Abstract
In this paper a novel approach to (a subpart of) the NS parameter is proposed, in which the interpretation of a thematic pro in subject position is crucially dependent on the syntax and discourse properties of Topic constituents. Based on the analysis of spoken corpora and interface considerations, evidence is provided that preverbal ‘subjects’ sit in an A'-position in a NS language like Italian and that the interpretation of referential NSs depends on a matching relation (Agree) with a specific type of Topic. In a cartographic approach to discourse functions, this is identified with the Aboutness-shift Topic (Frascarelli and Hinterhölzl 2007) that is merged in the C-domain and is endowed with the edge feature [+aboutness] – an ‘extended EPP feature’. A Topic Criterion is thus proposed that correlates core grammar with discourse requirements and accounts for the syntactic identification of a referential pro. The Avoid Pronoun Principle is reinterpreted as a structural condition that implies the existence of silent Topics.

1. Introduction
The contrast between languages that allow subjects of tensed sentences to be null (like Italian, Spanish and Russian) and those that do not (like English, German and French) has been a classic problem for comparative syntactic research. Within the Generative framework of grammar, the possibility of Null Subjects (henceforth, NS) was a major topic in the 80’s, not only regarding the description of cross-linguistic variation, but also for the explanation of language change and acquisition (cf. Jaeggli and Safir eds. 1989). The NS property became especially interesting when evidence was provided for its correlation with a number of other syntactic phenomena (e.g., free subject inversion, that-trace effects): these facts induced scholars to assume the existence of a parameter (Jaeggli 1982; Rizzi 1982; Kenstowicz 1989) and the necessity of a comprehensive explanation. Since then many works have been dedicated to the NS property, revealing new facts concerning different types of NSs (e.g., the contrast between thematic and expletive pro), either in a diachronic approach (Sigurðsson 1993; Duarte 1993) or from a synchronic perspective (Barbosa 1995; Kato 1999; Holmberg 2005).

From a syntactic point of view, it is generally agreed that NSs must meet specific requirements to be licensed. In his seminal paper on the theory of pro, Rizzi (1986) proposes a dual definition for this licensing condition, which attributes a crucial role to the governing X° head:

(1) pro LICENSING CONDITIONS (Rizzi 1986, p. 519-520)
   a. FORMAL LICENSING
      pro is governed by X°.
   b. INTERPRETATION
      let X° be the licensing Head of an occurrence of pro: then pro has the grammatical specification of the features on X° co-indexed with it.

Despite the split between a ‘formal licensing’ and an ‘interpretational requirement’, it is clear from the formulation given in (1) that the identification of a NS totally depends on the $\phi$-features that are specified (i.e., encoded) in the relevant licensing head. In other words, the
formal and content licenser are the same head which, after the IP-split hypothesis, is generally assumed to be the inflectional AgrS° node. Indeed, the possibility of NSs in a given language has been generally attributed to the pronominal character of its agreement morphology and the licensing role of a ‘rich’ inflectional system has been one of the most prevalent hypotheses (cf., among others, Chomsky 1981; Rizzi 1982 and discussion in section 5.1).

Though the existence of a connection between inflectional morphology and subject-drop is plausible, the limits of such an approach have been shown by several authors (cf., among others, Abraham 1993; Huang 2000 for discussion and references), who have proposed alternative explanations of the NS parameter (cf. the ‘morphological uniformity’ analysis in Jaeggli and Safir 1989) and explored the possibility of non-local types of identification (as in Huang’s 1989 ‘control theory’). In a diachronic perspective, one of the most important challenges to the rich agreement hypothesis is provided in Sigurðsson’s (1993) analysis of Icelandic data.

Assuming the validity of this criticism, this paper provides a novel account for the licensing conditions of thematic NSs and, in particular, for the interpretive requirement (1b). Specifically, this paper will concentrate on the use and interpretation of third person subjects in preverbal position. For reasons of space, first and second person pros will not be addressed, nor will NSs of impersonal and weather-verbs, which are beyond the scope of this paper. Therefore, the present analysis is not intended as a general theory about the interpretation of pro, but is rather proposed as a theory of the interpretation of referential NSs in consistent pro-drop languages like Italian.

Based on intonational evidence and discourse-syntax considerations, I will show that the interpretation of a referential pro depends on a matching relation with a specific type of Topic: the so-called ‘Aboutness-shift’ Topic (see section 3.1). In particular, building on Frascarelli and Hinterhölzl’s (2007) work (henceforth, F&H 2007), the existence of three types of Topic is assumed in this paper, which are distinguished by their formal and discourse properties: Aboutness-shift, Contrastive and Familiar Topics (see section 3 below).

Syntactically, they all qualify as clitic-left dislocated (CLLD) constituents (Cinque 1990), hence they are base-generated in the C-domain and connected with a thematic element in the vP-phase by means of a clitic pronoun (when available) that serves as a pronominal variable. Hanging Topics, which have different syntactic properties with respect to CLLD-Topics (see note 13), are not considered in the present analysis.

Though Aboutness-shift, Contrastive and Familiar Topics share a non-movement account, they are not ‘freely merged’ in the left periphery. Based on consistent interface evidence, F&H (2007) refute a free recursion analysis for the TopP projection and propose the following hierarchy (assumed in this paper; see section 3.3 for further details):

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1 I assume AgrSP as the functional projection in which subject agreement is encoded in tensed sentences, as is generally acknowledged for Italian (cf. Belletti and Rizzi eds. 1996; Cinque ed. 2002). This functional role is also assigned to TP in the literature (for different languages). Specifically, SpecTP is used in Chomsky (2004, 2005) as a ‘cover term’ to indicate the syntactic target of subject movement. I assume AgrSP and TP to be equivalent; any further specification is not pertinent for the purposes of the present analysis.

2 Reference to event participants implies additional properties and considerations that cannot be properly addressed in this paper (see also note 41). A comprehensive analysis is, nonetheless, desirable and would be an issue for future research.

3 For important discussion on expletive pro, see Travis (1984); Safir (1985) and Svenonius ed. (2002). On impersonal constructions and the distribution of pro from real expletives to quasi-arguments and full arguments see Cardinaletti (1990); Alba-Salas (2004) and Ackema et al. eds. (2006).

4 It is known, in fact, that the ability to take NSs is not a binary matter: languages may exhibit pro-drop in certain tenses and with certain persons, as in the case of Hebrew, Russian and Finnish. However, ‘partial’ and ‘asymmetric’ pro-drop will not be addressed in this paper.
(2) **Aboutness-shift Topic > Contrastive Topic > Familiar Topic**

According to F&H (2007) the Aboutness-shift Topic – the highest in this hierarchy – has the discourse function of introducing a new topic (or proposing a topic-shift) in the discourse. The major claim of this paper is that it is also the constituent which identifies (i.e., provides a referential value for) an argument pro. In other words, it is argued that NSs of tensed clauses have the same function as clitic pronouns in Topic constructions: they serve as resumptive pronouns and, as such, they are pronominal variables (i.e., A'-bound pros in GB terms5; cf. Cinque 1990; Rizzi 1994; Frascarelli 2004a).6 The validity of the following assumption will thus be discussed:

(3) A thematic NS is a pronominal variable, the features of which are valued (i.e., ‘copied through matching’) by the local Aboutness-shift Topic.

In this line of analysis, a subject pro does not refer. Therefore, when a ‘free’ interpretation (Rizzi 1982) apparently arises, the relevant NS is in fact bound by a ‘silent’ (i.e., null) Topic (see discussion in sections 4.1 and 6).7 On the other hand, whenever a strong pronoun (see section 2 below) is used, it signals the introduction of a new Topic.

### 2. Pronominal Subjects in a pro-drop Language

The traditional ‘Avoid Pronoun’ principle (cf. (4)) and Economy requirements lead to the expectation that in a NS language (like Italian) overt subjects are only realized for emphasis/contrast or to ensure recoverability in the discourse:

(4) **AVOID PRONOUN** (Chomsky 1981)

Avoid overt pronoun, whenever possible

This expectation is implicit in Rizzi (1997a), when the author says that the overt form will be “limited to cases in which it is necessary, i.e., when the pronominal subject, being focal or contrastive must bear stress”. Cardinaletti (2004) also points out that the use of strong pronouns is necessary when the subject does not have a “familiar antecedent” in the previous discourse. We will see, however, that these generalizations cannot fully explain the use of overt pronouns (and, as a consequence, the interpretation of pro) that must be understood in structural terms.

As for their formal characterization, from GB to Minimalism NSs have been treated on a par with overt pronouns and, as such, the following properties are generally assumed:

5 Even though the binding theory has been discarded in the Minimalist framework (see discussion in section 5.2), I will maintain GB terminology when referring to previous works and, in general, the term ‘bound’ is used to indicate syntactic (not ‘accidental’) coreference, as is still common in the recent literature (cf. Kayne 2002; Zwart 2002).

6 An A'-bound pro is not a ‘true variable’ in the sense of Lasnik and Stowell (1991), inasmuch as it is not bound by a true quantifier. It is an empty pronominal, bound by a constituent with a specific/referential interpretation (generally a DP, but a QP is also possible, cf. note 33 and the relevant discussion in section 5.1).

7 The existence of empty (‘zero’) Topics is discussed in Huang (1984) for Chinese, in Hasegawa (1985) for Japanese and, more recently, in Kayne (2002) for English. The originality of the present analysis rests on the proposal of Topic-matching as a UG requirement for the interpretation of referential NSs (while Huang maintains the possibility for empty subjects to be pronominal) and on the indication of a specific type of Topic for the antecedent role that is endowed with an edge feature (cf. Chomsky 2005).
PROPERTIES OF pro

a. it has a theta-role, when selected by a verb;

b. it has ϕ-features and Case;

c. it is subject to Principle B.

Properties (a) and (b) are uncontroversial: theta-roles are defined in the vP phase (cf. Chomsky 2005). Therefore, a NS is assigned a theta-role as a consequence of Merge and checks its (Nominative) Case features via Agree with the Agr/T head (cf. note 1 and section 5.2 below). Pronominal properties (c), however, are not straightforward. As is shown in (6) below, NSs cannot be treated on a par with overt pronouns in a pro-drop language like Italian (cf. Calabrese 1986) since pro and overt pronouns are allowed in different contexts:

(6) a. Jim andrà se *lui/pro si sentirà bene
   ‘Jim will go if he feels well’

b. Se *lui/pro si sentirà bene Jim andrà
   ‘If he feels well, Jim will go’

c. *Lui/pro andrà se Jim si sentirà bene
   ‘He will go if Jim feels well’

d. Se Jim si sentirà bene *lui/pro andrà
   ‘If Jim feels well, he will go’

On the other hand, sentences like (6c) show that NSs do not pattern (exactly) the same as ‘weak’ pronouns of the English-type (cf. Cardinaletti and Starke 1999). In fact, NSs can always be bound by a quantified NP (cf. (7) below), while a pronoun like he in English obtains ambiguous readings in the same context:

(7) [ogni studente]k pensa che prok/lui/k_/lui si sentirà bene è un genio
   [every student]k thinks that hek is a genius

In the following sections, evidence will be provided that a morphological characterization of the strong/weak dichotomy is not adequate and that overt pronouns must be analyzed as strong or weak depending on their phonological properties.8 In this perspective, pronouns are intonationally strong insofar as they are produced with a rising tone, while weak pronouns are produced with a low tone and are generally integrated in the intonational contour of the sentence. This means that a pronoun like lui can also be weak, when destressed, while indefinites like uno (‘one’) may be strong if they are marked by a peak.9 This distinction is crucial to understand the use and interpretation of overt pronouns. We will see that null and weak subjects form a consistent group in interpretive terms and can be reasonably considered as constituents belonging to the T-domain. Strong pronouns and full DPs, on the other hand, do not sit in SpecAgrsP as ‘grammatical subjects’ but belong to the C-domain and serve some discourse function (as Topics or Foci).

Before starting the analysis, a final note on the status of the Avoid Pronoun principle is in order. This is postulated in Chomsky (1981) as a “principle of grammar”. Its nature, however, is not clarified and this point appears to be an open issue in the literature:

“[The Avoid Pronoun principle] might be regarded as a subcase of the conversational principle of not saying more than is required, or might be related to a principle of deletion-up-to recoverability, but there is some reason to believe that it functions as a principle of grammar.” (Chomsky 1981, p. 65)

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8 Therefore, the strong/weak dichotomy assumed here does not follow from Cardinaletti and Starke’s (1999) morpho-syntactic tripartition.

9 In fact, Cardinaletti (2004: note 32) acknowledges the possibility of a ‘weak’ lui in “colloquial Italian” to explain its presence in “complementizer deletion” contexts. The present analysis, on the other hand, shows a systematic use of lui/lei as weak pronouns, related to their discourse function in the C-domain (see section 4.2).
The problem is, therefore, to define the level of grammar where this condition is operative: is it a principle of pragmatics or, does it rather concern the core syntax of a language? The present paper will provide substantial evidence for the latter option.

3. The Cartography of Discourse Categories and the Syntax-Intonation Interface

The study of spoken corpora shows that the use of overt/covert pronouns in a NS language crucially depends on discourse-structural requirements. The notions of ‘Topic’ and ‘Focus’ and their formal correlates in a Minimalist framework is therefore a key point for the present analysis.

It is well established that (narrow) Focus represents the informative part of the sentence (cf., among others, Horvath 1986; Kiss 1998 and section 6.2 below), while Topic is generally understood as ‘what the sentence is about’ (Reinhart 1981). However, Topics ‘do different things’ and several authors have addressed their structural and pragmatic properties, offering different characterizations (cf., among others, Vanelli 1986; Ambar 1992; Benincà et al. 1988; Lambrcht 1994; Büring 1999; Cecchetto 1999; Molnár 2002; Benincà and Poletto 2004; Frascarelli 2004a). In a cartographic approach to discourse properties, the original CP-node (a recursive phrase, targeted by different categories) has therefore been reanalyzed as an array of functional projections, each dedicated to a specific function related to Information Structure (cf. Rizzi ed. 2004; Belletti ed. 2004). In this line of analysis, Focus and Topic have been allotted specific positions, based on syntactic diagnostics.

It is clear, however, that discourse grammar categories also influence the shape of the prosodic realization of a sentence, both in the location of tonal events and in prosodic phrasing. The pragmatic properties and tonal events characterizing the different types of Topic have been the subject of several works (cf., among others, Pierrehumbert and Hirschberg 1990; Féry 1992; Büring 1999), although no attempt, it would appear, has been made to connect intonational properties to syntactic structures. On the other hand, F&H (2007) first showed that there is a systematic correlation between the formal properties of Topics and their function in the discourse, which is encoded in a strict hierarchy in the C-domain and provides intonational and syntactic evidence that different types of TopP projections must be posited in the left periphery of the sentence:

“The discourse properties have structural correlates both in phonology and in syntax. In other words, […] different types of Topics show different intonational properties and are realized in a specific order in the CP-system. A free recursion analysis will thus be refuted and a hierarchy [is] proposed in which different functional projections are distinguished in terms of prosodic and syntactic properties.” (F&H 2007, p. 89)

In particular, intonational investigation of spontaneous data shows that Topic constituents are associated with three different tonal events which, according to the Autosegmental-metrical
theory (cf. Goldsmith ed. 1999), can be described as L*+H, L* and H*. Crucially, information-structural analysis shows that this tonal tripartition is phonological, since each tone is associated with specific discourse properties of the Topic constituent. F&H (2007) thus propose a systematic distinction between Aboutness-shift Topics (characterized by the rising L*+H contour\textsuperscript{12}), Familiar Topics (marked with a L*-tone) and Contrastive Topics (marked by a H-pitch). Since the interpretation and formal properties of the first two types of Topics will play an important role in the following discussion, let us consider them in some detail (on Contrastive Topics, see Büring 1999; F&H 2007).

3.1 The Aboutness-shift Topic

While every Topic expresses, in some sense, pragmatic ‘aboutness’ (Reinhart 1981), the specificity of the Aboutness-shift Topic is to newly propose or reintroduce a topic in the discourse (cf. Givón 1983). As stated in the introduction, this Topic – like the others considered in this work – qualifies as a CLLD constituent (Cinque 1990). Hence, it is base-generated in the C-domain (Cinque 1990, Frascarelli 2000, 2004a), it is resumed by a clitic (when available) and is preceded by a preposition, if connected with an indirect object role.\textsuperscript{13}

\textsuperscript{11} The description of intonational contours is based on Pierrehumbert’s (1980) system – generally known as ‘ToBI’ – in which tonal events are described as sequences of low (L) and high (H) tones, which determine the shape of the F0 contour. In particular, pitch accents (marked with a ‘star’) are aligned with tonic vowels and render prominent the linguistic material with which they are associated. The connection between tonal events and specific discourse categories has been supported cross-linguistically in recent analyses (cf., among others, Pierrehumbert and Hirschberg, 1990; Hayes and Lahiri 1991; Frascarelli 2004b).

\textsuperscript{12} For the sake of phonological description, a specification is in order concerning cross-linguistic alignment in the rising tone. F&H’s data show that the tonic vowel is mostly aligned with the low part of the rise in Italian (yielding a L*+H tone), while in German the peak is reached at the end of the tonal event (and described as L+H*). Hence, the relevant rising tone would be better described as (L+H)*, following Marotta’s (2000) suggestion for ToBI notation. However, since this allophonic variation is immaterial for the present analysis, the general ToBI transcription will be used for the sake of simplicity.

\textsuperscript{13} For these properties, the Aboutness-shift Topic should not be confused with a Hanging Topic (cf. Benincà et al. 1988, Benincà 2001). Hanging Topics are not preceded by prepositions and are obligatorily resumed (cf. (ia)), also in the case of complements for which resumption is not compulsory in CLLD (cf. (ib)). Moreover, Hanging Topics can be resumed by full pronouns (cfr. (iia)), while this is excluded for Aboutness-Shift Topics (since strong pronouns are used to obviate reference with respect to the current Aboutness-shift Topic, cf. (iib)).

(i) a. Leo *(gli) parlerò domani. (Hanging Topic)
   Leo to.him talk.FUT.1SG tomorrow
   ‘Leo, I will talk to him tomorrow.’

b. A Leo (gli) parlerò domani. (Aboutness-Shift Topic)
   to Leo to.him talk.FUT.1SG tomorrow
   ‘I will talk to Leo tomorrow.’

(ii) a. Leo ho deciso di darlo a lui il libro. (Hanging Topic)
   Leo have.1SG decided of to give.it to him the book
   ‘Leo, I decided to give the book to him.’

b. *A Leo ho deciso di darlo a lui il libro. (Aboutness-Shift Topic)

Moreover, the few data provided by the corpus (only four cases) show that Hanging Topics do not serve as the antecedent for a following N5: they precede all other Topics (providing a sort of a ‘title’), with no syntactic connection with the rest of the sentence (consistent with Benincà et al. 1988, p. 131). Crucially, they do not necessarily propose a topic shift (as is shown in (iii) below – taken from the corpus – which is a reformulation of a former statement) and, accordingly, they are not always marked by a rising tone:

(iii) …perché il Colosseo (Hanging Topic), praticamente, nel piano terra ci sono tutti questi archi e ogni ingresso era numerato.

    ‘…because the Colosseum, in a few words, on the ground floor there are all these arches and every entrance had a number.’

To conclude, Hanging Topics have distinct formal and discourse properties with respect to the Aboutness-shift Topic and are located in a specific (higher) position in the C-domain (as is proposed in Rizzi 1997b and Benincà 2001). Therefore, the hierarchy proposed in (12) below is not meant to be exhaustive and only refers to the (CLLD-like) types of Topic examined in F&H (2007).
Among the different types of Topic analyzed in F&H (2007), the Aboutness-shift Topic is realized in the highest TopP projection (cf. distributional evidence in Frascarelli 2006 and F&H 2007) and, intonationally, it is signaled by a rise in the F0 contour that is aligned with the tonic vowel in its full extension. The rising (L*+H) tone is therefore associated with ‘aboutness’ (Reinhart 1981), in terms of something that is introduced in the conversation to propose a shift.

In order to provide an illustration of this contour and the discourse function associated with the relevant Topic, consider example (8) below. Here, a student is giving her opinion about the material of a self-learning course. For quite some time she talks in general terms; then, she interrupts her narration and proposes a new topic – the direct object (DO) l’ultima unit (‘the last unit’) – in order to announce that she is working on it at the moment:14

(8)  
Il materiale era tantissimo quindi all’inizio l’ho fatto tutto di corsa cercando di impiegare il tempo che dicevate voi magari facendolo un po’ superficialmente pur di prendere tutto- l’ultima unit la sto facendo l’avevo lasciata un po’ da parte […]

‘The material was quite a lot, so at the beginning I did it all in a rush, trying to do it in the time that you had fixed, perhaps a little superficially, so as to do everything- I’m doing the last unit now, I had put it aside before […]’

As we can see, the topic-shift is signaled by a sharp rise on the tonic syllable – the diphthong [ju] – and likewise by a sharp fall after it. The predicative part of the sentence (la sto facendo ‘I’m doing it’) is maintained on a low range and no particular peaks can be noticed (as is generally the case for broad focus sentences in Italian; cf. D’Imperio 2002; Frascarelli 2004b).

3.2 The Familiar Topic
A low tone is inherently associated with (CLLD) Topics that refer to given information in the discourse (cf. also Pierrehumbert and Hirschberg 1990). The relevant Familiar Topic is thus a D-linked constituent,15 used to refer to background information, for topic continuity (Givón 1983) or (in the right periphery) as an ‘afterthought’.

Consider, for instance, example (9) below. As the context makes clear, the DO la conferma (‘the check’) represents a topical element, which is first introduced by speaker A

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14 Here and in the following examples, overt pronouns, pros and their antecedents are marked in boldface. Contexts are given in detail since they are crucial for discourse analysis. The sequences illustrated in the following Figures are underlined in the text.

15 Discourse (D)-linked elements relate to referential sets pre-established in the discourse. The relevant notion originates from a syntactic-theoretic background (Pesetsky 1987), dealing with a specific type of wh-constituents (namely, ‘which N’) which demand an answer from a specific set (determined by the head noun; cf. among others, Cinque 1990; Rizzi 1990).
(the student), then resumed by speaker B and, finally, repeated as a right-hand topic by the student (resumed by the clitic la):

(9) A io dovevo studiare le regole qui e lì fare solo esercizio, invece mi aspettavo di trovare dei punti a cui far riferimento ogni volta per vedere la regola, questo mi è mancato praticamente: la conferma di ricordare tutto insomma
B comunque quelle domande ti davano la conferma che avevi capito
A ma… magari non me la non riesco a darmela da sola la conferma.

B ‘however those questions gave you a check for your understanding’
A ‘well, maybe I cannot do this check on my own.’

As we can see, the tonic vowel of the DO-Topic la conferma is realized with a low tone, which is very close to the speaker’s baseline. It is important to underline that, though Familiar Topics are very often realized as right-hand Topics in Italian, the L*-tone should not be considered as a (physiological) consequence of their final location. Familiar Topics are realized as low in initial position as well. This is illustrated in Figure 3 with two Familiar Topics in the left periphery, namely, the subject-Topic l’autoapprendimento (‘self-learning’) and the DO-Topic questo (‘this’), resumed by the clitic l(o):

(10) il problema secondo me di questo autoapprendimento è stato affrontare la grammatica proprio no quindi lì ti trovai davanti ad argomenti nuovi nei quali avresti bisogno appunto di qualcuno […] invece l’autoapprendimento questo non- non me l ha dato ecco.
‘In my opinion the problem of this self-learning course was the grammar part – you deal with new topics for which you would exactly need someone […] on the contrary, self-learning could not give it to me, that’s it.'
As is shown, the tonic vowels of the relevant Topics remain at a low level (the DO-Topic *questo*, in particular, is totally destressed).

### 3.3 A Hierarchy for Topics

F&H (2007) show that Aboutness-shift, Contrastive and Familiar Topics are arranged in a rigid order in the C-domain and show specific properties. In particular, Aboutness-shift Topics can only be realized in the left periphery, they cannot be iterated and precede all other constituents in the C-domain (i.e., Familiar Topics, Focus and wh-constituents). The necessity of a hierarchy is made clear by multiple Topic constructions. As an illustration, consider the following:

(11)  *Era tutto molto nuovo nel senso che comunque la lingua inglese attraverso i programmi sul computer diciamo non l’avevo mai- […] comunque l’inglese risultava anche facendolo da solo più interessante […] io, inglese non-premetto non l’avevo mai fatto.*

‘Everything was totally new to me in the sense that I had never studied English through computer programs […] and through self-learning English appeared more interesting to me […] I must say that I had never studied English before.’

The intonational contours associated with the constituents *io* and *inglese* show that they are completely different Topic types, though they are both located in the left periphery. *Inglese*, a DO resumed by the clitic *lo*, is a Familiar (continuing) Topic; the subject-Topic *io*, on the other hand, marks a shift in the conversation: the speaker is still talking about English but, at that point, she wants to comment on her personal relation to that language. Accordingly, *io* is characterized by an intonational rise, while the F0 on *inglese* remains on a low range.

Based on consistent interface evidence (for further evidence, cf. F&H 2007, Frascarelli 2006), a ‘free recursion’ analysis for the TopP projection is refuted in favor of the following hierarchy:

(12)  \[
{\text{ForceP}} \rightarrow {\text{ShiftP}} \rightarrow {\text{GP}} \rightarrow {\text{ContP}} \rightarrow {\text{FocP}} \rightarrow {\text{FamP}} \rightarrow {\text{FinP}}
\]

This hierarchy shows that CLLD-like Topics can be found in different positions, each connected with a specific discourse feature, which receives a different realization at the PF-
interface. Their base-generation in the C-domain accounts for the fact that they are different types of A’-dependencies with respect to wh-operators (Cinque 1990), as is proved by anti-reconstruction, (absence of) Minimality effects and scope properties (cf. Frascarelli 2000, 2004a and section 5.2).

The present section, dedicated to the interface (syntax-intonation) properties of discourse categories in the C-domain, is completed with a final mention of Focus constituents, which will be also considered in this paper.

3.4 The Intonation of Focus
Narrow Focus constituents are also associated with a specific tonal event. Intonational research shows that Foci, both fronted and in situ, are realized through a H* tone (cf. D’Imperio 2002, Frascarelli 2004b), while no pitch-accent can be found on the “most embedded constituent” of a broad Focus sentence, which shows a downgrading contour\(^ {19} \) (cf., among others, Frota 2000, Frascarelli 2004b). This leads to the conclusion that, at least in languages like Italian, broad Focus is not interpreted at the PF interface as the effect of an “extended Focus projection” (Selkirk 1986): narrow and broad Focus are signaled by different tonal events and only narrow Focus is marked as H*.\(^ {20} \) Broad Focus rather appears as a ‘default’ tonal interpretation, that arises in declarative sentences when the Focus field (Rizzi 1997b) is not activated in the C-domain (cf. also Frascarelli and Puglielli to appear). To conclude, narrow Focus is characterized at the syntax-phonology interface as an operator-like constituent that is subject to internal Merge (cf. Chomsky 2004, 2005) and interpreted in the FocP projection (Frascarelli 2000), where it is associated with an H* tone.

In the following section, the properties and interpretation of null and overt subjects will be analyzed in a corpus of Italian (taken from Bonvino 2006).

4. Referential Null Subjects and Information Structure
4.1 Shifting ‘subjects’ and silent Topics
The present investigation is based on a corpus of 100 minutes of conversations among friends and interviews with students, from which a total of 173 sentences have been extracted. Consider first the following passage, in which the speaker (who works in a radio station) is talking about her boss and a colleague of hers:\(^ {21} \)

\[
\text{[il mio capo], come diceva Carlo (Figure 5) […] pro_1 è un exreporter […] pro_1 è stato in giro per il mondo […] pro_1 mi ha preso in simpatia solo che siccome pro_1 è mostruosamente}
\]

(13) \[ \text{il mio capo], come diceva Carlo (Figure 5) […] pro_1 è un exreporter […] pro_1 è stato in giro per il mondo […] pro_1 mi ha preso in simpatia solo che siccome pro_1 è mostruosamente} \]

\hfill (informational) Foci are only allowed in that position (i.e., elements that have been raised through operator movement). Consider the following example (the relevant sentence, underlined in (i), is given in detail in (ii)):

(i) A: \text{mi ricordo che dovevamo fare quell’esercizio dove appunto riconoscere delle parole - delle lettere che avevano un dato suono…} B: \text{beh io francamente questa attività in particolare non me la ricordo.}

‘A: I remember that we had to do an exercise where you were supposed to recognize some words – some letters which had a particular sound… B: Well, frankly, I don’t remember that particular exercise.’

(ii) \text{Beh, io francamente [questa attività in particolare] in particolare non me la ricordo.}

‘Well, frankly, I don’t remember that particular exercise.’

As is clear from the context, the subject pronoun \text{io} is a contrastive Focus (i.e., contrary to A, B does not remember that exercise) and \text{questa attività} is a clitic-resumed Familiar Topic (pronounced with a L* tone), located in a lower position. Of course, this does not exclude that secondary Foci can also be located in the low C-domain.

\(^ {19} \) This means that no (clear) peaks can be found in broad Focus sentences (unless a preverbal ‘subject’ DP is present).

\(^ {20} \) See D’Imperio (2002) for evidence that the pitch accent of a broad Focus is a “unitary accent gesture” and not the effect of a tonal repulsion.

\(^ {21} \) Indices in examples are used for simple expository purposes to indicate coreference relations.
lunatico, è capace che domani non gli sto più simpatica e pro mi sbatte fuori […] comunque a parte questo pro mi diverte moltissimo - poi c’è M.F.k che è questo che appunto sta facendo tipo praticantato per poi andare a fare l’esame da giornalista fra un anno e mezzo quindi lui c’ha quanto meno la garanzia (Figure 6) che pro può rimanere lì finché pro non farà l’esame cioè ehm lui poi gli deve fare (Figure 7) / scrivere le referenze…
‘[my boss], as Carlo used to say […] pro is a former reporter […] pro has been all over the world […] pro likes me, however, as pro is extremely moody, maybe tomorrow pro does not like me any longer and pro fires me […] anyway, apart from this, pro is really funny - then there is M.F.k who is practicing for his exam as a journalist/ in one and a half years, so at least he has a guarantee that pro will stay there till pro has made the exam because he then must make/ write a report …’

The initial DP il mio capo (‘my boss’) qualifies as an Aboutness-shift Topic. It is introduced in the discourse and represents the ‘Thema’ (cf. Calabrese 1986) for a long stretch of the following conversation. The discourse role of this Topic is made clear at the PF interface: a low tone is aligned with the onset of the tonic syllable (i.e., “ca-“ in capo) and this tonal event proceeds with a rise that is associated with the tonic vowel in its full extension (forming a L*+H tone). The onset of the post-tonic syllable is aligned with the peak, starting the falling part of the contour:

Once established as the Aboutness Topic, ‘my boss’ is interpreted as the subject of a number of following sentences, in which a NS is used. Then, a new referent is introduced (i.e., M.F.) and, interestingly, even though the following sentence has this referent as a subject and recoverability is not at stake, the speaker does not use a NS. A strong pronoun is produced, which starts a Topic chain with two pros in the following sentences:

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22 The DP il mio capo is in fact also resumed by a dative clitic (gli ‘to him’), which is the experiencer (the ‘quirky subject’) of the psych-verb stare simpatico (‘like’). This is perfectly consistent with the analogy that is proposed here between NSs and clitics as resumptive pronouns in the Topic-antecedent relation.
As we can see, the pronoun lui is characterized by the same tonal event described above for capo in Figure 5. A long break can also be noticed between the relevant Topic-pronoun and the rest of the sentence, showing the presence of a prosodic boundary (cf. Frascarelli 2000). Finally, the speaker shifts the conversation to her boss and a strong subject pronoun is realized again. The L*+H tone shows that this pronoun also qualifies as an Aboutness-shift Topic:

The short passage given in (13) allows for a number of important observations. First, it shows that strong subjects are not produced to avoid featural ambiguities: the speaker is talking about two men and the ϕ-features expressed with the pronoun lui cannot be helpful to identify either (possible) referent. Strong pronouns, on the other hand, avoid ambiguities at a discourse level, since they are used to obviate coreference with respect to the current Aboutness Topic (and, eventually, to propose a shift).

This passage also shows that NSs are always interpreted in relation with the closest Aboutness-shift Topic without ambiguities (consistent throughout the corpus). This proves that the interpretation of referential pro does not depend on the agreement features of the licensing head, but on a matching relation with the local Aboutness-shift Topic (cf. section 5.2). This conclusion is supported by the fact that the subject of a thetic sentence (i.e., M.F.) cannot serve as an antecedent for pro (see discussion in section 5.3; cf. also Trecci 2006). The crucial role of shifting Topics to account for the interpretation of referential pro is illustrated in passages like the one given in (14) below:

(14) A che strada hai preso?
    B la Cristoforo Colombo [andando verso Roma], dopo di che dovevo girare a destra dovevo riuscire a beccare la “Roma-Fiumicino” - m'aveva detto Marco, e invece...
    A secondo me la Roma-Fiumicino, sta sulla sinistra
    B non lo so - comunque pro, non c'era dopo di che ho capito che lui, m'aveva detto (Figure 8) - pro, mi aveva dato una dritta che l'uscita era- pro, dice - vicino allo Sheraton [...] a un certo punto dicevo possibile che non c'è un'inversione di marcia? mi sono fermata presa dal pánico a un benzinaio, e gli ho detto scusi ma se uno, poveraccio sbaglia qui (Figure 9) come pro, fa a tornare indietro e lui, m' ha detto no

23 For the sake of completeness, the interested reader can also notice a pitch accent (H*) on the focusing adverb quantomeno (‘at least’) and a High boundary tone on the final word garanzia (‘guarantee’). The latter indicates that the Intonational Phrase is not completed and additional material is following (suspensive function).
24 Topic-linking of referential pros is also advocated in Grimshaw and Samek-Lodovici (1998), who claim that “NSs are possible only if licensed by an antecedent with a topic discourse status” (p. 195). The authors, however, do not identify a specific type of Topic and their analysis is not concerned with the syntax-prosody interface. Working in the OT framework, they include Focus and Topic information in the input and show that cross-linguistic differences in admitting NSs follow from a different ranking of some key constraints (mainly concerning the Subject Criterion, Parse and Topic-linking).
guarda devi uscire (Figure 10) a Maccarese paghi il pedaggio e torni indietro.

A ‘which road did you take?’

B ‘the “Cristoforo Colombo” [going towards Rome], then I had to turn right to take the “Rome-Fiumicino” motorway – Marco told me, but…”

A ‘In my opinion the Rome-Fiumicino motorway is on the left’

B ‘I don’t know - anyway, pro was not there, then I understood that he had told me - pro had suggested me - pro had told me that the exit was next to the Sheraton hotel […] then I wondered, is it possible that there is not a U-turn? In the panic, I stopped at a gas station and I said, sorry but if one, poor guy, goes the wrong way here, how can pro come back? and he [the person working at the gas station] told me, look you must take the exit at Maccarese, pay the toll and turn back.’

This sequence contains three shifting Topics. The initial Aboutness Topic is the Roma-Fiumicino motorway that is matched by the NS in the following sentence (pro). Then, the speaker wants to mention something that Marco told her. Though this referent is familiar in the discourse, it is not the current Aboutness Topic. A strong pronoun is therefore necessary (i.e., lui), which is produced with a L*+H tone:

After this formal topic shift, lui serves as the antecedent for the following two NSs (pro).

Consider now the sentence ma se uno poveraccio sbaglia qui (‘if one, poor guy, goes the wrong way here’; the final reply of speaker B in (14)). This sentence is uttered to propose a (hypothetical) new situation, in which the relevant subject is an indefinite DP. This kind of subject might be expected to be included in the sentential contour of a broad Focus sentence. However, this expectation is not borne out by intonational evidence: the DP uno is produced as an Aboutness-shift Topic (see the sharp rising tone in Figure 9 below). It can then provide a value for the NS (pro) in the following sentence:
This is an important piece of evidence, showing that an indefinite DP in preverbal position can be a Topic, when it is intended as a specific indefinite (i.e., when it is used to refer to a specific type of referent, as in this case; see relevant discussion in section 5.1). 25

Finally, the speaker produces a sentence that has the man working at the gas station as a subject. Since this referent was not introduced as a Topic, a strong pronoun is needed and *lui* is produced with a rising tone also in this case to establish this discourse function:

![Figure 10](image_url)

Additional evidence for indefinite (specific) DPs as Topics is given in (15), in which *un tizio di Formia* (‘a guy from Formia’) is the antecedent of a long Topic chain. So, when the ‘boss’ is (re)introduced in the discourse, it must be reproposed as a strong pronoun to establish a Topic shift:

(15)  
A *la settimana prima avevamo avuto un’intervista con uno* che tra l’altro avevo presentato io […] *un tizio di Formia* che lavora nell’ambito della moda però come hobby *pro* è fotografo ed è *pro* molto bravo […] *pro* ha fatto una specie di raccolta di/ cioè *pro* ha fatto delle mostre […]  
B ed è *pro* è bravo?  
A *si molto bravo – tra l’altro io l’ho detto [al capo], cioè e lui ha mandato un redattore*  
A ‘the week before we had an interview with a guy that in fact was introduced by me […]  
*a guy from Formia* that works in the fashion field, but *pro* is a photographer as a hobby and *pro* is very talented […] *pro* organized some exhibitions […]’  
B ‘and is *pro* talented?’  
A ‘yes, very talented - indeed, I told it to my boss, and he sent out a journalist’

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25 As is discussed in the literature, a definite DP is not always specific or given in the discourse and a specific DP can be indefinite (cf. (i)-(ii), adapted from Ihssane and Puskás 2001). It is therefore important to keep these two notions separate. Definiteness restricts the range of entities the speaker refers to (Heim 1982), but nothing prevents an indefinite DP to be topicalized, as is shown in (iii):

(i)  
I’m sure you will never find the secretary of a politician that would witness against him.  
(ii) A student came to talk with me.  
(iii) *[Una persona così gentile] non la trovi più al giorno d’oggi!*  
*a person so kind not her find.2SG anymore nowadays*  
“You will not find a nice person like that, nowadays!”
Also in this case, recoverability or ‘long distance’ cannot be invoked: the crucial point is that the PP *al capo* (in the previous sentence) is not a Topic, hence it cannot match its referential features with a subsequent pro. The rising pronoun *lui* is therefore needed to obviate coreference with *un tizio di Formia* (the current Topic at that point).

In Cardinaletti’s (2004) analysis, the necessity of a strong pronoun in (15) would be attributed to the fact that *il capo*, though familiar, is not a subject, but an object. Though c-command is undoubtedly a key requirement to obtain a Topic-antecedent relation, data show that this condition is not subject-driven. Consider the following passage:

(16) *conduco insieme [al capo], [questa rubrica]m del giovedì sera [...] proₘ è scritta/ cioè anche perché noi praticamente (Figure 12) introduciamo una serie di servizi/ di interviste fatte fuori [...] ma speriamo che un po’ alla volta che lui, mi dia proprio tutto il Caleidoscopio (Figure 13)*

‘I conduct with [my boss], [this program]m on Thursday night [...] proₘ is written/ I mean, also because we in fact present a number of external interviews [...] but let’s hope that little by little that he will give me all the ‘Caleidoscopio’ [= the relevant program]’

As we can see, the first NS (*proₘ*) is coreferent with *questa rubrica*, which is not the subject, but a marginalized DO (cf. Cardinaletti 2002). Since the interpretation of the relevant pro is not at stake, this example shows that pro-coreference is not subject-driven, but Topic-driven. The fact that *questa rubrica* is the current Aboutness Topic at the beginning of text (16) is proved by the realization of *noi* in the following sentence: the speaker wants to shift the conversation to herself and her boss, hence, a rising tone is needed to establish the ‘new’ Aboutness Topic (cf. Figure 12). When she finally restricts the topic only to her boss, a L*+H *lui* is produced again, as expected (cf. Figure 13):

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26 Syntactic marginalization is shown by the fact that the DO (*questa rubrica*) follows the IO (*al capo*) and its status as ‘given’ information is made clear by the anaphoric use of the demonstrative *questa* (‘this’). The discourse role of non-clitic resumed right-hand Topics in Italian is discussed in Frascarelli (2000, 2004a).
It might be objected that *questa rubrica* in (16) is not an Aboutness-shift Topic: it is located in the right periphery of the sentence and, as such, it qualifies as a Familiar Topic (cf. section 3.2). In cases like this, it is argued that the relevant Familiar Topic is the low copy of a (previously mentioned) Aboutness-shift Topic that is kept silent in the local C-domain. In other words, I propose that the interpretation of referential pro always depends on the presence of a local Aboutness-shift Topic, which can be overt or silent and, when silent, it can be repeated by means of low copies (in FamP) for the sake of topic continuity. The relevant two sentences can be thus analyzed as is shown in (17a-b):  

(17) a. \[ \text{ShiftP}<\text{questa rubrica}_k>[\text{GP}[\text{IP conduco insieme al capo}][\text{FamP}\text{questa rubrica}_k\text{IP}]]] \]

‘as for this program> I conduct with my boss this program.’

b. \[ \text{ShiftP}<\text{questa rubrica}_k>[\text{IP pro}_k\text{è scritta}]] \]

‘as for this program> it is written.’

As we can see, in (17a) the (previously established) Aboutness-shift Topic is merged as a silent copy (in Spec,ShiftP) and re-merged as a Familiar Topic that is spelled-out in right-hand position (after IP-movement). Since no ‘new’ Topic is proposed in the following sentence (17b), an additional silent copy is merged in the C-domain, which matches its features with the null pronoun in subject position.\(^\text{28, 29}\)

To invoke the presence of empty Topics could be considered an *ad hoc* stipulation and, without evidence, it runs the risk of rendering this proposal impossible to falsify. However, this problem can be solved – supporting the present analysis. Since the claim here is that a NS is bound by the local Aboutness-shift Topic, and Aboutness-shift Topics cannot be iterated in the same C-domain (see section 3.3), an empty Aboutness Topic must be incompatible with an overt one. An immediate test to verify the presence of silent Topics is therefore to

\(^{27}\) Here and in similar examples, the Aboutness-shift Topic is realized in boldface. Angle brackets are used to indicate silent Topics.

\(^{28}\) Notice that this account does not postulate a Topic chain across sentences, but a copying of referential features in different C-domains (through Merge of silent copies), till a new Aboutness-shift Topic is proposed.

\(^{29}\) The same explanation can be invoked for a case like the following, suggested by a NLLT reviewer:

(i) A: *Cosa ha fatto Gianni?*

‘What did Gianni do?’

B: \*pro\_k ha parlato con Maria.

‘He talked to Maria.’

The DP *Gianni* in the question is clearly not a shifting Topic, although it is undoubtedly the current Aboutness Topic. Hence, according to the present proposal, it is a low copy of a previously mentioned Aboutness-shift Topic (which is silent in the local C-domain, both in the question and in the answer, like *<questa rubrica>* in (17) above). This explains why it is the only possible antecedent for the referential pro in the answer (cf. also Grimshaw and Samek-Lodovici (1988:199) for a similar explanation regarding *by*-phrases in wh-questions).
introduce an overt one and consider its effects on the identification of the subject pro.\textsuperscript{30} Let us consider the following:

(18) a.  
\textit{Conduco insieme al capo questa rubrica}_k \ldots \quad (= (17a))

‘I conduct with my boss this program.

b.  
\ldots \textit{la prima parte}, fortunatamente, pro\textsubscript{j} è più facile. pro\textsubscript{k}\textsubscript{j} è scritta.

its first part, luckily, is easier. It is written.’

c.  
\ldots \textit{la prima parte}, l’\textsubscript{j} ho già preparata. pro\textsubscript{k}\textsubscript{j} è più facile. pro\textsubscript{k}\textsubscript{j} è scritta.

I have already prepared its first part. It is easier. It is written.’

As we can see, if an overt Aboutness-shift Topic is introduced, it triggers obligatory matching with the NSs in the following sentences, independent of its being a subject-Topic (18b) or a (clitic resumed) object-Topic (18c). So, even though \textit{questa rubrica} clearly remains as a background (hence, Familiar) Topic (the new Topic clearly refers to it), it is no longer possible to understand that the entire program is written – only its \textit{prima parte}.\textsuperscript{31}

For the same reasons, if we introduce an overt Aboutness-shift Topic before the sentence given in (18a), coreference with \textit{quella rubrica} is excluded again:

(19) \textit{L’intervista}, la\textsubscript{j} sto preparando perché conduco insieme al capo questa rubrica\textsubscript{k}. pro\textsubscript{j}\textsubscript{k} è scritta.

‘As for this interview, I’m preparing it because I conduct with my boss this program. It is written.’

To conclude, the existence of null Aboutness-shift Topics is supported by evidence concerning the interpretation of NSs. In line with Minimalist tenets (see section 5.2), their presence in the C-domain is necessary to allow for a \textit{local} identification of referential pros (excluding a process of ‘binding across sentences’; cf. note 28).

\subsection{4.2 Non-shifting ‘subjects’ in the C-domain}

When overt subjects are not used to produce a topic shift, they are associated with different tonal events and serve different discourse functions. Focus is one of the most common of these.

Preverbal Focus in Italian is associated with contrast or emphasis and it cannot be an antecedent for pro, which supports the present analysis. Consider the following conversation:

(20)  
\begin{align*}
A \quad & \text{[Aboutness-shift Topic: the boss\textsubscript{k}] ma a te adesso pro\textsubscript{k} ti paga?} \\
B \quad & \text{ancora no comunque l’ultima volta pro\textsubscript{k} m’aveva detto appunto che pro\textsubscript{k} aveva intenzione} \\
& \text{di cominciare a farmi pagare se pro\textsubscript{k} era soddisfato di quella trasmissione là […]} \\
A \quad & \text{tu l’hai chiesto o te l’ha detto lui\textsubscript{k}?} \\
B \quad & \text{lui\textsubscript{k} me l’ha detto io non ho mai parlato di soldi, l’ha sempre tirato fuori lui\textsubscript{k} il discorso} \\
A \quad & \text{‘does pro\textsubscript{k} pay you now?’}
\end{align*}

\textsuperscript{30} This test will be used systematically in this paper, every time a silent Topic is postulated. This proves the syntactic nature of the Topic-pro(noun) relation. I thank two NLLT reviewers for this suggestion.

\textsuperscript{31} Interestingly, if we introduce a subject-Topic that disagrees with the NS in its φ-features, the latter cannot be interpreted:

(i) \textit{<questa rubrica> conduco insieme al capo questa rubrica\textsubscript{k}. Le prime due parti}, fortunatamente, pro\textsubscript{j} sono finite. pro\textsubscript{k}\textsubscript{j} è scritta.

‘I conduct with my boss this program. Luckily, its first two parts are finished. #It is written.’

This shows that the newly introduced Aboutness-shift Topic (\textit{le prime due parti}) creates an intervention effect with respect to the (silent) preceding one (excluding its coreference with the pro) but, at the same time, it cannot qualify as a possible antecedent for the following NS. The latter cannot be interpreted in this way.
B ‘not yet, anyway, last time pro$_k$ told me that pro$_k$ had intention to start to give me some money if pro$_k$ was satisfied with that radio program […]’
A ‘was it you who asked him or was it him who told you?’
B ‘he$_k$ told me, I never spoke about money, it is always him$_k$ who starts this topic’

In her final answer, speaker B produces strong subject pronouns (lui and io), first to provide a contrast and then to identify lui as the Focus of the sentence (in postverbal position, followed by the clitic-resumed Topic il discorso). These pronouns are all realized through a H* tone (cf. Frascarelli 2004b). It is important to observe that the realization of a stressed pronoun to obtain Focus interpretation is independent of the current Aboutness Topic: the focused lui refers to the Aboutness Topic in (20), showing that Focus interpretation supersedes coreference obviatiion.

Finally, when a pronoun is not focused and does not induce a shift in the conversation, it is produced as phonologically weak, that is to say, it is produced with a low tone and is integrated into the intonational contour of the sentence. In other words, a weak pronoun corresponds to a pro. A similar claim is also present in Cardinaletti’s (2004) analysis. However, Cardinaletti argues that weak pronouns in Italian only belong to the egli/esso series, and that they are used in two contexts, namely, (a) when the subject pronoun is “familiar but not prominent” (i.e., it is not a subject, but an object) and (b) “when the antecedent of the pronoun is perceived as somehow too far away and needs to be mentioned again”. The analysis of spoken corpora, however, shows that subject pronouns like lui/lei can also be weak and that their use is subject to the same conditions discussed so far for NSs. Consider the following:

(21) domani devo andare con mio fratello$_k$ e mia cognata$_k$ a comprare le fedi […] pro$_{m}$k restano qui alla Garbatella per il momento - comunque lei$_k$ (L*+H) mi ha detto che appena pro$_k$ può pro$_k$ se ne va perché non per la zona credo perché è la casa dove lei$_k$ è cresciuta (Figure 14) per cui - bene o male la casa (L*+H) si qualcosa l’hanno cambiata quando i genitori sono andati via però lei$_k$ dice (Figure 15) cioè mi muovo nella casa che per me è la casa dei miei genitori…
‘tomorrow I must go with my brother$_k$ and my sister-in-law$_k$ to buy the wedding rings […] they$_k$ are staying here at the Garbatella [a quarter in Rome] for the moment - anyway she$_k$ told me that as soon as pro$_k$ can pro$_k$ moves because, not for the zone, I think because this is the house where she$_k$ grew up so that, yeah, more or less, something was changed in the house when her parents left however she$_k$ says well I feel I’m moving in the house that was my parents’ house…’

After its introduction in the discourse, the referent mia cognata (‘my sister-in-law’) is proposed as an Aboutness-shift Topic by means of the strong pronoun lei (associated with a rising tone in its first occurrence). In the following sentences, this referent is first resumed by a pro and then by an overt pronoun (lei) that is produced with a L*-tone (and integrated in the intonational contour of the sentence):

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32 The relevant constituent can be therefore considered as ‘parasitic’ of the surrounding intonational contour (cf. Marotta and Sardelli 2003).
Then, a new Topic is proposed in the discourse, namely, *la casa* that is syntactically characterized as a Hanging Topic (cf. (22) below). So, when the speaker shifts again to her sister-in-law, the pronoun *lei* is produced with a tonal rise, as expected (cf. Figure 15).

(22) *la casa*, *si* *qualcosa* *l’* *hanno cambiata* [...] *però* *lei* *dice*

*the house*, *yes* *something* *it* *have.3PL changed* [...] *however* *she* *say.3SG*

‘In the house, something was changed [...] however she says…’

These data show that ‘weakness’ must be understood as a PF property of pronouns and that the use of weak pronouns depends on information-structural requirements: weak pronouns (i.e., both null and destressed) must refer to the current Aboutness-shift Topic, independent of its syntactic function or distance. In particular, the use of weak pronouns in a NS language can be considered as a stylistic means to restate the Aboutness Topic, which is idiosyncratic to individual speakers (and rather infrequent).

To conclude, intonational data and discourse grammar considerations provide substantial evidence that in a NS language strong/weak pronouns are produced for specific discourse requirements and realized through a specific tonal event. This is an important issue for interface analysis, since it proves a systematic connection between different levels of the grammar for interface interpretation.

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33 Note that the indefinite object *qualcosa* is topicalized in this sentence and resumed through a clitic pronoun. This ‘referent’ was not mentioned in the discourse but obviously refers to some specific object that is seen as unimportant. The possibility for quantified NPs to be topicalized and clitic resumed was already noticed in Cinque (1990, p. 75): “when a specific referential interpretation is forced by the context, the clitic appears”. The present work shows that a quantified NP can also be produced as an Aboutness-shift Topic and serves as the antecedent for a following subject pro (see discussion on (14) above).

34 In this respect, crucial support is provided by comparative analysis on the use and interpretation of destressed pronouns in non NS languages (cf. F&H 2007).
While exploring the licensing conditions of NSs, this investigation also leads to a novel analysis for the syntax and interpretation of preverbal subjects in a pro-drop language like Italian. This issue is addressed in the following section.

5. Null Subjects, Topics and the EPP feature
5.1 Preverbal Subjects and the Licensing of pro
In the present analysis, evidence has been provided that referential NSs are interpreted as coreferent with the local (overt/silent) Aboutness-shift Topic. This means that any ‘subject’ DP that serves as an antecedent for pro (e.g., *il mio capo* in (13), *un tizio di Formia* in (15) and all the strong pronouns illustrated in the Figures above) cannot be considered as the ‘syntactic subject’ of the relevant sentence (sitting in Spec,AgrSP), but should instead be looked upon as A’-constituents located in the CP-phase. In other words, it is argued that preverbal ‘subjects’ sit in an A’-position whenever they serve as antecedents for a NS. This proposal allows us to predict that whenever a referential NS is realized, its interpretation relies on the presence of an Aboutness-shift Topic in the C-domain. On the other hand, since it is not the case that every preverbal subject serves this role, this claim leaves the possibility open for other types of subjects to be located in an A-position (see discussion below).

The position of overt preverbal subjects is a much debated issue in the literature (cf., among many others, Benincà and Cinque 1985; Barbosa 1995; Alexiadou 1997; Moro 1997; Poletto 2000; Hulk and Pollock eds. 2001, Suñér 2003) and is related to two major points of discussion, that is to say, the presence and licensing of a null element in argument position and the role of the Agr° head. Proposals on different languages generally deal with syntactic diagnostics and, under standard Minimalist assumptions, two main competing analyses can be identified. Some scholars argue for interpretable φ-features in Agr (cf. Alexiadou and Anagnostopoulou 1998; Rohrbacher 1999; Barbosa 2000): in this case no displacement is required for the subject, which remains in situ unpronounced (if pronounced, it must be for discourse requirements). Other scholars (cf. Roberts 2004; Holmberg 2005) refute a ‘pronominal Agreement’ analysis and propose that Agr is rather the spell-out of uninterpretable features. Both analyses have limits and advantages. The latter predicts that at least some preverbal subjects are in an A-position, attracted by a universal EPP; the former derives the VS property, leaving partial pro-drop (in languages like Finnish or Brazilian Portuguese) unsolved.

To discuss these issues and their consequences in full is far beyond the purposes of this paper. However, a short discussion is needed in order to prove the A’-status of preverbal ‘subjects’ that serve as antecedents for referential NSs (and the contrast offered by other types of non-referential preverbal subjects). We can then proceed with the relevant analysis (section 5.2).


(23) *Qualche studente ha archiviato ogni libro della biblioteca.*

some student have.3SG filed every book of-the library

‘Some student filed every book in the library.’ (ambiguous)

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35 This approach can derive the asymmetries noted in NS languages like Italian (Cardinaletti 1997) and Spanish (Suñer 2003).
The subject QP in sentence (23) can either have a specific interpretation and imply a quantification over events (wide scope interpretation), according to which ‘some specific students have filed every book at different times’, or a distributional interpretation (narrow scope), according to which ‘each book was filed by different students’. This means that preverbal subjects in Italian are not always interpreted as specific and can sit in an A-position, preserving the scopal properties they had before movement (like in Spanish, cf. Suñer 2003). However, when the relevant ‘subject’ QP serves as the antecedent for a following pro, a specific reading (wide scope) is the only possible interpretation (24), exactly as is the case of CLLD objects (25) (cf. A&A 1998, p. 505):

\[(24) \text{[quelle studente]}_k \text{ ha archiviato ogni libro della biblioteca e} \text{ pro}_k \text{ è stato premiato.} \]

‘Some (specific) student filed every book in the library and got a prize.’

\[(25) \text{[quelle studente]}_k \text{ lo ha interrogato ogni professore} \text{ some student him have.3SG interviewed every professor} \]

‘Some (specific) student was examined by every professor.’

Given the exclusion of a narrow scope reading, we must conclude that the preverbal QPs in (24)-(25) are base-generated in an A’-position (as is argued in Cinque 1990 for specific bare quantifiers like qualcuno in CLLD constructions like qualcuno\_k lo\_k troveranno ‘somebody\_k they will find him\_k’).

Additional evidence in this direction comes from the scopal interaction between an indefinite and a QP. In Italian (like in Spanish, cf. Suñer 2003, p. 344), sentences like (26) are ambiguous (between ‘for every corner there is a different policeman’ and ‘the same policeman is in different corners’). However, a specific (wide scope) interpretation is only possible in (27), in which un poliziotto serves as the antecedent for a following pro:

\[(26) \text{Un poliziotto stava a guardia di ogni angolo.} \]

‘A policeman guarded each corner.’ (ambiguous)

\[(27) \text{Un poliziotto}_k \text{ stava a guardia di ogni angolo e} \text{ pro}_k \text{ fumava in continuazione.} \]

‘A (single) policeman guarded each corner and was smoking continuously.’

As for binding properties, pronominal subjects can serve as bound variables in postverbal position (28a), while this function is excluded for preverbal strong pronouns (28b). This contrast shows that the former are located in an A-position, while the latter have the properties of A’-constituents (with a shifting function).\(^{36}\)

\[(28) \text{a. [ogni pilota]}_k \text{ pensa che vincerà lui la gara.} \]

‘[Every pilot]\_k thinks that he\_k will win the race.’

\(^{36}\) On the possibility of ogni-NP as an antecedent for pro, see discussion in section 6.2.
In conclusion, preverbal subjects in Italian do not pattern entirely with Greek and the possibility of A-subjects in preverbal position must be preserved. This means that a pronominal Agreement analysis must be excluded for Italian (or we should posit that the properties of Agr depend on the presence of a referential pro – a rather *ad hoc* solution).

I therefore assume a non-pronominal account for the Agr head (in line with Roberts 2004 and Holmberg 2005) and propose that a Topic-antecedent is the only relation responsible for the identification of a referential pro in argument position.\(^{37}\) This identification depends on a syntactic operation of matching (i.e., copying of \(\varphi\)-features through Agree, cf. section 5.2 below), discarding all instances of 'accidental' coreference: preverbal 'subjects' are merged as (Aboutness-shift) Topics in the C-domain and provide a referential value to a NS sitting in argument position (see (30) below).

The relevant Topic-pro linking is a property of the core grammar of a language and applies in specific structural conditions, yielding a predictable alternation of null (/weak) vs. strong pronouns. Let us consider these conditions in more detail and ask – albeit briefly – what implications can be derived for argument-drop in a cross-linguistic perspective.

### 5.2 The Topic-pro Relation: Coreference through Agree

The advent of the Minimalist Program has imposed the necessity of a general re-elaboration of the standard binding conditions. In the constant effort to discover concepts of computational efficiency and go “beyond explanatory adequacy” (Chomsky 2004), notions and operations have been drastically reduced, and binding conditions (relying on ‘local domains’ different from phases, indices and so on) consequently rejected. It is, however, not yet clear how the core operations – Merge and Move – can do full justice to Principles A, B and C and various proposals have been put forth in the recent literature (cf., among others, Reuland and Reinhart 1995; Hornstein 2000; Kayne 2002; Zwart 2002; Hicks 2005).

The main trend and most promising approach is to re-elaborate all instances of binding in terms of movement (‘Copy theory’). In particular, Kayne (2002) proposes that antecedent-pronoun relations as in *John thinks he is smart* require movement out of a constituent of the form \(*John, he*\) (i.e., extraction from the Spec). Accidental coreference is therefore excluded and a sentence like *he is smart* is “unacceptable in isolation” and implies the presence of an “unpronounced demonstrative” (Kayne, 2002, pp. 138-139).

This suggestion is very much in the spirit of the present proposal, in which the interpretation of NSs crucially depends on a Topic-pronoun relation and silent Topics are assumed. However, as discussed in Zwart (2002), Kayne’s analysis correctly accounts for anaphor binding, but meets problems with non-local anaphoric relations (e.g., logophoric, quantified NPS, bound variable anaphora), which is the concern of this paper. So, for instance, an extraction analysis cannot account for the interpretation of a sentence like (7) above (*ogni studente_k pensa che pro_k è un genio*), in which the relation between the NS and its antecedent is not established by merging them in a single DP.\(^{38}\) Moreover, an extraction analysis for Topics from a ‘big DP’ containing the pro/clitic (as in Cecchetto 1999) meets serious problems in Italian concerning scope and ‘anti-reconstruction’ effects (as is discussed

\(^{37}\) It should be noticed that A&A (1998) do not treat referential pro and “nothing in [their] analysis depends on it” (p. 531). In fact, their proposal raises a crucial question, namely, what about the argument pro? As it cannot coexist with a pronominal Agr, the latter should count as a theta-bearing argument, implying an overall reformulation of the Theta-theory. These issues are, of course, beyond the scope of this paper.

\(^{38}\) As is discussed in Zwart (2002, p. 289), a sentence like (7) “lacks the reading that would be expected under a naïve conception of coreference, namely that every student thinks that every student is a genius”.

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b. *[ogni pilota]_k pensa che lui_k vincerà la gara.*

every pilot think.3SG that he win.FUT.3SG the race
in Frascarelli 2000, 2004a). As an example, consider the following sentence (adapted from Ramaglia 2006):

(29) *Il proprio* libro, Leo, non sa chi l’ha letto

‘His own book, Leo does not know who read it.’

The anaphora interpretation in (29) suggests that the DO-Topic (*il proprio libro*) is interpreted in a position that is c-commanded by Leo, but not by *chi*. This is explained if we assume Topic merge in the local C-domain of the weak pronoun and exclude the presence of a ‘lower copy’ in the DP containing the clitic.39

(29’) [il proprio* libro]j Leo,k non sa [<il proprio* libro> [chi, [lo, ha letto [DP,lo, [NP,lo]]]]]

To provide a comprehensive solution for Principle B in a Minimalist perspective is far beyond the purposes of this paper. However, given the assumption of extrasentential Merge for Topics in Italian, it is proposed that Agree is the most plausible operation to define the matching relation between the antecedent-Topic and the null pronoun. Even though Agree is generally assumed to operate within phases (vP, CP), according to the Phase Impenetrability Condition, heads and edges remain visible to operations of the next highest phase (Chomsky 2001, 2004) and it has been shown that one can probe from the C-domain to the vP phase for the purpose of φ-feature matching, as long as no other φ-feature matcher intervenes between the probe and the goal (as in the case of ‘late subject’ constructions, cf. Sigurðsson 2004b).40

I therefore propose that a NS is interpreted under long-distance Agree: the Shift° head is endowed with an [aboutness] feature, acts as a probe and agrees with the goal pro, so that its uninterpretable features are valued.41

This analysis is in line with the assumption that “φ-features and tense appear to be derivative from C [that is] the phase head” (Chomsky 2005, p. 9). The structural condition for the relevant pro to be visible is to be located in an edge position in the vP phase (or, in the case of clitics, to be adjoined to the verbal head). The Agree relation (and the relevant identification) is thus obtained:42

39 Note that this interpretation cannot be attributed to an intervention effect by the part of *chi* because, as is discussed at length in Rizzi (2001), Topics and wh-constituents in Italian do not create Minimality effects on each other. Also note that the absence of movement avoids the problems connected with (multiple) null operators in the C-domain (cf. relevant discussion in Huang 2000, pp. 87-88).

40 This approach further requires the exclusion of a pronominal Agreement analysis for languages like Italian: if we were to assume a pronominal role for Agr, this head would intervene between the probing Topic in the C-domain and the goal pro in the vP phase. In this line of reasoning, Merge of an expletive pro in Spec,AgrsP must be also excluded (A&A 1998 share this assumption).

41 Following Sigurðsson (2004a) this proposal can be further refined assuming that the interpretation of a null pronoun is the result of a twofold matching: first an argument (or event participant) is matched against an interpretable P(erso)n feature, yielding a distinction between 1st/2nd and 3rd person. Then, consistent with their Pn features, arguments are matched against the relevant logophoric/topic features in the C-domain. However, since 1st and 2nd person (the logophoric agent and patient) are not addressed in this paper, a unified analysis will be tackled in future research.

42 For completeness, it would be also necessary to show the existence of a ‘matching chain’ between the subject pro in the vP-phase, the Agr head and the Aboutness-shift Topic in Spec,ShiftP to obtain verb agreement (not shown in (30) to make the relevant formalization clearer). In this respect I propose, in the respect of cyclicity, that after Merge of the subject pro, Agr is merged and matches with pro abstractly (i.e., with a ‘variable matching’: if pro gets value α for feature F, then Agr will also get that value and/or vice versa); subsequently the Aboutness-shift Topic is merged, matching (and valuating) Agr and pro. This approach excludes backtracking and can be considered a promising implementation of Chomsky’s idea that T inherits its features from C (I thank an anonymous reviewer of NLLT for pointing out these facts to me).
Therefore, I propose that Agr has uninterpretable, agreeing features, which are related with EPP and Case and allow for an in situ realization of postverbal subjects – i.e., they can be checked via Agree with the subject sitting in the vP phase.\(^{43}\) Hence, the Agr head has no role in the identification of the argument pro (a point which is left unsolved for null pronouns in languages with no Agreement). This means that referential NSs are provided with \(\phi\)-features when the CP phase is completed and the sentence proceeds to the interfaces for interpretation. This is in line with Sigurðsson and Maling’s (2006) proposal that pronouns are not input to the syntactic computation but, rather, syntax computes pronouns by matching and bundling up features.

The present analysis sheds new light on the nature of the Avoid Pronoun principle, understood as a syntactic condition on strong pronouns.\(^{44}\) The following (re)formulation is therefore proposed:

\[(31)\text{AVOID PRONOUN}\]

Avoid strong pronoun, whenever it agrees with the local Aboutness-shift Topic.

This proposal implies that every predicational sentence contains an Aboutness Topic.\(^{45}\) This assumption is in line with the claim that “every predicative sentence must have a Topic” (cf. Lambrecht 1994). Clearly, it is not the case that every C-domain contains an overt Aboutness Topic: once established, it can be kept continuous (and silent) across sentences. These considerations lead to the conclusion that the ShiftP node is a criterial position:  

\[(32)\text{In predicational sentences the ShiftP is a criterial position in the C-domain, in which the [+aboutness] feature is encoded.}\]

The validity of (32), its connection with Rizzi’s (2006) Subject Criterion and the presence of null Aboutness Topics will be discussed in the following section.

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\(^{43}\) Since Agr is non-pronominal, I assume – following Pollock (1996) – that the EPP feature is checked only ‘abstractly’ by the verbal head in Agr. Its licensing is only obtained through the Agree relation established with the argument pro.

\(^{44}\) The proposal that the Avoid Pronoun is a condition only referring to strong pronouns is also discussed in Cardinaletti and Starke (1999).

\(^{45}\) This assumption does not hold for non-predicational sentences, that we distinguish assuming Kuroda’s (1972, p. 154) “theory of judgments” (which traces back to the seminal work produced by the philosopher and psychologist Franz Brentano in the 19\(^{th}\) century). Non-predicational sentences are thetic judgments, representing only the recognition or rejection of material of a judgment (i.e., it is the presentation of an object: an entity or an eventuality). Predicational sentences, on the other hand, are categorical judgments in which a certain property is assigned to the individual denoted by the subject. In particular, the subject of a categorical judgment must be presented as an individual (i.e., specific) before any of its properties is affirmed or denied. According to the present proposal, the strong subject of a predicational sentence is syntactically realized as an Aboutness-shift Topic.

\(^{46}\) The syntactic notion of ‘Criterion’ refers to the Spec-head requirement for feature interpretation (“a phrase with feature \([\alpha]\) must be in a Spec-head configuration with a functional head carrying \([\alpha]\)”). In earlier works, Rizzi proposed that wh-movement is driven by the wh-criterion (Rizzi 1996) and a Neg-Criterion was also proposed in Haegeman (1992). This notion is extended to Topic and Focus as well in Rizzi (1997b).
5.3 Rizzi’s (2006) Subject Criterion

As we know, the Extended Projection Principle (EPP) of the GB framework expresses the obligatoriness of a subject position in the sentence. Within the GB approach, the EPP position is filled after the raising of an argument from its thematic position. The EPP position is taken to be an A-position and, as such, a final target of movement. Since under Minimalist tenets move $\alpha$ is constrained by scope and feature-checking requirements (cf. Chomsky 2005), Nominative Case assignment is often offered as morphological motivation for subject movement.

However, as suggested in Rizzi (2006), at least partial dissociation between the EPP position and the Case-Agreement system should be assumed. Evidence is given by the existence of quirky (non-nominative) subjects, with the preverbal subject position filled by an inherently Case-marked phrase and agreement construed with an internal argument:

(33) A Gianni piacciono queste idee
to Gianni please.3PL these ideas.NOM
‘Gianni likes these ideas.’

As the element satisfying the EPP and the agreement element can be dissociated, Rizzi assumes two distinct heads, each related to a distinct DP position (according to the common assumption that a head cannot carry a complex feature specification, allowing it to enter an Agree relation with one phrase and at the same time attract another phrase). This distinct subject position is postulated in a different zone of the IP space, so that the following hierarchy is proposed (cf. also Cardinaletti 2004):

(34) EPP…. Agr …. DP1…. DP2

Given this ‘dissociation’, Rizzi explores the possibility that the EPP position is connected with a topic-related feature. However, he rejects the possibility of a complete assimilation between subject and topics because “subjects are possible in out of the blue contexts, while CLLD objects are not”. To support this claim, he provides examples like (35):

(35) a. Cosa è successo?
‘What happened?’

b. Un camion ha tamponato l’autobus per Roma
a truck have.3SG bump.PAST the bus for Rome
‘A truck has bumped into the bus for Rome.’

c. #L’ autobus per Roma, un camion lo ha tamponato
the bus for Rome a truck it have.3SG bump.PAST
‘(as for) the bus for Rome, a truck has bumped into it.’

Rizzi thus concludes that the EPP is a manifestation of a Subject Criterion: “Subjects occur in the higher part of the inflectional field, higher than Agr, or whatever head carries the agreement features if independent agreement heads do not exist” (Rizzi 2006, p. 120).

I suggest that Rizzi’s sentences in (35b-c) do not prove a ‘dissociation’ between Topics and the EPP feature but, rather, that a weak pronoun in subject position is the best syntactic

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47 Rizzi (2006) argues that what makes a difference between subject and topic is the property of being D-linked (cf. note 15), since “topics are always D-linked, while subjects not necessarily”. As already discussed in sections 3.1-3.2, D-linking is not a property of all types of Topic and, in particular, not a property of the Aboutness-shift Topic.
candidate to be ‘connected’ with the criterial position in the C-domain in decontextualized sentences. According to the present analysis, the preverbal DP *un camion* in (35b) is a Topic. In fact, even though *un camion* is indefinite, the speaker is talking about a specific entity and this type of preverbal ‘subject’ consistently shows the intonational properties of an Aboutness-shift Topic (cf. section 3.1).\(^{48}\) We thus assume the following structure for (35b):

\[(36) \begin{align*} &\text{[ShiftP } un \text{ camion}_k [\text{AgSp } ha [\text{vP pro}_k [\text{VP tamponato } l'\text{autobus per Roma}] ]]] \end{align*}\]

This structure obtains full interpretation at the interfaces because it perfectly combines discourse and core grammar requirements. As a predicational sentence, a certain property is affirmed about an individual and, consistent with Economy, “the probe searches the smallest domain to find the goal” (‘minimal computation’; cf. Chomsky 2005). Given this analysis, sentence (35c) is not appropriate for question (35a) because it requires a matching relation between *l'’autobus per Roma* and the object clitic yielding an intervention effect on the part of the DP *un camion* without any specific discourse requirement.\(^{49}\)

Given this analysis, it is proposed that the [+aboutness] feature is an extended EPP feature in the C-domain. In other words, while the Subject Criterion pertains to the T-domain and is connected with (Nominative) Case, the ‘Topic Criterion’ is a syntactic requirement connected with the ‘logical subject’ of predicational sentences. Indeed, Aboutness-shift Topics and subjects share basic properties since they are both connected with given information and provide a starting point for the event described in the predication (i.e., they are made prominent and affect the following discourse, cf. the notion of ‘Thema’ in Calabrese 1986). Within discourse, however, ‘predication’ can imply a multiclausal domain, in which chains of clauses are combined and refer to the same Aboutness-shift Topic (cf. Givón’s 1983 ‘primary Topic’). The presence of (continuous) silent Topics thus follows. The relevant criterion can be formulated as follows:

\[(37) \text{TOPIC CRITERION} \]

\[\text{a) [+aboutness] is connected with an EPP feature in the high Topic field that yields a specific discourse-related property, namely ‘Aboutness’;}\]

\[\text{b) The [+aboutness] Topic matches with an argument in the main clause through Agree.}\]

\[\text{c) When continuous, the [+aboutness] Topic can be null (i.e., silent).}\]

(37a) qualifies [+aboutness] as an edge feature in the CP-phase that permits a constituent to be merged in Spec,ShiftP having the (rest of the) sentence as its complement. The operation Agree (37b), which requires an edge position for the matched pronoun, accounts for the fact that argument-drop is more often (but not necessarily) connected with a subject (see discussion in section 5.4). Finally, the possibility of silent Topics, claimed in (37c), depends on Spell-out conditions.\(^{50}\) A null Topic is clearly a requirement of the phonological interface: “minimization of computations calls for erasure of all but one copy, so that the phonological

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\(^{48}\) We can therefore say that a new topic is ‘accommodated’, since no discourse-referent has been pre-established. In other words, the presence of a preverbal subject forces a topic-comment structure, even though the question in (35a) would imply a thetic sentence as an answer.

\(^{49}\) Interestingly, one reviewer points out that (35c) is acceptable if *l’autobus per Roma* is realized as a Hanging Topic. This suggestion provides further support for the fact that the Hanging Topic is different from the Aboutness-shift Topic (*un camion*, in this case) and it cannot serve as the antecedent for a subject pro (cf. note 13).

\(^{50}\) More precisely, an extended version of Spell-out Conditions, since they apply across sentences. This emerges as a necessary consequence of a discourse-syntax interface analysis, providing evidence for Economy in discourse grammar as well.
component can forget about the others” (Chomsky 2005, p. 12). At the semantic interface all copies remain, without complication.

5.4 Argument-drop and Topic-drop: a cross-linguistic perspective
According to the present proposal, a referential NS is identified through a matching relation with the local Aboutness-shift Topic. Given this approach, to posit a ‘formal licensing’ like (1a) appears totally redundant and, as such, should be dispensed with. Only the interpretation requirement of the former ‘NS parameter’ is therefore relevant, and can be formulated as follows:

(38) (Referential) NS Interpretation
   Let YP be the Aboutness-shift Topic in the local C-domain of an occurrence of pro: then pro – sitting in edge position – obtains the grammatical specification of the features on Y° through a matching (Agree) relation.

The formulation in (38) has far-reaching consequences for the theory of grammar, since it would account for other types of argument-drop and, at the same time, provide an explanation for the unavailability (or partial possibility) of subject-drop in some languages. Indeed, since the Aboutness-shift Topic is connected with an extended EPP feature, it is plausible to assume its (overt/covert) presence in all languages. The question is, therefore, what is the source of cross-linguistic variation in permitting subject-drop and null arguments in general?

According to the present proposal, the Agree relation requires an edge position for the relevant null pronoun to be identified (cf. (30)). Then, if we assume with Kayne (2005) that “Spell-out systematically and automatically ‘fails to see’ phrases in the Spec of a phase”, we can attribute cross-linguistic variation to the fact that, in order to be dropped, a pronoun must sit in an edge position at the moment of Spell-out. In this line of analysis, we might argue that in languages like English or French, the subject cannot be dropped because it is not located on the edge of the vP phase at the moment of Spell-out (i.e., the core grammar of these languages requires the subject position to be filled). We can attribute this difference to parametric variation in admitting uninterpretable features in Agr/T to be checked in situ (i.e., through Agree, as in languages of the Italian type). Therefore, we can (and must) assume that also in languages like English or French predicational sentences contain an Aboutness-shift Topic in the C-domain that matches its features with a (weak) pronoun in the T-domain. The relevant pronoun can be thus interpreted; however, its spell-out position blocks the possibility of argument-drop.

The implications and consequences of the present proposal for the extent of argument-drop will be explored in future works. Therefore, object-drop will not be addressed in this paper except for a few, short observations proving the feasibility of this approach for a comprehensive analysis. Consider the following sentences, illustrating object-drop in Burmese and Finnish, respectively (from Huang 2000, p. 85-86):

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51 Spell-out conditions of Topics are clearly dependent on information structure requirements: when the shifting Topic is introduced, discourse prominence requires the realization of the highest copy. Otherwise, low copies can be spelled-out. Spell-out of low copies is a rhetorical device which is plausibly connected with style and textual necessities (distance, memory requirements), the specification of which is immaterial for the purposes of the present analysis.

52 As is shown in Gilligan (1987), subject-drop is generally permitted, though in different degrees across languages. I thank an anonymous reviewer of NLLT for pointing out this reference to me.
(39) a. Hklei amei ahphyit pro tin-te lou hti-te
child mother blame put-MOD COMP think.3SG
‘The child thinks that Mum will blame him.’

b. Kalle väittää että Pekka uhkaili pro
Kalle claim.3SG that Pekka threaten-PAST
‘Kalle claims that Pekka threatened him.’

In both languages no object agreement is available, showing once more that a ‘rich
agreement’ analysis is not relevant to explain this phenomenon. Huang (2000) underlines that
the null object must be coreferent with the matrix subject in (39a), while it can be coreferent
with either the subject or a discourse topic in (39b). However, my informants (four women
aged 35-40, living in Helsinki) consider the ‘external’ coreference in (39b) as extremely
marginal (almost to be excluded) in the absence of additional context, maintaining that the
null object must be coreferent with Kalle since it is “what the sentence is about”. To obviate
reference with respect to Kalle they require the use of an overt pronoun (or a full DP). These
judgments show that the ‘option’ in (39b) is reduced in fact to one formal requirement,
namely, that the null object be coreferent with the current Aboutness Topic. In this line of
reasoning, the obligatory coreference in Burmese (39a) can be attributed to the impossibility
of topic-drop in this language (for reasons to be investigated).

Finally, in some languages argument-drop is invariably associated with Topic-drop. This
is the case with (some) Germanic languages, in which both a subject and an object can be
dropped, as is exemplified respectively in (40) and (41) below (from Sigurðsson and Maling
2006):

(40) a. (Ich) kenne ___ das nicht (German)
     b. (Jag) känner ___ det inte (Swedish)
     c. (Ég) þekki ___ það ekki (Icelandic)

I know that not
‘(as for me) I don’t know (it).’

(41) a. (Das) kenne‘ich ___ nicht (German)
     b. (Det) känner‘ja(g) ___ inte (Swedish)
     c. (það) þekki‘é(g) ___ ekki (Icelandic)

that recognize-I not
‘This, I don’t know.’

Sigurðsson and Maling propose that in these languages argument-drop is subject to the
Empty Left Edge Condition (ELEC), so that null arguments are only allowed when the left
edge of the C-domain is empty. Any intervening Topic creates intervention effects:

(42) a. *Jetz kenne ___ das nicht (German)
     b. *Nu känner ___ det inte (Swedish)
     c. *Núna dekkí ___ það ekki (Icelandic)

now know that not

These data seem to be consistent with the general picture drawn in this paper, namely that
arguments can be dropped when they are coreferent with the local Aboutness Topic.
However, they also show that other Topics create Minimality effects implying that the left
periphery of these languages does not allow multiple realizations (differently from Italian). In
the spirit of the present proposal, it is tentatively suggested that this difference derives from independent core grammar properties of these languages, the scrutiny of which cannot be handled in this work.

6. Further Syntactic evidence
6.1 Preverbal ‘subjects’ and raised datives

Since the interpretation of referential pro depends on a matching relation with the Aboutness-shift Topic, when a NS is apparently bound by a ‘subject DP’, the latter is either the local Aboutness Topic or the ‘repetition’ of a previously established one. Specifically, we have seen that continuing Topics are merged in the FamP projection, in which D-linked information is realized and interpreted by means of a low tone.

This means that in a sentence like (43a) below, it is not the case that Carla is the antecedent of the NS in the embedded (adverbial) clause. Rather, both the subject pro and the Familiar Topic Carla are bound by a silent Aboutness-shift Topic in the matrix clause (cf. (43b)).

(43) a. [mentre andava a scuola] Carla mangiava una mela.
   while go.PAST.3SG to school Carla eat.PAST.3SG an apple
   ‘While (she was) going to school, Carla would eat an apple.’

   b. [ShiftP <Carla,> [mentre andava [pro_k a scuola]] [FamP Carla_k [AgrSP mangiava [pro_j una mela]]]]

It is clear that in a sentence like (43a) Carla cannot be a newly introduced referent. Such a sentence presupposes that Carla has been previously established as the Aboutness Topic, and here repeated in a low Topic position. The presence of a null Topic is supported by data. Consider, for instance, the ungrammaticality of (44), in which a different Aboutness-shift Topic is overtly proposed:

(44) *Luisa_k [mentre andava pro_k a scuola] Carla_j mangiava pro_j una mela.
   ‘*Luisa, while going to school, Carla was eating an apple.’

The problem in (44) is the interpretation of the matrix pro, given the mismatch between the c-commanding Familiar Topic (Carla) and the Aboutness-shift Topic (Luisa). Sentence (44) therefore shows that a Familiar Topic (like Carla in (44)) cannot satisfy the Interpretation Requirement (38) when its referential features are not a copy (through re-Merge) of the current Aboutness-shift Topic. As a matter of fact, in order to obtain the interpretation that ‘Carla was eating an apple while Luisa was going to school’, the DP Luisa must be realized as a Topic in the adverbial clause (so that it can locally c-command the subordinate pro), while Carla can refer to the silent Aboutness Topic in the matrix C-domain:

(45) [ShiftP <Carla,>[mentre [Luisa_k [pro_k andava a scuola]]] [FamP Carla_j [pro_j mangiava una mela]]]
   ‘<As for Carla> when Luisa was going to school, Carla would eat an apple.’

The assumption that a preverbal ‘subject’ serving as the antecedent for a NS is a Topic can also account for a number of syntactic asymmetries like the following:

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53 The position of the adverbial clause is immaterial for the purposes of the present analysis. For proposals and discussion, cf. Lipták (2005).
In (46a-d) the DP Mario is contained in a relative clause that is part of a DO-Topic (resumed by the clitic la). Given this type of construction, it is clear that nominative subjects (46a), raised datives (46b) and clitic-resumed Topics (46c) can be coreferent with the matrix pro (though the latter yields some marginal effect), while this possibility is excluded for non clitic-resumed Topics (cf. (46d)). According to the present analysis, this means that nominative, raised datives and clitic-resumed Topics can be the low (Familiar) copies of a silent Aboutness-shift Topic, while this is not possible for non clitic-resumed Topics:

(47) a. [Mario] [la storia [che Mario ha detto a me]] la dice pro a tutti
b. [Mario] [la storia [che a Mario piace di più]] la dice pro a tutti
c. [Mario] [la storia [che a Mario gli hanno raccontato]] la dice pro a tutti
d. *[Mario] [la storia [che a Mario hanno raccontato]] la dice pro a tutti

The extrasentential Merge that is assumed for clitic-resumed Topics provides an explanation for this asymmetry. In (47a-c) the DP Mario is a Topic in the relative clause. It is therefore located in an A’-position and, as such, it can be coreferent with the Aboutness-shift Topic. Non-clitic resumed Topics, on the other hand, are merged in the vP-phase and move to some specific A-position higher than AgrSP (cf. Hinterhölzl and Pili 2004). This means that in (47d) coreference between the Aboutness Topic and the PP a Mario is excluded.

6.2 A Note on postverbal Subjects

Throughout this paper, evidence has been provided that preverbal subjects that serve as antecedent for pro are merged as Topics (i.e., they are A’-constituents in the C-domain). What about postverbal subjects? Depending on their syntactic and intonational properties, they are generally associated with Focus and focused DPs cannot start a Topic chain (cf. section 4.2). However, a postverbal subject can share referential features, as can be easily shown by sentences like the following:

(48) a. [quando ha parlato Leo] ha pro convinto tutti.
‘When Leo spoke, he convinced everybody.’

The marginality of (47c) can be attributed to a non-perfect identity between the Aboutness-shift Topic (the DP <Mario>) and the Topic PP (a Mario), which somehow biases the matching.

\[54\] The marginality of (47c) can be attributed to a non-perfect identity between the Aboutness-shift Topic (the DP <Mario>) and the Topic PP (a Mario), which somehow biases the matching.
b. \[ la storia che ha raccontato Leoₖ \] l'ha proₖ raccontata proprio bene!
The story that Leoₖ told, heₖ could tell it really well!

These data, however, do not challenge the argumentation provided so far, but simply show that postverbal subjects, given the appropriate context, can be coreferent with the local (silent) Aboutness-shift Topic that is responsible for the interpretation of pro. This means that sentences like (48a-b) imply the presence of the DP Leo as a silent Aboutness-shift Topic in the local C-domain:

(48b') \[ \text{ShiftP <Leoₖ> [DP la storia [CP che [ha raccontato Leoₖ]] l'ha proₖ raccontata…} \]

This assumption is substantiated – once more – by the fact that if we assume a different (overt) Aboutness-shift Topic (e.g., Marco), the relevant coindexing is excluded and coreference is only possible with Marco:

(49) \[ \text{ShiftP Marco} [quando [l'ha visto Leoₖ]] [si è proₖ molto sorpreso]]

The possibility for a postverbal (focused) subject to be coreferent with a Topic (which is the antecedent of a pro) is not a surprise. As noted by several authors, Focus cuts across the old/new dichotomy and its pragmatic characterization is not uncontroversial (cf. Rochemont and Culicover 1990; Calabrese 1992 for discussions). Contrastive Focus in particular has been distinguished from information Focus on the basis of the fact that it can be ‘given’ in the discourse (Zubizarreta 1994) and its newness consists in the identification of a referent with the exclusion of others in a given set (cf. Kenesei 2006). In other words, Focus is asserted information and any constituent can be asserted, independent of its activation in the discourse. Hence, a contrastive Focus can identify as new information a referent that is proposed as the Aboutness Topic in the question and be followed by a coreferent pro:

(50) A: Leoₖ e sua sorella, sono venuti alla festa, vero?
   ‘As for Leo and his sister, they came to the party, didn’t they?’
   B: No: è venuto solo LEOₖ. E proₖ si è divertito molto.
   ‘No: only LEO did. And he had a lot of fun.’

So, nothing prevents a Focus to be coreferent with a pro. What is crucial is that the head of the relevant chain is not the focused DP, but a previously mentioned Aboutness-shift Topic.

To conclude, also in sentences like (48a-b), the relevant coreference is made possible by the presence of Leo as a silent Aboutness-shift Topic in the local C-domain (on postverbal subjects cf., among others, Frascarelli 2000; Benincà 2001; Belletti 2004).

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55 As a matter of fact, a referent can be topicalized and contrastively focused in the same sentence:
(i) (per quanto riguarda) Leo, verrà LUI alla riunione (non Gianni).
   ‘(as for) Leo, HE will come to the meeting (not Gianni).’

56 Along the same lines, the contrastive Focus GIANNI in (iA) below is not the antecedent of pro in (iB) (as suggested by an anonymous reviewer). It is part of a Topic chain started by the referent Gianni, previously proposed as an Aboutness-shift Topic (and realized as a silent copy in the local C-domain; see also note 29):
(i) A: Ho visto GIANNIₖ, non Piero.
   ‘I met GIANNI, not Piero.’
   B: E <GIANNIₖ> proₖ ti ha salutato?
   ‘And did he greet you?’
6.3 Silent Topics and quantified subjects

A final piece of evidence for the present analysis comes from sentences with quantified subjects, like the one presented in (7) and repeated below as (51):

(51) [\text{ogni studente}]_k \text{ pensa che pro}_{k/lui,ij} \text{ è un genio} \\
     [every student]_k \text{ thinks that he}_{ij} \text{ is a genius}

As already mentioned (section 5.2), the interpretation of pro in this sentence cannot be accounted for in terms of Merge of [\text{ogni studente}, pro] in a single ‘big DP’. On the other hand, the relevant interpretation can be elaborated by a theory that requires a matching relation between the NS and the local Aboutness-shift Topic. Let us consider this claim in more detail.

In (51) the quantified expression \text{ogni studente} cannot be a Topic, since it does not establish a reference.\textsuperscript{57} Rather, it evokes a set containing all and only the persons who have some specific property that we associate with the fact of ‘being students’. In terms of Jackendoff (1983), we can think of \text{ogni studente} as projecting a TYPE consisting of a number of TOKENS, where the TOKENS are individuals (‘students’) identified by the (distributed) reference of \textit{ogni} (‘every’).\textsuperscript{58} Following this line of reasoning, it is proposed that, in cases like (51), the silent Topic is the TYPE and the null pronoun matches with the referential features of the individuals it includes (while the QP sits in an A-position):

(52) [\text{As for TYPE} X> [ every X thinks [ (that) X is a genius ]] \\
     \mathbf{[\ldots \cdot [+aboutness] [\varphi-features] \cdot \ldots]}]

This coreference is not optional or dependent on distance: as usual, its syntactic nature can be proved against the insertion of an overt Topic in the relevant sentence. Consider the following:

(53) \text{Leo}_k, [ \text{ogni studente}_j \text{ pensa che pro}_{k/lui,j} \text{ è un genio }] \\
     ‘As for \text{Leo}_k, \text{ every student}_j \text{ thinks he}_{ij} \text{ is a genius.’}

As we can see, in (53) coreference is only possible with \textit{Leo}, which is established as the Aboutness-shift Topic of the complex sentence. It could be objected that the NS must refer to \textit{Leo} because, otherwise, \textit{Leo} would have no role in the matrix sentence. This objection is nullified by examples like the following:

(54) \text{Leo}_k, \text{onestamente, ha molto successo con gli studenti e [ogni studente}_j \text{ pensa che pro}_{k/lui,j} \text{ è un genio}! \\
     ‘Honestly \text{Leo}_k \text{ is very successful with students and [every student}_j \text{ thinks he}_{ij} \text{ is a genius.’}

Even though \textit{ogni studente} is closer to the NS, it cannot serve as an antecedent for pro, that must refer to \textit{Leo}. This is expected in the present approach since the DP \textit{Leo} is established as the Aboutness-shift Topic in the matrix clause and kept silent in the second conjunct (as is shown below):

\textsuperscript{57} The fact that quantifiers cannot be topics is widely acknowledged in the literature (cf., among others, Cinque 1990, Rizzi 1997b), unless, as is shown in this paper, the speaker refers to some specific type of individuals.

\textsuperscript{58} I draw this suggestion from Zwart (2002), even though – assuming the existence of silent Topics – completely different conclusions are reached, excluding accidental reference.
On the other hand, if we posit the indefinite DP *students* as the Aboutness-shift Topic of the relevant (complex) sentence (cf. (55)), then the token *student* qualifies as a proper syntactic antecedent for *pro* in the embedded clause (cf. (55')):

\[(55)\] Gli studenti si lamentano sempre dei brutti voti con Leo, perché ogni studente pensa che pro è un genio!

‘Students always complain about bad marks with Leo, because *every student* thinks he is a genius.’

\[(55')\] ... perché [<**TYPE student**> [ogni studente] pensa che pro è un genio]]

This is further evidence that a null pronoun is valued by the referential features of the local Aboutness-shift Topic. The present account thus allows for correct predictions about the interpretation of *pro*, with the exclusion of accidental coreference.\(^{59}\)

7. Conclusions

In this paper a new approach to the interpretation of referential NSs has been proposed, in which interface and discourse-structural considerations play a crucial role. Evidence has been provided that referential pros are identified through Agree with the local Aboutness-shift Topic (sitting in the ShiftP projection).

This proposal implies the overt/covert presence of an Aboutness Topic in every predicational sentence. A Topic Criterion is thus proposed, involving an ‘extended EPP feature’ in the C-domain, namely [+aboutness]. This is consistent with the ‘phase’ framework of the Minimalist program: the Aboutness-shift Topic is endowed with an edge feature and acts as a probe, matching a null pronoun sitting in the edge of the vP phase. This allows the transmission of [+aboutness] and referential features to the null pronoun. The interpretation of referential NSs is thus reduced to an identificational requirement (cf. (38)) and the Avoid Pronoun principle is understood as a syntactic condition on the realization of strong pronouns (cf. (31)).

Interface evidence has shown that strong pronouns are used to obviate coreference with the current Aboutness Topic and that focused constituents cannot serve as antecedents of null pronouns, independent of distance. Finally, the existence of silent Topics has been proved by the intervention effect determined by the insertion of an overt Aboutness-shift Topic in the local C-domain of a NS. This analysis allows important predictions about the realization of strong vs. weak pronouns, which are borne out by data and cannot be explained in approaches relying on pragmatic principles like ‘salience’ or quantifiable criteria like ‘distance’. Checking the validity of these predictions in a cross-linguistic perspective will be the subject of future research.

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\(^{59}\) This analysis also predicts that in a sentence like the following (suggested by an anonymous reviewer) it is not possible to establish a coreference between the quantified expression and the NS:


No student understood Chomsky’s article. *pro read it very carefully.

According to the present proposal, a NS is not directly bound to a true quantifier (sitting in an A-position); rather, it matches the features evoked by the individual tokens included in the specific **TYPE** merged in Spec,ShiftP. It is therefore clear that a Negative Polarity Item cannot establish a reference because the relevant set of individuals is empty. As no **TYPE** can be evoked and no features can be matched through Agree, the relevant coreference is excluded.
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