. However, NSs seem to be rather frequent in the spoken language, in specific (extra) linguistic contexts (to be clarified below).

In this respect, let us consider a conversation selected from the spoken section of the *Russian National Corpus* (Национальный корпус русского языка, <http://www.ruscorpora.ru/>):

- (1) Conversation in the kitchen between two women, in the countryside of Čeljabinsk region (2005)

- 1 A. *А бабушка-то как*
A babuška-to kak?
- 2 B. *А он_к сейчас не у неё живёт про_к съехал Дом про_к снимает*
A on sejčas ne u nee živët pro s''echal Dom pro snimaet.
- 3 A. *А дом большой?*
A dom bol'soj?
- 4 B. *Да так/не очень-то/ на два хозяина...*
Da tak/ne očen'-to/ na dva chozjaina
- 5 A. *Ммммм Много про_к платит*
Mmmmm Много pro platit?
- 6 B. *Да не 500 рублей Потом он_и сказали/ что вообще про_к*
Da ne 500 rublej Potom oni skazali/ čto voobšče pro
отменяют плату
otmeňjat platu
- 7 *про_к присматривать будет...*
pro pricmatrivat' budet

- A. And how is the grandmother?
 B. **He_k** is not living with her now... **pro_k** has moved... **pro_k** is renting a house.
 A. And is the house big?
 B. Well, not so much, a semi-detached...
 A. Mmm...does **pro_k** pay a lot?
 B. Well, no, 500 rubles. Then **they_j** said that **pro_j** will cancel the fee, **pro_k** will keep an eye...

In this passage there are three different A-Topics. The first one is an overt pronoun он/on 'he' (2nd line) which is the antecedent of two NSs in the following sentences. Then the conversation shifts to a new A-Topic, namely the 'house' (дом, dom 2nd line). Then the two women resume the previous subject, using a NS once again (cf. 5th line). After that, another topical change occurs: the new A-Topic is introduced by an overt pronoun они/oni 'they' (6th line), probably referring to the house owners. This overt pronoun acts as antecedent for the following NS. The extract ends resuming the first A-Topic through the use of a NS (6th line).³

Observing this simple informal conversation, it is clear that pro-drop in Russian is a particular phenomenon. Indeed Russian seems to be very close to a consistent pro-drop language since NSs are very frequent and, interestingly, they often occur in contexts where there is not a c-commanding antecedent.

The crucial role of c-command in partial pro-drop languages (and specifically in Russian) is clearly challenged.

2.2 Previous Studies on This Subject

Despite its complexity, not many studies have been dedicated to the analysis of pro-drop in Russian. Nevertheless, Authors generally agree that Russian allows NSs only if an antecedent can be recovered either in the co-text or in the context, and that they are not subject to tense-related restrictions. According to these authors, pro-drop in Russian is not licensed by verbal agreement, but by an (extra)linguistic context which allows to recover items frequently omitted on the surface.

Authors generally claim that in subordinate clauses NSs must be coreferential with the matrix subject and subject to a c-command requirement, even when Agreement would allow for a clear-cut interpretation.

Let us now briefly present some of the studies mentioned above.

3 This interpretation is clearly due to contextual reasons and is not syntactically determined.

2.2.1 Matushansky and the Comparison between Russian and Hebrew

Matushansky (1997) proposes a comparison between Russian and another partial pro-drop language like Hebrew. These languages share some properties related to verbal inflection: in both languages the system does not always realize the person feature, specifically this occurs in the Present Tense (*benoni*) in Hebrew and in the Past Tense in Russian. According to the Author, in Russian, so as in Hebrew, «the 3rd person NS must be contextually determined and the tense with no personal inflection disallows NS without context» (Matushansky 1997, § 4). No restriction on tense, instead, applies on embedding.

Specifically, Matushansky (2007) claims that in a subordinate clause NSs must be coreferential with the matrix subject:

- (2) a. **Иван_k** говорит, что завтра **pro_k** едет в Москву.
 Ivan govorit, čto zavtra *pro* edet v Moskvu.
 Ivan.NOM say.PRES.3SG that tomorrow *pro* go.PRES.3SG to Moscow
 'Ivan says that tomorrow (he) will go to Moscow'
- b. ***Иван_k** говорит, что завтра **pro_j** еду в Москву.
 Ivan.NOM say.PRES.3SG that tomorrow *pro* edu v Moskvu.
 Ivan govorit, čto zavtra *pro* edu v Moskvu.
 '*Ivan says that tomorrow (I) will go to Moscow'

Some exceptions to this claim are then presented: with the impersonal verb *говорят/govorjat* 'they say' any NS can be embedded, and when the matrix verb is employed parenthetically⁴ rather than to denote an actual event, the matrix clause does not act as a barrier for NSs' antecedents.

2.2.2 Gordishevsky and Avrutin and the Acquisition of Pro-Drop

In their analysis of subject and object omission in child Russian, Gordishevsky and Avrutin (2003) state that Russian only allows for pro-drop in finite clauses only in certain pragmatically motivated contexts, such as answers to wh-questions as in (3):

4 In Matushansky's (1997) terminology, a sentence with 'parenthetical value' refers to matrix sentences without illocutive force, which have only the function of introducing the content of the subordinate clause, without being a barrier for the antecedent of a NS, as in the example below:

- a) Иван_k пишет что pro_k придет.
 Ivan pišet čto *pro* priedet.
 'Ivan writes that (he) will come'

- (3) А. Где Иван_к?
 Gde Ivan?
 'Where is Ivan?'
 В. **pro**_к ушёл домой.
 pro ušël domoj.
 '(He) went home'

According to these authors, NSs in Russian are not licensed by verbal agreement or other morpho-syntactic factors: following Franks (1995) who assumes that in Russian «items recoverable from the context are frequently omitted on the surface» (1995, p. 307), they suggest that subjects can be null when their antecedents can be recovered from the (extra) linguistic context.

Moreover, they underline that in Russian pro-drop is a mere optional strategy: it means that the use of overt pronouns does not cause any change in emphasis or stress, unlike consistent pro-drop languages.

2.2.3 Tsedryk and Embedded NSs

Interestingly, Tsedryk (2013) focuses his attention on the differences between embedded (E-) and matrix (M-) finite NSs in Russian, suggesting that M-NSs are licensed in an A'-position, while E-NSs are not.

The Author argues that E-NSs must have a matrix antecedent, they are subject-oriented and subject to obligatory control, that is to say, requirements such as Local c-command and the unavailability of split-antecedence.

Moreover, E-NSs are subject to a 'nominative chain': they can only be marked for nominative case and can only have a nominative antecedent. This is shown in (4):

- (4) а. **Лена**_к сказала, что **pro**_к делает уроки.
 Lena skazala, čto pro delaet uroki.
 Lena.NOM say.PST.F.SG that pro do.PRES.3SG homework
 'Lena said that (she) is doing her homework'
 б. ***Лене**_к кажется, что **pro**_к допустила ошибку.
 Lena kažetcja, čto pro dopustila ošibku.
 Lena.DAT seem.PRES.3SG that pro make.PST.F.SG mistake.ACC
 '*To Lena it seems that (she) made a mistake'

On the contrary, M-NSs are not subject to the nominative chain condition:

- (5) Я только что видел Лёну_k. *pro*_k Сказала, что наш
 Ja tol'ko čto videl Lehu. *pro* Ckazala, čto naš
 I.NOM just see.PST.M,SG Lena.ACC *pro* say.PST.F.SG that our
 дом продан.
 dom prodan.
 house sell.PART.PST
 'I have just seen Lena (ACC). (She) said that our house was sold'

Furthermore, M-NSs cannot have an indefinite antecedent and are blocked by a category located on the left edge of the clause. On the contrary, E-NSs allow for indefinite antecedents and do not interfere with fronted material, unless the Complementizer *что/что* 'that' is missing.

The Author concludes that M-NSs in Russian are null topics, analyzed as a *pro* moved to the C-domain where, following Sigurðsson (2011), there is a C-edge linking feature which licenses the null topic. Differently, E-NSs are not linked to C, but 'they are part of a nominative chain connecting both clauses across the Complementizer *что*/'that'.

3 Data and Analysis from an Original Study

Once morpho-syntactic factors are challenged in the licensing of NSs in Russian, we face the intriguing task of determining the factors that allow subject omission in this language.

3.1 Methodology and Diagnostics

The inconsistencies between traditional rules (adopted in written language) and naturalistic data taken from spoken language, the specificity of pro-drop in Russian, and the few studies dedicated to this theme led us to carry out a field work research to clarify this phenomenon.

For this purpose, we created an online survey composed of 77 questions about the grammaticality and the interpretation of 28 sentences with NSs, spread through a specific online program (Mazzulli, 2014).⁵

The survey was created focusing the attention on matrix and subordinate sentences in which the use of NSs is generally considered ungrammatical by

⁵ The native informants were both male and female, from 17 to 65 years old, and the majority of them were Russian nationals. The 80% had a university education with humanistic orientation and previous general linguistics knowledge.

traditional rules: the aim was to understand whether the limits set by the norm are actually working also in the spontaneous language of native speakers.

In particular, Control and Locality requirements (and related intervention effects) were tested in order to verify their traditionally supposed central role in the licensing of NSs in partial pro-drop languages.

The survey was carried out by about 140 native speaker respondents. Informants were usually asked to provide a grammatical judgment expressed through a binary option 'OK/NO'. When the answer was positive, a second question was asked about the interpretation of *pro*, providing three different options (see Tables below).

3.2 NS Embedded under a Bridge Verb

As mentioned above, according to the most recent literature (cf. among others, Holmberg, Nayudu, Sheehan 2009, Matushansky 1997, Tsedryk 2013) embedded NSs in partial pro-drop languages are necessarily co-referential with the matrix subject or with the closer controlling phrase in a superordinate clause and that their licensing strictly depends on that.

Let us first consider the case in which a *pro* is embedded under a so-called 'bridge verb'.⁶ Informants were provided sentences like (6) and (7) below:⁷

- (6) Лев сказал, что *pro* купил дом.
 Lev skazal, čto *pro* kupil dom.
 Lev.NOM say.PST.M that *pro* buy.PST.PERF.M house.ACC
 'Lev said that *pro* bought a house'

- (7) Мария считает, что *pro* хорошо выступит
 Marija sčitает, čto *pro* chorošo vystupit
 Mary.NOM think.PRES.3SG that *pro* well perform.FUT.3SG
 в соревновании.
 v sorevnovanii.
 in competition.PREP
 'Mary thinks that *pro* will do well in the competition'

6 'Bridge verbs' are so called insofar as they have the function of stating explicitly the illocutive act of the sentence, creating a bridge between the speaker and the statement. Performative verbs (verbs, such as promise, invite, apologize, and forbid, that explicitly conveys the kind of speech act being performed), reporting verbs (verbs that are used to say something, such as say, swear, deny, state) and opinion verbs (suppose, hypothesize, judge, believe, think, imagine, etc.) are examples of this kind of verbs.

7 The abbreviation prep stands for 'prepositional case'. It is used to designate adverbial clauses of place, or a person or object being talked or thought about.

Sentences like these have been judged as grammatical by the totality of Russian speakers, as in a consistent pro-drop language (Frascarelli, forthcoming). As for the interpretation of the embedded NS, the informants were asked to choose the antecedent between 3 possible alternatives:

Who is *pro*?

- a. Lev/Mary (antecedent = subject)
- b. Somebody else (external antecedent)
- c. Both (ambiguous reading)

The following Table compares the relevant interpretative judgments in Italian and Russian:

Table 1. *pro* embedded under a bridge verb

	a (subject)	b (external antecedent)	c (ambiguous reading)
ITA	24%	31%	45%
RUS	34,2%	21,75%	44,05%

As we can see, interpretative data do not differ significantly in the two languages. Russian informants also show a preference for an ambiguous reading and a significant part of them allows for an exophoric reference. Only 1/3 of informants require subject antecedence, showing that the interpretation of *pro* in Russian is not strictly dependent on Local Control.

The same conclusions can be reached if we take into account the data concerning structural contexts in which two c-commanding feasible antecedents are available. Consider the following sentence, and the following Table:⁸

- (8) Фёдор сказал, что Иван думает, что *pro* заплатил
 Fëdor skazal, čto Ivan dumaet, čto *pro* zaplatil
 Fjodor.NOM say.PST.M that Ivan.NOM think.PRES.3SG that *pro* pay.PST.M

слишком много за свою машину.

sliškom mnogo za svoju mašinu.

too much for his car.ACC

'Fjodor said that Ivan thinks that *pro* paid too much for his car'

⁸ From here on, for the relevant judgments on Italian sentences see Frascarelli (forthcoming).

Table 2. The interpretation of a double-embedded pro

a (non local subject)	b (local subject)	c (both)
15,7%	19,6%	64,7%

As we can see, Locality does not seem to be compelling in this case as well, since an ambiguous reading gets 2/3 of preferences.

The situation is slightly different if a negation is present in the main clause. As is commonly acknowledged, negation can trigger intervention effects – a property that is partially confirmed by our data. Let us consider the following sentences and the relevant results in Table 3:

- (9) Мария сказала, что Анна не считает, что *pro*
 Marija skazala, čto Anna ne sčitaet, čto *pro*
 Mary.NOM say.PST.F that Anna.NOM not think.PRES.3SG that *pro*
 заплатила слишком много за машину.
 zaplatila sliškom mnogo za mašinu.
 pay.PST.F too much for car.ACC
 'Mary said that Anna doesn't think that *pro* paid too much for the car'
- (10) Иван не сказал, что Лев думает, что *pro*
 Ivan ne skazal, čto Lev dumaet, čto *pro*
 Ivan.NOM not say.PST.M that Lev.NOM think.PRES.3SG that *pro*
 выиграет соревнование.
 vyigraet sorevnovanie.
 win.FUT.3SG competition.ACC
 'Ivan didn't said that Lev thinks that *pro* will win the competition'

Table 3. The interpretation of a double-embedded pro with negation

a (non local subject)	b (local subject)	c (both)
17,3%	46,2%	36,5%

Comparing Table 3 with Table 2, we can immediately notice that the Locality requirement is stronger in the presence of a negation, but *not compelling* since an ambiguous reading still gets 1/3 of preferences and some speakers select the non-local antecedent option.

Let us now consider sentences similar to (6) and (7), in which an overt pronoun is realized in the embedded clause. This represents an interesting result since a dichotomy is often proposed in the interpretation of null vs. overt pronouns.

In particular, Filiaci, Sorace, Carreiras (2013, p. 4) argue that «expressions that are highly informative, rigid and phonologically more conspicuous are used to retrieve non-accessible antecedents, whereas informationally poor, ambiguous and phonologically attenuated expressions are used to retrieve highly accessible antecedents». This means that overt pronouns are context-oriented, while NSs are structurally (subject) controlled.

This generalization is however strongly challenged by data concerning the interpretation of NSs, as we have seen in Table 1. Let us now consider whether it is supported by overt pronouns in our survey:

- (11) Лев сказал, что **он** купил дом.
Lev skazal, čto **on** kupil dom.
'Lev said that **he** bought a house'
- (12) Мария считает, что **она** хорошо выступит в соревновании.
Marija sčitaet, čto **ona** chorošo vystupit v sorevnovanii.
'Mary thinks that **she** will do well in the competition'

Table 4. vert pronouns under a bridge verb

a (subject)	b (external antecedent)	c (ambiguous reading)
44%	10,4%	45,6%

The results in Table 4 show that an overt pronoun does not obtain a clear-cut interpretation as well. Indeed, if we compare these data with those in Table 1 we can notice that percentage values do not differ in a significant way and that overt pronouns and NSs receive similar interpretations.

Finally consider the interpretation of pronouns in double-embedding contexts (parallel to (9)-(10)):

- (13) Мария сказала, что Анна не считает, что **она** заплатила
Marija skazala, čto Anna ne sčitaet, čto **ona** zaplatila
слишком много за машину.
cliškom mnogo za mašinu.
'Mary said that Anna doesn't think that **she** has paid a lot for the car'
- (14) Иван не сказал, что Лев думает, что **он** выиграет соревнование.
Ivan ne skazal, čto Lev dumaet, čto **on** vyigraet sorevnovanie.
'Ivan didn't say that Lev thinks that **he** will win the competition'

Table 5. Overt pronouns with two possible antecedents

a (non local subject)	b (local subject)	c (both)
17,3%	23,1%	59,6%

Once again, data do not allow for any clear-cut generalization. As a matter of fact, the non-local subject is the least preferred and ambiguity is always the best option.

3.3 NS Embedded under Factive Verbs

Let us now consider the case of a *pro* embedded under a factive verb. Factive verbs (such as realize, know, understand, regret, etc.) presuppose the truth of the embedded clause that serves as their complement. The informational content of the embedded clause is therefore assumed to be part of the hearer's Common Ground:

- (15) Ивану жаль, что Лев думает, что *pro* проиграет
 Ivanu žal', što Lev думаet, što *pro* proigraet
 Ivan.DAT be sorry that Lev.NOM think.PRES.3SG that *pro* lose.FUT.3SG
 соревнование.
 sorevnovanie.
 competition. ACC
 'Ivan is sorry that Lev thinks that *pro* will lose the competition'
- (16) Иван рад, что Лев думает, что *pro* выиграет
 Ivan rad, što Lev думаet, što *pro* vyigraet
 Ivan.NOM happy that Lev.NOM think.PRES.3SG that *pro* win.FUT.3SG
 'Ivan is happy that Lev thinks that *pro* will win the competition'

Table 6. Pro embedded under factive verbs

a (non local subject)	b (local subject)	c (both)
17,4%	33,9%	48,7%

If we compare the data in Table 6 with those in Table 2 (concerning bridge verbs), we can see that the major difference is a stronger preference for the local subject, even though ambiguity still qualifies as the best option.

This is an interesting result since factive verbs presuppose the propositional content of the embedded clause and an A-Topic (requiring illocutionary force, cf. Bianchi, Frascarelli 2010) is not expected to sit in the

left periphery of such embedded clauses. This means that the local subject must be interpreted as the 'low copy' (i.e., an Aboutness G-Topic) of a matrix A-Topic, which is clearly silent in the relevant examples. Factive verbs thus support the existence of (and the empirical need for) silent A-Topics in matrix C-domains).⁹

Finally notice that factive verbs in Russian very often require a non-nominative subject (as in the case of 'be sorry', cf. (15)). It is thus feasible to suppose that the low preference for the matrix (non-local) subject in this set of examples is also connected to a Nominative requirement (in the spirit of Tsedryk, 2013), which is not, however, a compelling restriction.¹⁰

The use of an overt subject does not help disambiguation also in this case, as it can be seen in the following Table:

Table 7. Overt pronouns under factive verbs

a (non local subject)	b (local subject)	c (both)
20%	19,2%	60,8%

3.4 Interface Visibility Condition (for Partial NS Languages)

In her work on Finnish pro-drop Frascarelli (forthcoming) also attested a similar scenario in Finnish. The author suggests a reinterpretation of the syntactic Locality condition in terms of an Interface requirement, this is to say, a requirement operating at the interpretive levels of grammar (PF, LF), allowing for a higher degree of 'flexibility'. This Interface condition operates in partial pro-drop languages and is formulated as follows:

- (17) Interface Visibility Condition (IVC) (Frascarelli M. forthcoming)
 Minimal overt links optimize the interpretation of Topic chains at the (PF, LF) interfaces.

Hence, according to Frascarelli (forthcoming) the difference between partial and consistent pro-drop languages can be reduced to the fact that in the former a *pro* is preferably (but not necessarily) interpreted as referring to the closest overt link in a Topic-chain.

In order to understand the relevant proposal, it is necessary to provide some details about the notion of the A-Topic, mentioned in § 1. In Frascarelli (2007) it is argued that the interpretation of referential NSs depends on a

⁹ For further details on the subject, see Bianchi, Frascarelli (2010) and Frascarelli, Hinterözl (2007).

¹⁰ We will resume the factor of the Case of the antecedent in the following paragraphs.

matching relation (Agree) with a specific type of Topic. This is identified with the A-Topic (Frascarelli, Hinterhölzl 2007) merged in the highest Top projection in the C-domain. This Topic is endowed with the [+aboutness] edge feature – proposed as an ‘extended EPPfeature’ – and has the function of newly proposing or reintroducing a topic in the discourse (for details, cf. Frascarelli, Hinterhölzl 2007). A Topic Criterion is thus proposed that correlates core grammar with discourse requirements and accounts for the syntactic identification of referential *pro*. Since every predicational sentence contains a position endowed with the [+aboutness] feature in the C-domain, it is crucial to assume that within discourse ‘predication’ can imply a multiclausal domain, in which chains of clauses are combined and refer to the same A-Topic. This means that, once established [+aboutness] is maintained continuous – and possibly silent – across sentences. This Criterion is formulated as follows:

(18) Topic Criterion (Frascarelli 2007)

- a) [+aboutness] is connected with an EPP feature in the high Topic field that yields a specific discourse-related property, namely ‘Aboutness’;
- b) The [+aboutness] Topic matches with an argument in the main clause through Agree;
- c) When continuous, the [+aboutness] Topic can be null (i.e., silent).

In Frascarelli (forthcoming), evidence is provided that the Topic Criterion combined with the IVC can also account for a partial NS language like Finnish. In this paper we intend to propose that the Topic Criterion and the IVC are operative in Russian as well. This can explain both the data examined so far and additional data, to be presented below.

3.5 NSs in Adverbial Clauses: Conditionals vs. Temporal Clauses

The grammaticality and interpretation of NSs in Russian was also tested in temporal and conditional clauses. Consider the following sentences:

(19) Когда *pro* идёт в школу, Мария ест яблоко.
 Kogda *pro* idët v školu, Marija ect jabloko.
 When *pro* go.PRES.3SG to school.ACC Mary.NOM eat.PRES.3SG apple.ACC
 ‘While *pro* goes to school, Mary eats an apple’

(20) Если *pro* закончит работу, Лев может прийти.
 Esli *pro* zakončit rabotu, Lev možet prijti.
 If *pro* finish.FUT.3SG work.ACC Lev.NOM can.PRES.3SG come.INF
 ‘If *pro* finish the work, Lev can come’

Surprisingly, grammatical judgments greatly differ according to the type of adverbial clause. Indeed, the sentence with a NS in the temporal clause is widely accepted as grammatical, while a NS in a conditional clause is rejected by the major part of the informants:

Table 8. Pro in temporal and conditional clauses

	OK	NO
TEMP	57,9%	42,1%
COND	22,2%	77,8%

These data seem to suggest the existence of an important difference in the semantic nature (and in the relevant syntactic mapping) of these two types of adverbial clauses.¹¹

Many works have been recently dedicated to adverbial clauses and to their structural analysis. In particular, Haegeman (2008) has proposed a distinction between central and peripheral adverbial clauses and, more recently, the Author has argued that while temporal clauses are directly generated in the position in which they appear in the Surface Structure, conditionals are reconstructed and realized in a different position with respect to the original (semantic) mapping. After the relevant movement (fronting) the conditional clause blocks any other process, as, in this case, the relation between the subject and the NS (Haegeman 2008).

This explanation is supported by the observation that judgments significantly change if the conditional sentence follows the matrix clause (i.e., when it is realized in its original position):

- (20b) Лев может прийти, если *pro* закончит работу.
 Lev možet prijiti, esli *pro* zakončit rabotu.
 'Lev can come if *pro* finish the work'

Sentence (20b) was considered acceptable by 50% of the informants (with respect to 22,2% for sentence (20)). Moreover, all the informants who gave a positive judgment for (20b) preferred the matrix subject (*Lev*) as antecedent, but they also accepted an exophoric reference if there is a clear (extra)linguistic context.

¹¹ This difference remains hidden in languages as Italian, in which sentences like (19)-(20) are both equally accepted by all informants.

3.6 The Interpretation of NSs against Control and Locality

A consequence of the Locality Condition (Holmberg, Nayudu and Sheehan 2009) is that in a partial pro-drop language a Control relation across another subject should not be allowed, even if the intervener's φ -features are incompatible with the relevant NS.

The Authors thus claim that native speakers of Finnish, Brazilian and Marathi will not accept sentences equivalent to the one provided in (20) below (which are fine – and ambiguous – in a consistent pro-drop language like Italian):

- (21) Leo ha detto che i bambini credono che *pro* andrà
 'Leo said that the children believe that *pro* will go(3SG)
 dal dottore. (Italian)
 to the doctor'

This prediction has been tested for Russian through the following sentences:

- (22) No c-commanding antecedent (embedded in the subject DP)
 Разговор Льва дал понять, что *pro* не был
 Razgovor L'va dal ponjat', čto *pro* ne byl
 talk.NOM Lev.GEN give.PST.M.SG understand.INF that *pro* NEG be.PST.M.SG
 виновен.
 vinoven.
 guilty
 'Lev's talk made understand that *pro* was not guilty'
- (23) Control across a 3rd person singular local antecedent
 Мария сказала, что Анна думает, что *pro* выиграет
 Marija skazala, čto Anna dumaet, čto *pro* vyigraet
 Mary.NOM say.PST.F.SG that Anna.NOM think.PST.F.SG that *pro* win.FUT.3SG
 соревнование.
 sorevnovanie.
 competition.ACC
 'Mary said that Anna thinks that *pro* will win the competition'

- (24) Control across a 3rd person plural local antecedent
 Лев сказал, что дети верят, что *pro* пойдёт
 Lev skazal, čto deti verjat, čto *pro* pojdët
 Lev.NOM say.PST.M.SG that children believe.PRES.3PL that *pro* go.FUT.3SG
 к врачу.
 к врачу.
 to doctor
 'Lev said that children believe that *pro* will go to the doctor'
- (25) Control across a 1st person local antecedent
 Мария сказала, что я думала, что *pro* выиграет
 Marija skazala, čto ja dumala, čto *pro* vyigraet
 Mary.NOM say.PST.F.SG that I.NOM think.PST.F.SG that *pro* win.FUT.3SG
 соревнование
 sorevnovanie.
 competition.ACC
 'Mary said that I thought that *pro* will win the competition'

As usual informants were asked to provide a grammatical judgment and, when the answer was positive, a second question was asked about the interpretation of *pro*. The data are the following:

Table 9. Grammaticality judgments

	Grammaticality	
	OK	NO
(22)	37,5%	62,5%
(23)	75%	25%
(24)	56%	44%
(25)	44,5%	55,5%

Table 10. Interpretation of *pro*

	if OK (who is <i>pro</i> ?)		
	non-local subject	somebody else/ local subject	Both
(22)	55,5%	0%	45,5%
(23)	33,3%	66,7%	-
(24)	100%	0%	0%
(25)	25%	50%	25%

As we can see, results are once more very controversial and do not allow for a clear-cut generalization. Nevertheless, we can reach a preliminary conclusion, namely: neither Control nor Locality are compelling requirements to license a NS in a partial pro-drop language like Russian.

Table 9 clearly shows that positive judgments always score around 40/50%, and in two cases (23-24) they clearly overscore negative answers.

In particular, (23) seems to be the less problematic construction for non-local licensing. It provides the same context proposed in example (8), namely a complex sentence in which two possible antecedents are available for *pro*, a local one and a non local one. As it is shown, the construction is widely accepted as grammatical (75%) and, though the local antecedent is preferred, the non local antecedent takes almost 1/3 of preferences.

Also in a context like the one provided in (24) the interpretation of *pro* in the embedded sentence is not problematic for the majority of speakers. And since *pro* cannot refer to *children* (because of their different φ -features), the non-local antecedent is the only choice (*Lev*). Interestingly, percentages change if we use an overt pronoun instead of *pro*:

- (24') Лев сказал, что дети верят, что он пойдёт
 Lev skazal, čto deti verjat, čto on pojdët
 Lev.NOM say.PST.MASC.SG that children believe.PRES.3PL that he go.FUT.3SG
 к врачу.
 k vraču.
 to doctor
 'Lev said that children believe that he will go to the doctor'

	Lev	somebody else	Both
(24')	65,4%	0%	34,6%

As we can see, more than 30% of the informants considers both *Lev* and 'somebody else' as the possible antecedents of the overt pronoun, showing that overt pronouns slightly induce for a context-oriented interpretation.

Consider now sentence (25). In Frascarelli (forthcoming) it is claimed that 1st/2nd person arguments do not interfere in A-Topic chains in Italian. It is suggested, with Sigurdsson (2011), that 1st/2nd person features are encoded in distinct positions in the C-domain, so that they create independent chains. Observing the data in Table 9, this working hypothesis is challenged in a language like Russian. As we can see, 1st person intervener seems to influence grammaticality (55% of the informants rejects the sentence at all and only 11% (i.e., 25% of 44,5% accepting this sentence) of them accepts the matrix subject as the antecedent of *pro*).

However, this result can be given an explanation comparing (25) with the following sentence:

- (25') Мария сказала, что я думала, что *pro* выиграла
 Marija skazala, čto ja dumala čto *pro* vyigrala
 Mary.NOM said.PST.F.SG that I.NOM think.PST.F.SG that *pro* win.PST.F.SG
 соревнование.
 sorevnovanie.
 competition.ACC
 'Mary said that I thought(FEM) that *pro* won(FEM) the competition'

	OK	NO	if OK (who is <i>pro</i> ?)	
(25')	57%	43%	25% Mary	75% I

As we can see, results are quite different from (25). The difference between these two sentences is in the φ -features expressed in the past tense of the most embedded verb. In Russian the past tense is specified by gender and number, but not for person. Therefore 'выиграла'/vyigrala can indistinctly refer to any singular person (1st, 2nd or 3rd) provided it is feminine. We can thus conclude that even though in Russian the licensing of NSs is not conditioned by the tense itself, this can be important because of its φ -features: in (25') the antecedent of *pro* might be both the 3rd person subject in the matrix sentence, and the 1st person local subject. Consistent with Condition (17) the local antecedent is preferred; however the feature FEM minimally facilitates somehow the antecedence of the farther referent too (indeed, the percentage of this option in the sentence 25' is higher than in the sentence 25).

The tense 'homogeneity' and the possible co-reference with the intermediate overt subject are probably the reasons why this sentence is more accepted than the one in (25) in which the embedded verb conveys a future tense (that is marked by number).¹²

Let us now analyze the less accepted context, namely sentence (22) in which the intended antecedent does not c-command *pro*. The strong marginality attested seems to support an important role for c-command (more than Locality). However, this result can be also due to the fact that the antecedent (*Lev*) bears genitive case and, thus, it is qualified as a 'bad antecedent' for a subject *pro*. The importance of NOM for the licensing and

¹² In this paper we cannot deal with the relation between φ -features and NSs in detail, nor can we properly treat the role of Tense in the licensing of NSs. For an extensive discussion on the matter, see Franks (1995, p. 302) and Garzonio (2005, p. 136).

the interpretation of NSs in Russian will be further discussed providing other examples in the following paragraphs.¹³

In order to better analyze the role of c-command in the absence of additional disturbing elements, a grammatical judgment has also been asked for the following sentence, where the embedded DP is marked for NOM:

- (22') Мария и Лев доказали, что *pro* не был виновен.
 Marija i Lev dokazali, čto *pro* ne byl vinoven.
 Mary.NOM and Lev.NOM prove.PST.PL that *pro* not be.PST.M.SG GUILTY
 'Mary and Lev proved that *pro* was not guilty'

The grammaticality judgments given on this sentence are given in the following Table, showing that c-command is indeed an important requirement in Russian pro-drop:

	OK	NO
(21')	25%	75%

Even though data are very complex and far from clear-cut, we can conclude this part of the analysis arguing that Locality does not seem to be a compelling condition in partial pro-drop languages.

¹³ An anonymous reviewer suggested that the 'bad' results of this sentence can also be due to the fact that *разговор/razgovor* is used in the meaning of 'talk', while it is better translated with 'conversation'. In order to verify his/her intuition, we asked for informants' judgment about the following sentence:

- a) Объяснение Льва дало понять, что *pro* не
 Ob'jasnienie L'va dalo ponjat', čto *pro* ne
 explanation.NOM Lev.GEN give.PST.M.SG understand.INF that pro NEG
 был виновен.
 byl vinoven.
 be.PST.M.SG guilty
 'Lev's explanation made understand that *pro* was not guilty'

	OK	NO
a)	25%	75%

As we can see, the sentence is mostly rejected also in this case. In particular, informants commented that this sentence cannot be accepted without an overt pronoun.

3.7 Silent A-Topics as Chain Heads

As is argued in Frascarelli (forthcoming), in consistent NS languages Topic chains can also be started by a silent A-Topic (i.e., no overt link is required). Partial NS languages are, instead, supposed to require at least an overt link in the A-Topic chain (according to the Interface Visibility Condition in (17)).

Let us see whether this prediction is borne out in Russian through the following examples in which a *pro* is realized in matrix sentences:

- (26) Intended antecedent: SUBJ vs. Topic/INSTR SUBJ in the previous sentence
 Со Львом (ТОР) Иван ещё не говорил: *pro* не успел.
 So L'vom Ivan eščë ne govoril *pro* ne uspel.
 With Lev.INSTR Ivan.NOM yet not talk.PST.M *pro* not have.time.PST.M
 'To Lev, Ivan has not talked yet: (he) has not have time'
- (27) Intended antecedent: SUBJ vs. argument DP in the Comment of the previous
 Иван поговорил со Львом вчера. Теперь *pro* понял,
 Ivan pogovoril so L'vom včera. Teper' *pro* ponjal,
 Ivan.NOM talk.PST.M with Lev.INSTR yesterday Now *pro* understand.PST.M
 что произошло.
 čto proizošlo.
 what happen.PST.N
 'Ivan talked to Lev yesterday. Now (he) has understood what happened'
- (28) Я хочу тебя познакомить с Иваном: *pro*
 Ja choču tebjja poznaomit'cja s Ivanom: *pro*
 I.NOM want.PRES.1SG you.ACC get.acquainted.INF with Ivan.INSTR *pro*
работает врачом
rabotaet vračom.
 work.PRES.3SG doctor.INSTR
 'I want to introduce Ivan to you: (he) works as a doctor'
- (29) Intended antecedent: SUBJ vs. non-argument DP in the Comment of the
 previous sentence
 Иван пошёл в кино со Львом. Я знаю, что
 Ivan pošël v kino so L'vom. Ja znaju, čto
 Ivan.NOM go.PST.M to cinema.ACC with Lev.INSTR I.NOM know.PRES.1SG THAT
pro был очень рад.
pro byl očen' rad.
pro be.PST.M very happy
 'Ivan went to the cinema with Lev. I know that (he) was very happy'

- (30) Ивану не нравится гулять со Львом: *pro* не любит
 Ivanu ne nraivitcja guljat' so L'vom: *pro* ne ljubit
 Ivan.DAT not like.PRES.3SG stroll.INF with Lev.INSTR *pro* not love.PRES.3SG
 бывать с людьми.
 byvat' s ljud'mi.
 stay.INF with people.INSTR
 'Ivan (DAT) doesn't like going out with Lev: (he) doesn't love staying with people'
- (31) Конференция была представлена Иваном. Потом *pro* пошёл
 Konferencia byla predctavlena Ivanom. Potom *Pro* pošël
 conference.NOM be.PST.F present.PP.F Ivan.INSTR then *pro* go.PST.M
 на урок.
 na urok.
 to lesson.ACC
 'The conference has been presented by Ivan. Then (he) went to lesson'

Table 11. Silent A-Topic as heads of Topic-chain

	Grammaticality	
	OK	NO
(26)	57%	43%
(27)	62,5%	37,5%
(28)	46,3%	53,7%
(29)	40%	60%
(30)	37,5%	62,5%
(31)	44,3%	55,7%

Table 12. interpretation of *pro* in Topic-chains headed by a Silent A-Topic

	if OK (who is <i>pro</i> ?)		
	Ivan	Lev/somebody else	Both
(26)	96%	2%	2%
(27)	34,8%	15,7%	49,5%
(28)	100%	0%	0%
(29)	15%	10,6%	74,4%
(30)	52,5%	19%	28,5%

As data show, an overt link is not compelling in Russian to obtain a grammatical NS structure: also in this case percentages show a large degree of variation in acceptance.

In order to study in detail this case, let us take again into account what is stated by Tsedryk (2013). The Author claims that NSs in embedded sentences can only have an antecedent in the matrix sentence that is marked for NOM ('Nominative Chain', Tsedryk 2013) and that this condition is not required for NSs in matrix sentences.

Our data partly support this hypothesis. Indeed, positive judgments (above 50%) have been given for sentences in which a NOM antecedent is present (26-27). However, the present results show that the Case of the antecedent is important **in matrix sentences as well**. Indeed, the less accepted sentence is the one in which there is no possible NOM antecedents (30): in this example either the matrix subject or the second possible antecedent are not marked for NOM. Hence, even if NOM is not a compelling syntactic constraint, it seems to be important for Interface visibility (17).¹⁴

We can go through the same reasoning examining the sentence in (31). This is a passive sentence in which the <agent> of the verb (*Ivan*) is an adjunct, marked for instrumental case (INSTR), while the <patient> (*the conference*) has the subject function and it is marked for NOM. However, the latter cannot be considered a possible antecedent of *pro*, because they are incompatible from a semantic point of view. This is why this sentence does not sound so natural to native speakers.

The example in (29) provides a different case. Although this sentence contains a possible antecedent in the 'nominative' case, it is only accepted by 40% of informants. We can try to find a probable explanation focusing on the sentence that contains *pro*: we notice that the sentence with the NS is embedded under a root sentence with a 1st person subject that clearly interferes with the co-referential relation of *pro* and its possible antecedents contained in the previous sentence¹⁵. The cause of this additional 'blocking effect' can be again the past tense: the inflection of the relevant verb is not marked for person and can be compatible, from a morpho-syntactic point of view, with a 1st person antecedent. Hence, this creates an intervening effect.

In conclusion, we can claim that Russian seems to accept, at least partially, the use of NSs when the Topic-chain does not include an overt 'first link': *pro* in a separated sentence is judged as grammatical especially in simple sentences with a NOM referent.

¹⁴ For an additional discussion on the importance of NOM related to the notion of inversion, see Bailyn (2004).

¹⁵ We notice once again that 1st and 2nd person subjects in Russian interfere with the acceptability of 3rd person null subject (cf. ex. 25-25').

4 Conclusion

Based on the analysis provided, we conclude that Russian can be hardly set in the syntactic frame of conditions assumed for partial pro-drop languages.

First of all, the data strongly question the crucial role of some factors, such as c-command and Locality. These constraints are traditionally considered the main requirements for the licensing and the interpretation of NSs in partial pro-drop languages and are supported by several Authors who specifically studied this phenomenon in Russian (among others, Matushansky (1997) and Tsedryk (2013)). On the contrary, our analysis showed that these requirements do not seem to limit the licensing and interpretation of NSs in a categorical way.

Specifically, the data examined (a) seriously challenge the general assumption according to which embedded NSs must necessarily co-refer with the local subject; (b) these show that the embedded *pro* can be oriented towards an exophoric element and that ambiguity is usually the best option; (c) they show that Russian, once again in contrast with what is usually claimed in literature, does not **compulsorily** reject a control relation through another subject or in contexts of no local c-command, (d) nor the use of NSs when the Topic-chain lacks overt links: even if not to the same extent and frequency observed in a consistent pro-drop language, Russian native speakers seem to accept a *pro*-antecedent relation which is interrupted by intermediate elements and to prefer a silent local antecedent to an overt but far antecedent (in contrast with Condition (17)). Moreover, we have seen that overt pronouns do not help disambiguation as well as NSs, receiving similar interpretations.

An interesting result also concerns the Case of the antecedent: we observed that, both for NSs in matrix sentences and NSs in embedded sentences, Case marking influences visibility of antecedents and the interpretation of *pro*. However, a relation between *pro* and a non nominative DP is not compulsorily rejected.

Nevertheless, results are far from clear-cut and a definite hypothesis is difficult to be formulated.

Let us now resume Frascarelli's (forthcoming) hypothesis and the IVC (17) that the Author proposes as a 'mesoparameter' of partial pro-drop languages. According to (17) the predication is that «a) the [+aboutness] feature is connected with a P(honological)-feature in Shift°, satisfying the interface requirement that (at least) one link of the Topic chain be visible at the interface levels; and b) minimal (semantically eligible) overt links optimize the interpretation of Topic chains at the (PF, LF) interfaces». Our data show that prediction (a) is not met in Russian: Topic-chains with a Silent A-Topic head are partially accepted, especially in the case of structurally simple sentences. However, prediction (b) is borne out, as is shown by cases like (13), (14), (15), (16), (21) and (27).

The data discussed above show that Russian often seems to be closer to a consistent pro-drop language (like Italian) than to a partial pro-drop language (like Finnish). However, we do not intend to claim that Russian is a consistent pro-drop language: the use of NSs is a typical strategy of the spoken language, limited to particular contexts and strongly influenced, **but not obligatorily**, by requirements such as c-command and Locality.

Therefore, it is necessary to propose a hypothesis to account for the difference between Russian and consistent pro-drop languages and its partial pro-drop status. For this reason, we assume, following Frascarelli (2014) and Frascarelli (forthcoming), that *pro* in Russian is identified through Agree with the local A-Topic: the latter acts as a probe that identifies the NS and transmits to it the [+aboutness] feature and the ϕ -features that are necessary for the interpretation of a referential *pro*.

Then, excluding syntactic requirements to account for its 'weak partiality', we propose a specific Interface Visibility Condition for Russian. Taking into account the several factors analyzed in this paper and the different influence they have on the licensing of NSs, this Condition can be formulated as follows:

- (32) Interface Visibility Condition (for Russian)
- a. Minimal links optimize the interpretation of Topic chains at the (PF, LF) interfaces;
 - b. In an A-Topic chain [+NOM] antecedents are preferred.

In conclusion, based on informants' judgments on an original online survey, this paper has provided evidence that the conditions generally assumed for NS licensing – Locality and c-command – do not totally hold for this language. Our major proposal is that the licensing of referential *pros* does not solely depend on syntactic requirements but also, and more effectively, on discourse configurations, that is to say, on the fact that a *pro* is probed by a local [+aboutness/+shift] Topic by means of an Agree relation. Therefore, the present paper proposed an Interface Visibility Condition specific for Russian, in line with Frascarelli's (in press) proposal.

Even though this proposal leaves a number of questions open, we can take it as a working hypothesis for future works, in which strictly syntactic requirements are abandoned for partial *pro*-drop languages and a cross-linguistic interface approach is pursued in full detail. Interesting issues for further research should be, among others, (i) an in-depth comparative study between Russian and other partial pro-drop languages, (ii) additional analyses on the relation between ϕ -features and NSs in order to understand whether and which operators block the Agree relation proposed in the paper, (iii) an extensive comparison between root and embedded NSs. Moreover, a systematic study should be carried on to account

for the importance of NOM Case marking, focusing the attention on other partial pro-drop languages with morphological Case, (such as Latin, Finnish, Ukrainian, Belorussian and Arabic).

Bibliography

- Bailyn, John Frederick (2004). «Generalized Inversion». *Natural Language & Linguistic Theory*, 22, pp. 1-49.
- Bianchi, Valentina; Frascarelli, Mara (2010). «Is Topic a Root Phenomenon?». *Iberia*, 2, pp. 43-88.
- Biberauer, Theresa (2008). *The Limits of Parametric Variation*. Linguistik Aktuell/Linguistics Today. Amsterdam: John Benjamins Publishing Co.
- Biberauer, Theresa; Holmberg, Anders; Roberts, Ian; Sheehan, Michelle (2010). *Parametric Variation: Null Subjects in Minimalist Theory*. Cambridge: Cambridge University Press.
- Cardinaletti, Anna; Starke, Michelle (1999). «The Typology of Structural Deficiency: A Case Study of the Three Classes of Pronouns». In: van Riemsdijk, H. (ed.), *Clitics in the Languages of Europe*. Berlin: Mouton de Gruyter, pp. 145-235.
- Cardinaletti, Anna (1997). «Subject and Clause Structure». In: Haegeman, L. (ed.), *The New Comparative Syntax*. London: Longman, pp. 33-63.
- Chomsky, Noam (1981). *Lectures on Government and Binding*. Dordrecht: Foris.
- Chomsky, Noam (1982). *Some Concepts and Consequences of the Theory of Government and Binding*. Cambridge (MA): MIT Press.
- Franks, Steven (1995). *Parameters of Slavic Morphology*. New York: Oxford University Press.
- Frascarelli, Mara; Hinterhölzl, Roland (2007). «Types of Topics in German and Italian». In: Winkler, S.; Schwabe, K. (eds.), *On information structure, meaning and form*. Amsterdam: John Benjamins Publishing Co., pp. 87-116.
- Frascarelli, Mara (2007). «Subjects, Topics, and the Interpretation of Referential Pro». *Natural Language and Linguistic Theory*, 25, pp. 691-734.
- Frascarelli, Mara (2014). «Avoid Pronoun in Consistent and Partial Pro-drop Languages: A Comparative Interface Analysis». Paper presented at the conference *Understanding Pro-drop: A Synchronic and Diachronic Perspective* (Trento, Università di Trento, 19-21 June 2014). Trento: University of Trento.
- Frascarelli, Mara (Forthcoming). «The Interpretation of Pro in Consistent and Partial NS Languages: A Comparative Interface Analysis». In: Cognola, Federica et al. (eds.), *Understanding Pro-drop*. Oxford: Oxford University Press.

- Garzonio, Jacopo (2005). *Struttura informazionale e soggetti nulli in russo: Un approccio cartografico* [tesi di dottorato]. Padova: Università di Padova.
- Gordishensky, Galina; Avrutin, Sergey (2003). «Subject and Object Omission in Child Russian». In: *Proceedings of IATL 19* (Ben-Gurion University of the Negev, 16-17 June 2003).
- Gordishensky, Galina; Schaeffer, Jeannette (2002). «On Null Subjects in Child Russian». In: Otsu, Y. (ed.), *The Proceedings of the Third Tokyo Conference on Psycholinguistics*. Tokyo: Hituzi Syobo, pp. 115-137.
- Haegeman, Liliane (2008). *The Internal Syntax of Adverbial Clauses*. Paris: Université Charles de Gaulle; Lille III, STL, UMR 8163 CNRS.
- Holmberg, Anders (2005). «Is There a Little Pro? Evidence from Finnish». *Linguistic Inquiry*, 36, pp. 533-564.
- Holmberg, Anders (2010). «Null Subject Parameters». In: Biberauer; Holmberg; Roberts; Sheehan (eds.), *Parametric Variation: Null Subjects in Minimalist Theory*. Cambridge: Cambridge University Press, pp. 88-124.
- Holmberg, Anders; Nayudu, Aarti; Sheehan, Michelle (2009). «Three Partial Null-subject Languages: A Comparison of Brazilian Portuguese, Finnish and Marathi». *Studia Linguistica*, 53 (1), pp. 59-97.
- Jaeggli, Osvaldo; Safir, Ken (1989b). *The Null Subject Parameter*. Dordrecht: Foris.
- Kučerova, Ivona. (2008). «Null Subjects and the Extension Requirement». In: Cao, H.; Galery, T.N.; Scott, K. (eds.), *UCL Working Papers in Linguistics*, 20, pp. 45-62.
- Lambrecht, Knud (1994). *Information Structure and Sentence Form: Topic, Focus and the Mental Representation of Discourse Referents*. Cambridge: Cambridge University Press.
- Matushansky, Ora. (1997). «Partial Pro-drop in Hebrew and Russian». In: *Langues et Grammaire 3, Syntaxe: Communications présentées au colloque Langues et grammaire III* (Paris 1997). Edited by Patrick Sauzet, pp. 145-162. Paris: Département SDL, Université Paris 8.
- Neeleman, Ad; Szendrői, Kriszta (2007). «Radical Pro-drop and the Morphology of Pronouns». In: *Linguistic Inquiry*, 38, pp. 671-714.
- Perlmutter, David (1971). *Deep and Surface Constraints in Syntax*. New York: Holt, Rinehart and Winston.
- Reinhart, Tanya (1981). «Pragmatics and Linguistics: An Analysis of Sentence Topics». *Philosophia*, 27, pp. 53-94.
- Rizzi, Luigi (1982). *Issues in Italian Syntax*. Dordrecht: Foris.
- Roberts, Ian (2007b). *Comparative Grammar: Critical Concepts*, vol. 2, *The Null Subject Parameter*. London: Routledge.
- Roberts, Ian (2010). «A Deletion Analysis of Null Subjects». In: Biberauer; Holmberg; Roberts; Sheehan (eds.), *Parametric Variation: Null Subjects in Minimalist Theory*. Cambridge: Cambridge University Press, pp. 58-87.

- Sigurðsson, Halldór Ármann (2011). «Conditions on Argument Drop». *Linguistic Inquiry*, 42, pp. 267-304.
- Tomioka, Satoshi (2003). «The Semantics of Japanese Null Pronouns and Its Cross-linguistic Implications». In: Schwabe, K.; Winkler, S. (eds.), *The Interfaces: Deriving and Interpreting Omitted Structures*. Amsterdam: John Benjamins Publishing Co., pp. 321-340.
- Tsedryk, Egor (2013). «Internal Merge of Nominative Subjects and Pro-drop in Russian». In: *2013 CLA Conference Proceedings*. Toronto: University of Toronto.
- Volpe, Veronica (2015). *Il parametro del soggetto nullo nelle lingue slave orientali: Russo, ucraino e bielorusso come diverse realizzazioni di lingue a pro-drop parziale* [tesi di laurea]. Roma: Università degli Studi Roma Tre.