

Chinese-type *pro* in a Romance-type null-subject language[☆]

Abstract

In this paper, I analyze null subjects in absolute clauses (AC) in Spanish, comparing them to finite-clause null subjects and infinitival subjects. AC null subjects mostly pattern like finite-clause null subjects, but they cannot be identified by a rich inflection and they require a grammatically encoded antecedent (like some infinitival subjects). I propose that AC null subjects must be identified by a topic operator through the operation of AGREE, a matching operation between two categories in which one of them copies its values to the other. AC null subjects remain unvalued in their own clause, seeking an antecedent in the preceding clause through a mediating null topic in the absolute clause's periphery. Finite-clause null subjects, on the other hand, are identified within their own clause by verbal morphology through the same AGREE mechanism. Two distinct ways of relating null subjects to discourse-antecedents are proposed, one for finite-clause subjects, one for absolute-clause subjects. By proposing a distinct discourse-identification process not mediated by rich agreement, this proposal opens the door to a unified theory of null referential categories, in which discourse-topic identification plays a central role.

Keywords: Null subjects, Agree, coreference, feature-valuation, absolute clauses, Spanish

1. Introduction

Traditional Generative theory assumes a clear division between the null subjects of inflected verbs (*pro*) in null subject languages (NSL) like Spanish or Italian, and null subjects of infinitival verbs (*PRO*) (with the exception of Borer 1989 and Kawasaki 1993). One crucial distinction involves Case: for *pro*, the availability of tense allows for Case assignment to the subject, whereas infinitivals, lacking tense, cannot. Lacking Case (or having a different type of Case, as in some analyses), overt DPs will not occur as subjects of infinitivals.

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From another perspective, *pro* is available because the morphological properties of inflection encode enough information to recover its content (Perlmutter 1971; Rizzi 1986; Chomsky 1981 and Jaeggli and Safir 1989 among others). This intuitively distinguishes languages like English, without NS, from languages like Spanish, with a full spectrum of referential and non-referential NS. This intuitive notion of whether a language can recover the content of a null subject has been formalized as **identification**. Empirically, identification is an essential way to capture the distinction between English-type and Spanish-type languages. Conceptually, it captures the insight that the semantic interface requires enough overt information to process the content of a referring expression. In the case of a null category, such identification process must come from the surrounding environment. From this point of view, *PRO* must also be identified through control, a theory that has been traditionally disconnected from identification of *pro*.

While *pro*-identification can be argued to correlate with richness of verbal inflection, it is well-known that Chinese-type languages lack any verbal inflection but do allow null subjects (see below for full discussion). As Huang (1984) initially noted, the subject in these languages can be identified by a discourse topic. The possibility of *pro*-identification through a discourse topic is taken up again by Frascarelli (2007) for Italian, opening up the possibility that discourse identification plays a more fundamental role in identification of null referential categories across-the-board.

In this paper, I analyze the distribution of null subjects in absolute clauses (henceforth AC) in Spanish, showing that they have mixed properties of *PRO* and *pro*, and that they cannot be subsumed under the traditional analysis of finite-clause *pro* as identified by some property of inflection. On the one hand, the subject of ACs can be null or overt, suggesting that they are not *PRO* but *pro*. On the other hand, the inflectional properties of AC predicates lack the necessary information to identify *pro*. I will argue that *pro* in this context is identified by a discourse antecedent, grammatically encoded as a discourse topic. However, I argue that this discourse topic cannot be identified with the one proposed by Frascarelli (2007) for finite-clause *pro* in Italian. This proposal provides further evidence for the essential role of discourse operators in the identification of null categories, not only in Chinese-type languages, but also in Spanish-type.

The specific identification mechanism I will adopt is a version of Chomsky's notion of AGREE (cf. Chomsky, 2000, 2001), by which two categories with matching features share the value of those features. I will build on Pesetsky & Torrego's (2001, 2007, 2006, 2004) contributions in order to distinguish between feature valuation and interpretability. *Pro* is argued to be a category with unvalued features that must be identified by valuing those features. Valuation will be done by INFL, which in finite clauses will have the relevant content. In the case of ACs, INFL will also be unvalued, hence *pro* must seek another antecedent (a discourse topic). In order to respect the locality constraints on AGREE, I will argue that the discourse topic is located at the edge of the AC clause, and this topic will, in turn, seek an overt antecedent in an adjacent clause.

The main contributions this paper makes are 1) to describe an environment where *pro* cannot be identified by inflection, even within a rich-inflection language like Spanish, 2) to propose an AGREE-based mechanism to formalize the notion of discourse identification of *pro*, and 3) to open the door for a unified theory of null referential

categories, in which discourse-topic identification plays a central role.

The paper is organized as follows: section 2 discusses the distinctions proposed in the literature between *pro* and *PRO*, section 3 presents the distribution of null subjects in ACs. In section 3.1, I compare the distribution of null AC subjects, finite *pro* and *PRO* and in section 3.2, I turn to the conditions that antecedents of AC *pro* have. Section 4 presents previous accounts of finite *pro* identification, and section 5 builds on those accounts to provide an analysis of AC *pro*. In section 5.1, I review proposals on the structure of ACs and assume a version of Pérez Jiménez (2008); in section 5.2, I lay out the account of AC *pro* identification based on the AGREE mechanism. Section 6 analyzes the nature of the topic antecedent, with a particular focus on framing the current proposal against Frascarelli's (2007) analysis (sect. 6.1), who argues that finite *pro* is also bound by a topic. Section 6.2 compares the distribution of finite *pro* and AC *pro* and section 6.3 derives those differences, proposing that finite *pro* has a broader range of binder antecedents than AC *pro*. Section 6.4 presents a case in which the AC *pro* is accommodated to be the main-clause topic. Finally, section 6.5 attempts to extend the analysis to cases in which the antecedent of the null subject is not an obvious topic of the main clause. Section 7 presents the overall conclusions of the article.

2. On *PRO* and *pro*

The null categories *PRO* and *pro* have been considered completely different null categories (with the exception of Borer, 1989 and Kawasaki, 1993). While both can appear as arguments (typically subjects) of verbs, their distribution is different: *PRO* usually appears as the subject of an infinitival clause, and is in complementary distribution with overt subjects. *Pro*, on the other hand, is usually the subject of a finite clause, and appears in the same environments as overt subjects. Furthermore, some languages have *PRO* and lack *pro*, while others have both.

Both categories are referentially dependent, specifically, *pro* is usually assumed to be a pronoun, whose referential content is determined in the same way as overt pronouns achieve their reference.

The distribution of *pro* has been accounted for by three different approaches: One very influential line of analysis (Taraldsen, 1978; Rizzi, 1986) suggests that *pro* is identified by the morphologically rich properties of inflection. Like any other null category, it is licensed under government, and it is identified by the category that licenses it. In order for identification to succeed, the governing head must have the relevant content to pass on to the null category. A second line of analysis represented most recently by Frascarelli (2007) suggests that identification of *pro* is done by a discourse topic in the left-periphery of the clause. Unlike in Rizzi's approach, this identification process is not done under government, but rather as a distance relationship between the discourse topic and *pro*.

A third line of analysis suggests that the referential properties of null subjects reside in the inflectional properties themselves, not in an empty category (see, for example, Borer, 1986; Alexiadou and Anagnostopoulou 1998:529 and Barbosa, 2009).¹

¹If referentiality is housed in the inflectional properties of T, the only reason to postulate *pro* is the Ex-

In the Generative tradition, the distribution of *PRO* has been derived in one of three ways: As a by-product of the Binding Theory, by appealing to a distinction in Case assignment, or for obligatory control (see below), as an instance of movement. The preponderant view before the early 1990s assumed that *PRO* is both an anaphor and a pronominal, hence it can only appear wherever its binding domain cannot be determined, i.e. in ungoverned positions. Since infinitival inflection does not govern the subject position, one expects *PRO* to be possible precisely in that position.

The second approach assumes that *PRO* can only appear in positions where it does not receive Case, typically as subject of infinitivals, which cannot assign Nominative. Conversely, assuming that overt NPs require Case, it also follows that overt NPs cannot appear as subjects of infinitival clauses, unless some other category (like *for*) independently assigns them Case.

For both conceptual and empirical reasons, Chomsky and Lasnik (1993) argue that *PRO* does receive Case, specifically “null case”, which can only be checked by the T^0 of an infinitival clause. Hornstein (2003:17) raises some questions for this proposal, particularly for the version suggested by Martin (1996), and suggests the alternative that Obligatory controlled *PRO* is a trace of movement.

The literature has traditionally recognized at least two kinds of *PRO*: obligatorily controlled (OC) and non-obligatorily controlled (NOC). Their distributional and interpretive properties are clearly distinct, as Hornstein (2000:32-33) summarizes: OC requires an obligatory, local and c-commanding antecedent (cf. 1a-c) respectively). The antecedent cannot be split, it cannot have strict identity in ellipsis contexts, and it OC *PRO* only accepts *de se* readings (cf. (1d-f)). None of these properties hold of NOC, as seen in (2).

- (1)
- a. **It was expected PRO to shave himself.*
 - b. **John thinks that it was expected PRO to shave himself.*
 - c. **John’s campaign expects PRO to shave himself.*
 - d. **John_i told Mary_j PRO_{i+j} to leave together.*
 - e. *John expects PRO to win and Bill does too (=Bill win).*
 - f. *The unfortunate expects PRO to get a medal (believes of himself).*
- (2)
- a. *It was believed that PRO shaving was important.*
 - b. *John_i thinks that it was believed that PRO_i shaving himself was important.*
 - c. *Clinton_i’s campaign believes that PRO_i keeping his sex life under control is important for electoral success.*
 - d. *John_i told Mary_j that PRO_{i+j} leaving together would be great.*
 - e. *John thinks that PRO getting his resumé in order is important and Bill does too (=getting John’s resumé in order).*

tended Projection Principle (EPP). However, Alexiadou and Anagnostopoulou (1998:531) have also argued that the EPP is satisfied by referential agreement. In Frascarelli’s (2007) analysis, *pro* identification is not directly linked to T, but rather to an [+aboutness] feature related to the left periphery.

- f. *The unfortunate believes that PRO getting a medal would be boring (not necessarily believes of himself).*

From this short presentation, it should be clear that *pro* and *PRO* have very different distributions and syntactic properties: *pro* has Case like other overt NPs, *PRO* lacks Case (or gets a different one, depending on the analysis). *Pro* appears as the subject of finite clauses in languages with the right type of inflection, *PRO* is not constrained by the type of agreement a language displays. Finally, *pro* is connected, at least in the Romance subset of NSLs to the availability of alternative SV/VS word orders, whereas *PRO* is not necessarily so (since it exists in languages where no such word order variation exists).

In the next sections, I will review a case in which the distinction between *pro* and *PRO* breaks down. Specifically, I will argue that certain null subjects in Spanish display the properties of *pro* but are not identified by agreement. Rather, they are identified by a topic operator (as Frascarelli, 2007 proposes), but in ways that are different from *pro* in inflected clauses. This conclusion converges with Borer's proposal (cf. Borer, 1989) that subjects of gerunds and infinitival are *pro*, identified through an antecedent in the matrix clause.

3. Null subjects in absolute constructions

Absolute constructions (AC) are adjunct clausal structures with a predicate and a subject, as illustrated in (3) (cf. Hernanz, 1991; De Miguel, 1992; Gunnarson, 1994; López, 1994; Marín, 2000; Alcázar, 2007; Alcázar and Saltarelli, 2007; Pérez Jiménez, 2008; Bruno, 2011). Several categories can appear as a predicate of the AC, among them participials, PPs, APs, and adverbs (cf. (3a-d) respectively).²

- (3) a. *Muert-o el perro, se acabó la rabia.*
 dead-MASC.SG the.SG.MASC dog.SG.MASC CL finished the rabbies
 'With the dog dead, rabbies was over.'
- b. *En su casa para poder recibir el paquete, Doris pudo evitar*
 in her house to be able to receive the packet, Doris could avoid

²As an anonymous reviewer points out, it is important to distinguish absolute clauses of the type discussed in this paper from other adjunct clauses headed by infinitives and gerunds. The latter two allow *se* and can have non-grammatically encoded antecedents, as shown in (i)-(ii) and (iii)-(iv) respectively. ACs lack these two properties, as I will show below.

- i. *De castigarse a los culpables, todo andaría mejor*
 of punish.CL to the guilty, everything would go better
 'If the guilty were punished, everything would be better.'
- ii. A: *¿Cuándo la encontraste muerta?*
 A: 'When did you find her dead?'
 B: *Al llegar a casa.*
 upon arrive.INF to house
 B: 'Upon arriving to the house.'

mojarse.

get.CL

‘(Being) at home to be able to receive the package, Doris could avoid getting wet.’

- c. *Incómod-o por el incidente, Jaime evitó encontrarse*
uncomfortable-MASC.SG by the incident, Jaime avoided run into
con su jefe.
with his boss
‘Uncomfortable about the incident, Jaime avoided running into his boss.’
- d. *Lejos ya el fantasma de la guerra, la agricultura volvió a*
far already the ghost of the war the agriculture started to
desarrollarse.
develop.CL
‘The ghost of war far away, agriculture started to develop.’

Under certain circumstances, the subject of the AC can be null, as seen in (3b-c) and (4).³

- (4) *Una vez muert-o, el perr-o no pudo morder más.*
once dead-MASC.SG the.MASC.SG dog-MASC.SG not could bite more
‘Once dead, the dog could bite no more.’

Given the interpretation of these constructions, it seems clear that a null subject is present: The interpretation of (3b-c) involves someone being in the house and being uncomfortable respectively, and that subject must be coreferential with an argument in the main clause (*Doris* and *Jaime* respectively). The fact that the AC subject can be null raises the issue of what type of null category it is and how it is identified.

3.1. The nature of the AC null subject

The typology of referential null categories includes finite *pro*, OC and NOC *PRO*. Comparing the properties of these elements with those of AC subjects suggests a mixed pattern: For some properties, the AC subject patterns with finite *pro*, for others, it behaves like OC *PRO* and for a third set, it patterns with NOC *PRO*.

Regarding similarities with finite *pro*, we find that AC null subjects alternate with overt ones, as already seen in the contrast between (3a) and (4). Second, an overt pronoun in the position of *pro* would receive nominative Case, as seen in (5). Both of these properties suggest that the AC null subject is *pro*.

³The fact that there is a clear prosodic boundary between the predicate and the following constituent in (3b-d) and (4) argue against an analysis where the following DP (*Doris*, *Jaime*, *la agricultura* ‘the agriculture’ and *el perro* ‘the dog’ respectively) is the subject of the AC. Bruno (2011) adds that following Marín (2000) and Dini (1994) for Italian, the subject position coincides with a difference in temporal ordering between the clauses: [Pred+S] imposes a precedence reading (cf. (3a)), whereas [Pred+ \emptyset] does not (cf. (3b-d)).

- (5) *El profesor dividió a los estudiantes en niños y niñas y cada grupo se sentó. Una vez sentad-a-s ell-a-s, el examen empezó.*
 CL sat-3.SG.PAST once sat-FEM-PL 3P-FEM-PL, the exam began.
 ‘The teacher divided the students in two groups of boys and girls and each group sat. Once they (the girls) were sat, the exam began.’

On the other hand, AC *pro* differs from finite *pro* with respect to how it is identified. AC predicates provide no morphological clue about the person of the null subject (cf. (3a, c) above), and in some cases not even about number or gender (cf. (3b, d)). If AC *pro* and finite *pro* are the same grammatical object, the difference in morphological richness between AC predicates and finite verbs suggests that morphology is not a necessary condition to identify them.

While the existence of *pro* in languages without morphological person has been known for some time, it is usually assumed that they are identified and licensed in a different way from those in languages with rich morphology (cf. Huang, 1984, 1987, 1989). In this sense, these constructions suggest that a language like Spanish with rich inflection resembles much more a language like Chinese without inflection than previously thought. See below for further discussion.

As I will show below, AC *pro* requires an antecedent, and in this sense it could be considered different from finite, referential *pro*. However, it has been argued that finite *pro* also requires a discourse antecedent. Thus, the following sentence uttered out-of-the-blue is at least infelicitous, precisely because it lacks an antecedent. I will return to this issue below.

- (6) *#Entró en el cuarto. Buscó sus llaves. Después salió.*
 entered in the room looked.for his/her keys. Then left.
 ‘S/he entered the room. S/he looked for her/his keys. Then, s/he left.’

Turning now to a comparison between AC *pro* and *PRO*, we can see that the patterns are mixed with respect to the properties presented in (1)-(2). First, AC *pro* must have an antecedent: In (7), the only potential antecedent is feminine, and because of gender clash, it cannot identify *pro*, hence the sentence is ungrammatical.⁴ Second, antecedents that are c-commanding are much better than those that aren’t, as seen in (8). Thus, in (8a), the more deeply embedded constituent *de Miguel* ‘of Miguel’ is much harder to interpret as the antecedent of *pro* than the prenominal possessive (cf. (8b)).

- (7) **Una vez llegad-o pro_i a la casa, María_j abrió la puerta.*
 once arrived-MASC.SG pro to the house, Maria opened the door
 ‘Once he arrived at the house, Maria opened the door.’
- (8) a. **Hart-o pro_i de discutir, las palabras de Miguel_j molestaron a*
 sick-MASC.SG pro of argue the words of Miguel bothered to

⁴A reviewer points out that if there is another constituent that can serve as antecedent, the sentence can be rescued. This is true, and I think it underlines the point that AC *pro* requires an antecedent.

Mónica.

Monica

‘(Miguel being) sick of it, the words of Miguel bothered Monica.’

- b. *Hart-o pro_i de discutir, sus_i palabras molestaron a Mónica.*
sick-MASC.SG pro of argue POSS words bothered to Monica
‘(Miguel being) sick of it, the words of Miguel bothered Monica.’

However, as I will argue below, the relevant issue is not c-command, but how easily a constituent can be interpreted as a topic. In that sense, an anonymous reviewer suggests the following example, where for him/her, the embedded DP can be the antecedent of *pro*, even though there is no antecedent c-command.⁵

- (9) *Curtido por años de dolor y sufrimiento, las palabras de Miguel solo transmitían tristeza.*
seasoned by years of pain and suffering, the words of Miguel only transmitted sadness
transmitted sadness
‘Seasoned by years of pain and suffering, Miguel’s words only transmitted sadness.’

Like in the case of OC *pro*, the antecedent of the AC *pro* must be local. In the following example, *pro* cannot pick up the distant antecedent *Marta*:

- (10) *??Durante la recepción, primero entró Marta_i, inmediatamente después empezó a llover. Saludad-a pro_i, el presidente continuó con el evento.*
during the reception first entered Marta_i immediately after started to rain greeted-FEM.SG she_i the president continued with the event
‘During the reception, first Maria entered, immediately after, it started to rain. (Having) greeted (her), the president continued with the event.’

It is not possible to construct the relevant examples for sloppy identity with ACs, because they disallow ellipsis. Regarding the availability of split antecedents, they are possible, as seen in (11).

- (11) *Una vez invitad-a-s pro_{i+j}, María_i le dijo a Silvia_j que comprara un regalo.*
once invited-FEM.PL pro Maria CL told to Silvia that buy a gift
‘Once invited, Maria told Silvia to buy a gift.’

Finally, AC *pro*’s interpretation must be *de se*. Consider, for example the situation in (12) (after Pranav, 2006:14), which forces a *de se* reading. In that context, neither the AC in (12a) nor the OC in (12b) are possible, but the small clause counterpart of (12a) without the AC is possible.

⁵Coreference in this example is hard to obtain for me.

(12) John and his friends participated in a race, and three of them finished very close, although John was the winner. A local newspaper published a picture where it is clear that one of the racers has finished first, but his identity is obscured by an unexpected reflection. Not recognizing the winner, John thinks when he sees the photo: “That guy was the winner.”

- a. *??Una vez retratad-o en el periódico, Juan se declaró*
once pictured-MASC.SG in the newspaper, Juan CL declared
ganador.
winner
‘Once pictured in the newspaper, Juan declared himself the winner.’
- b. *??Juan quiere ser elegid-o ganador.*
Juan wants be chosen-MASC.SG winner
‘Juan wants to be chosen as the winner.’
- c. *Juan se declaró ganador*
Juan CL choses winner
‘Juan chose himself as the winner.’

In the table presented in (13), I summarize the patterns just described with respect to the properties of AC *pro*, finite *pro*, NOC and OC *PRO*.⁶

(13) Summary of properties of null subjects.

	OC <i>PRO</i>	NOC <i>PRO</i>	AC <i>pro</i>	Fin <i>pro</i>
Required Antecedent	Yes	Yes	Yes	?
Overt subj. Alternation	No	No	Yes	Yes
Nomin. Case-marking	No	No	Yes	Yes
Local antecedent	Yes	No	Yes	No
C-commanding antecedent	Yes	No	No	No
Split antecedent	No	Yes	Yes	Yes
Obligatory <i>de se</i> readings	Yes	No	Yes	No

From this table, we can conclude that AC *pro* shares most of its properties with finite

⁶An anonymous reviewer points out that the impossibility of having *se* with ACs groups them with OC *PRO*. One might add this to the differences between those two null categories and finite *pro*, however, all clitics are banned from AC constructions, and this is regardless of whether they have an overt or null subject. Pérez Jiménez (2008) derives this property from the null nature of inflection.

pro, with the exception that in most cases, AC *pro* requires a local antecedent. In the following sections, I will first explore the precise conditions for antecedenthood of AC *pro*.

3.2. The topic nature of the null subject antecedent

Pérez Jiménez (2008:264) points out that AC null subjects are overwhelmingly identified through the subject of the main clause, as in (4) above, where *pro* is identified as coreferential with *el perro* ‘the dog’. Quoting Kortmann (1991), she notes that 91% of antecedents of ACs in English are also subjects.

However, it is also possible to have a different argument (cf. (14)-(15)) or even adjunct as antecedent, as seen in (16) (example (14) is from Pérez Jiménez, 2008:121; (15), after Pérez Jiménez, 2008:270 ex. (38)).

- (14) *Demasiado bonit-o pro_i como para poder ocultarlo sin*
 too beautiful-MASC.SG so as to be able hide.CL without
levantar sospechas, Ana decidió devolver el paquete_i al director.
 raising suspicion, Ana decided return the package to.the director
 ‘Too beautiful so as to be able to hide it without raising suspicion, Ana decided to return the package to the director.’
- (15) *Exhaust-a-s pro_i por el esfuerzo realizado, el entrenador les dio a*
 exhausted-FEM-PL pro by the effort done, the coach CL gave to
l-a-s jugador-a-s_i un día de descanso.
 the-FEM-PL player-FEM-PL a day of rest
 ‘Exhausted by the effort done, the coach gave the players a day to rest.’
- (16) *Una vez identificad-o-s pro_i, el abogado repartió la herencia*
 once identified-MASC-PL pro the lawyer distributed the inheritance
destinada para los herederos_i.
 destined for the beneficiaries
 ‘Once identified, the lawyer distributed the inheritance destined for the beneficiaries.’

In the majority of cases, the antecedent is in the main clause, but in certain instances, it can be in the preceding clause, as seen in (17).

- (17) *El arquitecto diseñó la casa_i. Una vez construid-a pro_i, la inmobiliaria*
 the architect designed the house once built-FEM.SG pro the developer
se enriqueció.
 CL got rich
 ‘The architect designed the building Once designed the developer sold it.’

The antecedent of the AC subject *pro* cannot be an existential indefinite NP, as seen in (18a).⁷ In these examples, a bare NP with an indefinite interpretation cannot be the antecedent of the AC *pro*, whereas a definite DP can (cf. (18b)).

⁷Cf. Pérez Jiménez (2008:170, 212-3) for a slightly different interpretation of this observation: For her, AC subjects cannot be interpreted as existential indefinites.

- (18) a. **En el desfile pasaron camiones. Una vez acabad-o-s de pasar,*
 in the parade passed trucks once finished-MASC-PL of pass
pro, llegaron motos.
 pro arrived motorbikes
 ‘During the parade, trucks went by. Once (trucks were) finished going by, motorbikes arrived.’
- b. *En el desfile pasaron los camiones. Una vez acabad-o-s de*
 in the parade passed the trucks once finished-MASC-PL of
pasar, pro, llegaron las motos.
 pass pro arrived the motorbikes
 ‘During the parade, the trucks went by. Once (the trucks were) finished going by, the motorbikes arrived.’

If the indefinite is modified, it can be an antecedent (thanks to an anonymous reviewer for pointing out this example). However, in that case, they are no longer pure existential contexts: The presence of the modifying adjective makes them closer to specific indefinites. As is well-known, non-specific indefinites cannot occur as subjects of individual-level predicates, but specific indefinites can (cf. Erteschik-Shir, 1997:39-40). Erteschik-Shir attributes this difference to their discourse status.

- (19) *La empresa compró camiones usados y prometió que, [una vez puestos en*
 the company bought trucks used and promised that once put in
condiciones], serán entregados a los empleados.
 conditions will be delivered to the employees
 ‘The company bought used trucks and promised that, once fixed up, they will be delivered to the employees.’

The overwhelming subject-orientation, as well as the contrast between a bare NP and a definite DP as possible antecedents of the subject *pro* suggest that the antecedent of the AC *pro* has to be a topic (cf. Pérez Jiménez, 2008:263 and Kawasaki, 1993 for similar conclusions). This conclusion would be compatible with the observation above regarding the impossibility of bare indefinites as antecedents of AC *por*, since indefinite DPs usually do not make good topics. Gundel and Fretheim (2004:180) quote example (20) from Gundel (1988) to illustrate this point. Although in (20a) the pronoun can refer back to an indefinite in the preceding clause, in (20b) this is no longer possible because the indefinite is the topic of the clause. The same restriction against indefinite topics can explain the impossibility of having clitic left-dislocated indefinites in Romance, as illustrated in (21) (cf. Cinque, 1990; Zubizarreta, 1998; Zagona, 2002).

- (20) a. *We can't leave yet. A window is still open. It's the one in your bedroom.*
 b. **A window, it's still open.*
- (21) **Un libro cualquiera lo puedes comprar en esa librería.*
 a book whichever CL can buy in that bookstore
 ‘One book or another, you can buy in that library.’

However, as an anonymous reviewer points out, it is possible to have indefinite NPs as topics in Spanish, as seen in examples such as (22)-(23). In the second case, the null object in the answer is interpreted as the topic of the preceding question.

(22) *Dinero, nunca tuve tanto.*
money, never had so much
'Money, I never had so much.'

(23) A. *¿Viste perros?*
saw dogs
'Did you see dogs?'
B. *Sí, vi.*
yes, saw
'Yes, I saw (some).'

It should be noted that even in these cases it is impossible to interpret the null categories's antecedent as definite (i.e. as 'the recently mentioned dogs', for example). In section 6, I will return to the nature of the antecedent of AC *pro*.

To summarize up to this point, we have established the generalizations in (24).

- (24) a. The AC *pro* subject must have a grammatically encoded antecedent in another (typically main) clause.
b. The antecedent tends to be the subject of the adjacent clause.
c. The antecedent of AC *pro* is interpreted as a (discourse) topic.

In the next section I turn to the issue of how *pro* is identified in ACs. First, I will review the proposed views on this issue, and then advance a different account based on topic identification.

4. Identifying *pro*

A fairly traditional intuition connects null subjects to the availability of rich agreement morphology. As Gilligan's (1987) typological survey shows, this intuition is crosslinguistically robust, although there are notable exceptions in two directions: languages with null subjects and no agreement (Chinese-type) and very few languages with rich agreement and no null subjects. Gilligan's survey of over 100 languages finds that 76 of them have agreement and null thematic subjects, and 17 have null thematic subjects without agreement. Only two of the languages have agreement and no null subjects.

Rizzi (1986) constitutes an influential formalization of the grammar of null subjects. In his account, *pro* is subject to a licensing and an identification condition, presented in (25) (from Rizzi, 1986:519-20).

- (25) a. *Licensing of pro*: *pro* is governed by X^0 .
b. *Identification of pro*: Let X be the licensing head of an occurrence of *pro*: then *pro* has the grammatical specification of the features on the X coindexed with it.

Holmberg (2005) points out that from a Minimalist perspective, the idea of copying *phi*-features from T/AGR to *pro* is no longer tenable, since the ϕ -features on T are uninterpretable, hence they cannot serve to identify the referential properties of *pro*. Within this particular version of agreement theory, one is left with two possibilities: a) either the set of ϕ -features of AGR is interpretable, hence *pro* is unnecessary, or b) *pro* has interpretable ϕ -features that value the uninterpretable features of AGR. As a consequence, nullness is simply a phonological matter. Versions of a) are articulated in Contreras (1991); Kato (1999); Alexiadou and Anagnostopoulou (1998); Barbosa (1995, 2009); Jelinek (1984). Many of these proposals usually take preverbal subjects to be in an A-bar position, frequently assimilated to that of clitic left-dislocated constituents. Versions of b) are defended by Holmberg (2005); Roberts (2010) and Saab (2009), among others.

Note that if one assumes a version of agreement theory that distinguishes between uninterpretable and unvalued features (cf. for example Pesetsky and Torrego, 2006; 2007), Holmberg's objection no longer holds: In this framework, *pro* can have interpretable, unvalued features and T uninterpretable, valued features. In the course of the derivation, both categories agree, and the ϕ -feature values of T are copied to *pro*, yielding an interpretable, valued result.

It should be clear that a direct extension of Rizzi's identification condition in (25) to AC *pro* yields unsatisfactory results. AC predicates include adjectives, PPs and adverbs, and neither of them is associated with the kind of morphology that can anchor the reference of *pro*. Within Rizzi's analysis, *pro* would remain underspecified for such features, and would not be able to acquire reference. The same objection arises against accounts that treat finite agreement as referential (see option a) above).

Since there is no overt person feature associated with ACs, one is left with two possible alternatives to account for why *pro* is possible: either there is no connection between having explicit person morphology and identifying *pro*, or *pro* can be identified through a different mechanism. The first option is what Alexiadou and Anagnostopoulou (1998:522-23 and fn. 38) and Speas (1995) assume for null subjects in general, and it is also the underlying assumption of Pérez Jiménez's (2008) proposal for AC, which assumes that Infl/T are syntactically present, but are null (hence without an overt marking for person, number or tense). Frascarelli's analysis also assumes no direct connection between identification and morphological richness. Given the fairly robust correlation between agreement and null subjects (cf. Gilligan's study quoted earlier), it would be desirable to maintain at least some connection between identification of *pro* and overt morphology, even if indirect.

The alternative option is to assume that *pro* can be identified through a different mechanism. As suggested earlier, this option has already been proposed for Chinese-type languages. Huang (1984, 1987, 1989) notes that in Chinese, pronominals can be null if they can be recovered from the discourse, as seen in the Chinese examples in (26) from Huang (1989:188).

- (26) *Zhangsan shuo [(ta) lai le].*
 Zhangsan say he come ASP
 'Zhangsan say that he will come.'

The crucial difference between Chinese and Romance-type *pro*, according to Huang (1984), is that a subject *pro* in Chinese is controlled by an antecedent in the dominating clause, and this is possible because Chinese lacks agreement, so the local binding domain for the null category is expanded. This is what happens in an example like (26), where the empty category has *Zhangsan* as one of its possible antecedents. In Spanish or Italian, the null subject of an embedded clause is identified by AGR.

From a slightly different perspective, Frascarelli (2007) also argues that finite *pro* in Italian must be identified by a discourse topic. In her analysis, *pro* in Italian is generated as the argumental subject in vP and enters into an AGREE relationship with a DP in topic position. The Agr projection, in turn, has no role in identifying *pro*. Thus, *pro*'s ϕ -features come from the topic antecedent, not from AGR (see section 6.1 below for a longer description of Frascarelli's proposal).

Both Huang's and Frascarelli's proposals share the notion that *pro* is identified by an antecedent. In Frascarelli's case, this antecedent is locally represented within *pro*'s clause by a possibly null topic, whereas in the case of Huang, the domain in which antecedents are computed is extended to the matrix clause because Chinese lacks AGR. However, unlike Frascarelli, Huang assumes that AGR plays a role in Romance-type *pro* identification. For Frascarelli, AGR plays no such role, only agreement with a topic.

In my proposal, I will extend these ideas to the analysis of AC null subjects. Specifically, I will assume Huang's intuition that when *pro* appears without agreement, it is identified in the discourse. I also follow Frascarelli's intuition that *pro* is locally identified by a topic. However, I will show below that the type of topics that can identify finite and AC *pros* are different in crucial ways, which, I believe, are connected to the presence of AGR in finite clauses. In this sense, I diverge from Frascarelli in assuming that AGR does play a role identifying *pro* in finite clauses.

One last important proposal for current purposes is Borer (1989). Although her account attempts to explain the distribution of subjects of infinitives and gerunds, the intuition on which it is based will also serve as a point of departure for the analysis I will propose. Borer assumes that subjects are coindexed with INFL, and as part of INFL, AGREEMENT can be either anaphoric or pronominal. If anaphoric (for example, with controlled infinitives), it must be bound by an antecedent. This antecedent may be in the matrix clause because movement of INFL to C extends the binding domain to the whole clause.

To summarize this section, I have presented a brief overview of proposals regarding how null subjects are identified. These analyses fall into two large categories, those that link identification to some version of overt morphology (essentially Rizzi's), and those who take *pro* identification to derive either from an abstract, possibly null AGR head (Pérez Jiménez 2008), or from a topic (Huang, Frascarelli).

In the next section, we will turn to a specific proposal for AC *pro* in Spanish based on the idea that it is identified by a topic, whereas finite *pro* can be identified by AGR.

5. Towards an account of AC *pro*

5.1. The structure of AC

Most analyses of ACs derive their distribution from their alleged aspectual properties. Hernanz (1991), De Miguel (1992), López (1994) and Bruno (2011), argue that ACs lack the complete functional architecture of a clause, and that their subjects are Case-licensed by an aspectual projection. These analyses share the notion that ACs are aspectually restricted in some way. For example, De Miguel assumes that the aspectual node encodes perfective, resultative aspect, which makes ACs compatible only with telic predicates (cf. also Bruno, 2011). However, Pérez Jiménez (2008:170) points to examples where telicity is not required (cf. (27)), and also suggests that ACs are not necessarily restricted to perfective, resultative aspect, but display the same aspectual values as participles do in regular compound tenses.⁸

- (27) a. *Mecid-a la cunita con suavidad, el niño al final se quedó*
rocked-FEM.SG the cradle with care the child finally CL fell
dormidito.
asleep
'(Having) rocked the cradle gently the child fell asleep.'
- b. *Empujad-a la moto cuesta abajo con mucho impulso, al final*
pushed-FEM.SG the motorbike downhill with much impulse finally
acabó arrancando.
ended starting
'(Having) pushed the motorbike downhill with great effort, it finally
ended up starting.'

Gunnarson's (1994) and Pérez Jiménez's (2008) analyses differ from all of the preceding ones in arguing that ACs have exactly the same functional architecture as regular finite clauses do. The lower thematic layer of the structure starts with a Predication Phrase which takes as its complement an AP, PP, AdvP, ParticipialP or DP. In addition, ACs have an AspP, a TP and a CP, like regular clauses. However, unlike in regular clauses, neither of those projections is headed by an overt affix, so the predicate is not required to move to them. In effect, T, Asp and CP are null.

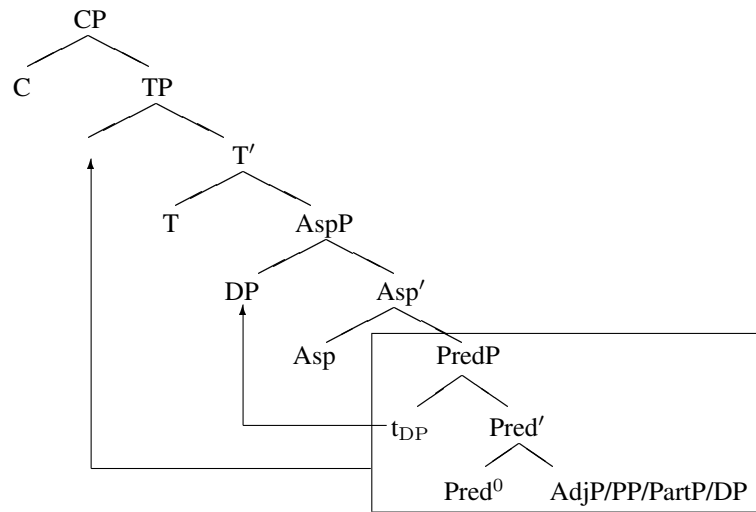
In order to account for the obligatory Pred-S word order of ACs, Pérez Jiménez proposes a remnant-movement analysis in which the subject of the Predication Phrase raises below TP, and the remnant Predication Phrase raises to the specifier of TP to satisfy a parametrized EPP option. She assumes that the EPP can be satisfied in three ways: Through a nominal phrase in Spec, TP (for English), by V⁰ raising to T (in the

⁸Hernanz (1991) assumes that AspP encodes the individual/stage-level distinction, since for her only stage-level predicates can appear in ACs. However, as Pérez Jiménez (2008:180) shows, this is not the case, at least if one takes compatibility with *ser* as a diagnostic of individual-level predicates:

- (i.) *Culpable la muchacha del delito, los jueces decidieron internar-la en un psiquiátrico.*
guilty the girl of the crime the judges decided commit-CL in a psychiatric hospital
'The girl being guilty of the crime, the judges decided to commit her to a psychiatric hospital.'

case of finite clauses), or by a full phrase of any kind moving to Spec, TP (the option usually available for predicate-fronting languages). ACs exemplify this last parametric option within Spanish, because T^0 is marked with a feature EPP_{Pred} . In this sense, ACs share this syntactic setting with predicate-fronting languages. The full derivation for an AC is presented in (28) (cf. Pérez Jiménez, 2008:229).

(28) Pérez Jiménez' structure for AC.



Evidence for the initial subject movement comes from the fact that subject NPIs are only licensed with an overt negation (cf. (29)). If the subject were to raise higher than TP, one would expect NPIs to pattern like their preverbal negative counterparts, which do not require overt negation (cf. (29c)).

- (29) a. *Desparecid-a una/ *ninguna joya en el robo ...*
 disappeared-FEM.SG a/ no jewel in the robbery
 '(Having) disappeared a/*no jewel in the robbery ...'
- b. *No desparecid-a una/ ninguna joya en el robo ...*
 not disappeared-FEM.SG a/ no jewel in the robbery
 'Not (having) disappeared a/no jewel in the robbery ...'
- c. *Una/ Ninguna joya despareció en el robo.*
 a/ no jewel disappeared in the robbery
 'A/no jewel disappeared in the robbery ...'

An anonymous reviewer argues that the impossibility of having floated quantifiers with ACs (noted by Aranovich, 2002) challenges Pérez Jiménez's assumption that the subject moves to Spec, AspP. The data presented in (30) show that *todas* must appear in its pre-DP position, and cannot be left stranded either after the subject (cf. (30b)) or clause-finally (cf. (30c)).

- (30) a. *Una vez caídas todas las hojas del árbol . . .*
 once fallen all the leaves of the tree
 ‘Once all the leaves of the tree (had) fallen . . .’
- b. **Una vez caídas las hojas todas del árbol . . .*
 once fallen the leaves all of the tree
- c. **Una vez caídas las hojas del árbol todas . . .*
 once fallen the leaves of the tree all

I believe the challenge these data might pose relates to the position of the remanent (*del árbol* ‘of the tree’, not so much for subject-raising. Assuming that this PP is generated inside the PredP, if PredP movement is obligatory, one would expect the order in (30a) to be ungrammatical. However, Pérez Jiménez (2007:244) argues that alternative word orders such as (30a) follow from a prosodically motivated movement (cf. Zubizarreta, 1998) that right-moves the PP. Whatever process accounts for the predicate order in (30a), what seems clear is that the data in (30b, c) are consistent with the remanent movement analysis: Assuming that a floated position for *todas* ‘all’ is always Pred-internal, the fact that PredP has moved to Spec, TP means that *todas* will never appear after the subject, because the subject is lower.

I adopt Pérez Jiménez’s proposed structure for ACs. However, as she notes, the nature of the functional heads is not the same as that of a regular clause, since the temporal and aspectual affixes that are usually present in finite clauses are null in this structure. As a consequence of this difference, T will not be specified for person and number as it is with a finite clause and cannot identify AC *pro*. However, nothing prevents it from checking Case on the subject.

5.2. A proposal for AC *pro* identification.

The general idea to be developed proposes that AC *pro* is identified by a local topic through the mechanism of AGREE.⁹ Finite *pro*, on the other hand, is (locally) identified by agreement. I propose a reformulation of Rizzi’s condition on identification as an AGREE operation that provides values *pro*’s features. In order to formalize this notion, I assume Pesetsky and Torrego’s (2001, 2007, 2004, 2006) version of AGREE, in which agreement features are marked as interpretable/uninterpretable (i.e. visible/invisible at the interface) and as valued/unvalued (i.e. with/without specific content). In the course of AGREE, two categories that have a matching feature α will share a feature value. For example, an adjective and a noun will AGREE as in (31).¹⁰

- (31) a. *casa blanca*
 house.FEM white.FEM
 ‘White house’

⁹Cf. Kawasaki (1993) for a related approach to English adjunct clauses and Sánchez (2010) for an analysis that generalizes AGREE to many discourse relations in Quechua.

¹⁰I represent uninterpretable and interpretable as *u, i*, respectively, and unvalued as $\{-\}$. Thus, $u\phi\{-, -\}$ represents an uninterpretable, unvalued ϕ -feature. A bidirectional arrow means that an agreement relation is active between categories, a unidirectional arrow means that one category values the other one.

reasonable that those feature-values are provided by some other category in the environment. The alternative option, namely that *pro* comes fully specified for ϕ -features has some empirical shortcomings: it predicts that *pro* should be available anywhere where the corresponding explicit counterpart is available, for example as PP complements, subjects of ECM constructions, etc. However, this is not the case, as seen in (34).

- (34) a. *Hablamos de él/*pro*
 talk about him/pro
 ‘We talked about him.’
 b. **Veo pro cansado*
 see pro tired
 ‘I see (him/her) tired’

I assume that ϕ -features are divided among two distinct heads: T and Agr. T has the specification for tense (associated with Case), Agr for person and number, as in (35). Finite tenses are associated with valued settings for each of those features, as in (35a), whereas infinitival tenses have those same features unvalued, as in (35b).

(35) Specifications for T/AGr

- | | |
|---------------------------------|------------------------|
| a) Finite T | b) Non-finite T |
| [<i>i</i> Tense{ γ }] | [<i>i</i> Tense{-}] |
| c) Finite Agr | d) Non-finite Agr |
| [<i>u</i> Person{ α }] | [<i>u</i> Person{-}] |
| [<i>u</i> Number{ β }] | [<i>u</i> Number{-}] |
| [<i>u</i> Gender{-}] | [<i>u</i> Gender{-}] |

The main reason for separating T from Agr has to do with the behavior of interpretable and uninterpretable features under ellipsis. As Saab (2009, 2010) points out, interpretable features never trigger partial identity effects under ellipsis. Thus, when a verb is gapped, interpretable tense must be identical to its overt counterpart (cf. (36)), whereas uninterpretable person and number on the verb need not be identical, as shown in (37).¹³

- (36) a. *María ha leído mucho y Elena también ha leído mucho.*
 Maria has read much and Elena also has read much
 ‘Maria has read a lot and Elena too.’

¹³The distinction between interpretable tense and uninterpretable person/agreement facts pointed out by Saab with respect to ellipsis do not translate immediately to null subjects. In fact, examples like (i) require strict identity of person, number and tense, hence cannot be interpreted as in (ii). Furthermore, it is strictly not possible to replicate (37a) with a null subject, as shown in (iii). This is because gapping requires contrastive stress, and *pro* cannot bear stress. Despite this asymmetry between null and overt pronouns, I will assume that ϕ -features on AGR are uninterpretable and tense features on T are interpretable across-the-board.

(i) #*El sábado fuimos al cine, y el domingo también fui al cine.*
 the Saturday went.1.PL to the movies and the Sunday too went.1.SG to the movies
 ‘Saturday we went to the movies and Sunday too (I went to the movie)’

- b. **María ha leído mucho y Elena en el futuro también leerá mucho.*
 Maria has read much and Elena in the future also will read
~~mucho.~~
 much

- (37) *Juan compró caramelos y nosotros también compramos caramelos.*
 Juan bought.3.SG sweets and we too bought.3.PL sweets
 ‘Juan bought sweets and we did too.’

The generalization regarding strict identity and interpretability can be naturally accommodated if uninterpretable person/number are part of AGR but interpretable tense is part of T. In the following discussion, I will nevertheless collapse AGR and T under INFL for presentational purposes, and the features [person] and [number] under ϕ -features.

With these assumptions in mind, I propose that *pro* has an unvalued set of interpretable ϕ -features that has to be valued. In the case of finite *pro*, INFL’s [person] and [number] will fill *pro*’s unvalued features, as seen in (38).

- (38) a. *Pro vino ayer.*
 pro came.3.SG yesterday
 ‘S/he came yesterday.’
- b. [IP pro I [VP]] \rightarrow [IP pro I [VP]]
- | | | | | |
|---------------------------|-------------------------|-------|---------------------------|-------------------------|
| <i>iGen</i> { - } | <i>uGen</i> { - } | | <i>iGen</i> { - } | <i>uGen</i> { - } |
| <i>uT</i> { - } | <i>iT</i> {PST} | | <i>uT</i> {PST} | <i>iT</i> {PST} |
| <i>i</i> ϕ { - , - } | <i>u</i> ϕ {3, SG} | | <i>i</i> ϕ {3, SG} | <i>u</i> ϕ {3, SG} |
| ↑ | ↑ | ----- | ↑ | ↑ |
| ϕ -feature agreement | | | ϕ -feature valuation | |

If there is no category with the relevant ϕ -features or those features are unvalued, then *pro* will not be identified. That is the case for gender in (38b) above, and also what happens in the case of infinitivals, whose inflection lacks a value for Case.

Turning to the AC *pro*, the main issue is how to account for its mixed properties as a *pro* that requires an antecedent. Like finite *pro*, AC *pro* has interpretable, unvalued ϕ -features, and uninterpretable, unvalued T (i.e. Case). The inflectional heads that appear in AC, on the other hand, will be crucially different than that of finite clauses, specifically [person] and in some cases [number] will be unvalued. ACs with participials and adjectives will have valued [gender]. The agreement process is depicted in (39).

-
- (ii) *El sábado fuimos al cine, y el domingo también fui al cine.*
 the Saturday went.1.PL to the movies and the Sunday too went.1.SG to the movies
 ‘Saturday we went to the movies and Sunday too.’
- (iii) **Juan compró caramelos y nosotros también compramos caramelos.*
 Juan bought.3.SG sweets and we too bought.3.PL sweets
 ‘Juan bought sweets and we did too.’

- (39) a. *Saludad-a pro ...*
 greeted-FEM.SG pro
 ‘Greeted ...’
- b. $[\text{IP } \text{I } \text{pro } [\text{PredP }]]$ \rightarrow $[\text{IP } \text{I } \text{pro } [\text{PredP }]]$
- | | | | |
|---------------------------|--------------------|---------------------------|---------------------------|
| $u\text{Gen}\{\text{F}\}$ | $i\text{Gen}\{-\}$ | $u\text{Gen}\{\text{F}\}$ | $i\text{Gen}\{\text{F}\}$ |
| $i\text{T}\{-\}$ | $u\text{T}\{-\}$ | $u\text{T}\{-\}$ | $i\text{T}\{-\}$ |
| $u\phi\{-, \text{SG}\}$ | $i\phi\{-, -\}$ | $i\phi\{-, \text{SG}\}$ | $u\phi\{-, \text{SG}\}$ |
| ↑ | ↑ | ↑ | ↑ |
| └───┬───┘ | | └───┬───┘ | |
| ϕ-feature agreement | | ϕ-feature valuation | |

Clearly, in the output representation in (39) *pro* still lacks the crucial interpretable feature that allows it to anchor its reference (person). Additionally, Inflection also lacks a crucial temporal valuation.

Regarding *pro*, I argued earlier that it was bound by a (null) topic. In terms of the current analysis, this means that the topic must have matching features that agree with *pro*. Since the topic is also null, its features are unvalued, and must be filled by AGREEING with another constituent, the overt antecedent. At this point, all three agreeing categories (*pro*, the topic and the antecedent) will share the same values and will be interpreted as coreferential. Since the topic sits in the highest specifier of the AC, it lies at the edge of the strong phase boundary (CP), and can AGREE with other elements in another local strong phase (cf. Chomsky’s 2001 *Phase Impenetrability Condition*).¹⁴ Valuation by a topic is also the mechanism that permits gender to receive a value in the case of finite *pro* (cf. (38) above).¹⁵

Note that the input and the output of (39) also have an unvalued T feature, and in this sense $u\text{T}$ and $u\phi$ are parallel. However, they are not completely parallel. First, ACs are temporally anchored to a reference time (cf. Dini, 1994), whereas AC *pro* cannot be deictically anchored. Second, the AC’s temporal anchoring does not strictly depend on that of the main clause they attach to. So, for example, the AC can temporally precede (cf. (40a)) or be temporally independent of the main clause (cf. (40b), adapted from Pérez Jiménez’s 2008:336 quotation of Dini, 1994). One possible way of capturing this asymmetry between T and ϕ would be to argue that T receives existential closure.¹⁶

¹⁴A strong phase is the minimal unit that can be processed by the interfaces in Chomsky’s conception. They include CP and vP.

¹⁵The current proposal builds on Borer’s (1989) analysis of infinitival and gerund subjects in English in the sense that we share the intuition that *pro* is not properly identified in its clause and seeks an antecedent in the containing clause. However, the proposed mechanisms are different: For Borer, AGR raises to C, for me, there is a topic that agrees with *pro*. Additionally, Borer explicitly applies her proposal to infinitival *PRO*, whereas this one applies to AC *pro*.

¹⁶An anonymous reviewer suggests an alternative analysis where the operator is generated in subject position and moves to the left periphery, as other operators do. This alternative would simplify the picture by avoiding a null *pro* and an operator, however, it also places additional requirements on where and how the topic operator must appear. As I see it, the two alternatives differ in a) the content of the operator vs. *pro* and b) whether the two positions are related by AGREE or by movement. In the current proposal, AGREE copies the featural content of one of the categories to the slot of the other; If one assumes a copy theory of movement, the topic would be copied from its base position in Spec, IP to Spec, CP. One crucial difference is that movement of the operator would have to be triggered by some type of EPP feature, whereas the AGREE

- (40) a. *Cansad-a por la caminata, María se sentó.*
 tired-FEM.SG by the hike, Maria CL sat
 ‘Tired by the hike, Maria sat.’
- b. *Sensible al perfume de las especias, María recordó que estaban*
 sensitive to the scent of the spices, Maria remembered that were
cocinando un curry.
 cooking a curry
 ‘Sensitive to the scent of the spices, Maria remembered that they were
 cooking a curry.’

To summarize, the current proposal suggests that *pro* is a bundle of unvalued features that are filled either by INFL (in the case of finite *pro*) or by a topic antecedent (in the case of AC *pro*). The topic antecedent, in turn, can be valued by an overt antecedent in an adjacent clause.

One immediate prediction this analysis makes is that all things being equal, *pro* should be available in an English AC, as is the case (cf. Kawasaki, 1993 for similar conclusions regarding other types of adjunct clauses in English). Thus, as seen in (41) (thanks to Jimmy Bruno for the examples and judgements), the null subject alternates with an overt one (cf. (41a-b)), suggesting this is a Case position. The proposed analysis for (41a) is the same as the one given for Spanish: *pro* has its *uT* feature valued by inflection, and its ϕ -features valued by the topic, which in turn values its feature through agreement with the antecedent.^{17, 18}

- (41) a. (Once) captured, the vessel was looted by the pirates.
 b. The vessel captured, the pirates began their looting.

To reiterate, this section has proposed that *pro* contains an unvalued matrix of ϕ -features that can be valued either by finite inflection or by a null topic, in the case of AC. This topic, in turn, must find an antecedent with valued features in an adjacent clause.

relation between the topic and *pro* requires no such feature.

Regarding the content of the operator vs. *pro*, within the Minimalist framework, operators have a special feature (like [+wh] for wh-words), and movement to the left periphery is not necessarily connected to that feature, hence proposing a base-generated topic in Spec, IP does not automatically trigger movement to the left periphery.

¹⁷This fact questions De Miguel (1992), Gunnarson (1994) and Pérez Jiménez’s (2008) assumption that the word order differences between ACs in English and Spanish derive from the null subject parameter (following Rizzi’s 1986 analysis). If *pro* is available in both English and Spanish ACs, then the explanation for the systematic word order differences between both languages cannot be related to the null subject parameter.

¹⁸The question this point raises is why is finite *pro* ungrammatical in English (cf. (i))? Topic identifying should yield a viable null subject, but it doesn’t. This observation goes beyond the scope of this paper, but one possible explanation has to do with locality conditions: In English, *pro* and the topic are in different domains (phases), and agreement is blocked.

- (i) *Mary left last night and Bill left this morning. As for John, is leaving tomorrow.

5.3. Locality of AGREE

One immediate concern the proposed analysis raises is whether AGREE is sufficiently constrained. It is generally assumed that this operation is generally constrained to the minimal clause containing the agreeing constituents (cf. Chomsky’s 2001 *Phase Impenetrability Condition* quoted earlier), although it is hard to come by configurations with alleged long-distance AGREE that are not ruled out by other principles. The best candidates involve subject raising, as in (42). The first example is a case of hyperraising, marginally possible in spoken Latin American Spanish and Brazilian Portuguese (cf. Ferreira 2004 and Martins and Nunes 2010 for proposals for Brazilian Portuguese). In (42a), the subject *los estudiantes* ‘the students’ AGREES with both the lower and the higher verb. This agreement is not possible if the subject appears clause-finally, as seen in (42b). Assuming that the clause-final position is in the lower clause, the ungrammaticality of that example can be due to the fact that the higher raising verb *parecen* cannot AGREE with *los estudiantes* ‘the students’ across the clausal boundary, as in (42c).

- (42) a. *Los estudiantes parecen que van a comprar.*
 the students seem.3.PL that go.3.PL to buy
 ‘The students seem to go shopping.’
- b. **Parecen que van a comprar los estudiantes.*
 seem.3.PL that go.3.PL to buy the students
 ‘The students seem to go shopping.’
- c. [IP parecen [CP que [IP van a comprar [VP los estudiantes]]]]
-

On the other hand, cases of long-distance AGREE across clausal borders are well-documented in the literature, for example in Tsez, *Lokaa* and Basque, among others (cf. Baker 2008:103-107). Baker’s analysis of long-distance agreement is still constrained by the phase condition. Recall that this condition restricts agreement to elements that are part of the same phase or between elements in one phase and elements at the edge of an embedded phase. This predicts that agreement between Fv and NP should be impossible in (43a) because Fv and NP are in different phases, but possible in (43b), because NP is at the edge of the lower strong phase ((43) is taken from Baker, 2008:103).

- (43) a. F_v verb [CP C [TP ... NP ...]]
-
- b. F_v verb [CP NP_i C [TP ... t_i ...]]
-

The configuration in (43b) is precisely the one proposed for AC structures, hence AGREE is constrained in the same way as it is in other cases. The appearance of a long-distance, unconstrained relationship is the result of smaller, local links (between

pro and the topic, and between the topic and its antecedent).¹⁹

6. The nature of the topic antecedent

The proposed analysis establishes a local relationship between *pro* a local null topic and a more distant overt antecedent. In this section, I will turn to a more precise characterization of the null topic antecedent, and the relationship between the null topic and its own antecedent. In doing so, I will establish a comparison with the topic proposed by Frascarelli (2007) for finite *pro* in Italian.

As already mentioned, it is generally true that the discourse antecedent of the AC *pro* is coreferential with the subject of the main clause. This has been argued to follow from the fact that the antecedent must be a topic, and most subjects are topics, particularly if they are preverbal or null.

The notion of topic has received very different interpretations in the literature (cf. Casielles-Suárez, 2004:ch. 2). In particular, it has been defined as “the first constituent in the clause”, as “what the rest of the clause is about”, as “a constituent related to a discourse antecedent” and “as old or given information”. From this last perspective, Erteschik-Shir (1997:21) assumes that pronouns (including null pronouns) are *de facto* topics, and must be coindexed with a topic antecedent. In this spirit, Frascarelli (2007) proposes an analysis of finite *pro* where identification is done by a local topic antecedent, a proposal very reminiscent of what I have suggested. However, as I will point out below, the nature of the antecedent topic is very different for each *pro* configuration.

6.1. Frascarelli’s (2007) proposal

Frascarelli proposes an innovative perspective on the null subject parameter, particularly for Romance-type null subject languages. Her analysis shifts the burden of identifying a null subject from verbal morphology to an obligatory topic antecedent.²⁰ According to her, one can distinguish three kinds of topics (partially corresponding to the different topic characterizations described above): an Aboutness-shift topic, a Contrastive topic and a Familiar topic. The first one is associated with the intonational contour L*+H and introduces a new topic or shifts from a previous one. Contrastive topic is associated with a H pitch, and it provides an alternative to an existing topic. Finally, Familiar topic has a L* tonal contour and “refer[s] to given information in the discourse” (Frascarelli, 699); it is D-linked and it is used for topic continuity or as an afterthought. These three types of topics are syntactically arranged in different left-peripheral positions, as in (44) (cf. Rizzi, 1997 and subsequent work on the structure of the left periphery).

(44) [_{ForceP} [**ShiftTopP** [_{GroundP} [**ContrastTopP** [_{FocP} [**FamTopP** [_{FinP} . . .]]]]]]]]

¹⁹An anonymous reviewer suggests that since the topic is not moved to the left-periphery in the proposed analysis, but rather base-generated there, AGREE should be barred by the *Phase Impenetrability Condition*. However, my understanding of its formulation bars relations across strong phases, not between the edge of a strong phase and the interior of that same strong phase.

²⁰AGR is still responsible for licensing the EPP and Case of the subject in situ, (cf. Frascarelli, 2007:718).

although the overt antecedent in (48b) is indefinite, the null subject is interpreted as having a definite referent, i.e. as the already mentioned trucks.

- (48) a. **En el desfile pasaron camiones. Una vez acabad-o-s de pasar,*
in the parade passed trucks once finished-MASC-PL of pass
pro, llegaron motos.
pro arrived motorbikes
‘During the parade, trucks went by. Once (trucks were) finished going by, motorbikes arrived.’
- b. *En el desfile pasaron camiones. Cuando terminaron de pasar, nos*
in the parade passed trucks. When finished of pass CL
fuimos.
went
‘At the parade, trucks went by. When they finished going by, we left.’

A second difference relates to the sensibility to discourse conditions: AC *pro* is much more sensitive to discourse conditions than finite *pro* is. Thus, AC *pro* tends to pick its topic antecedent locally (in the adjacent clause), and the further away it gets, the more degraded it becomes, as illustrated in (10) earlier, repeated below as (49a). However, finite *pro* is perfectly acceptable in that same context, as seen in (49b): the preferred antecedent for finite *pro* is “Miguel”, but “Marta” is also a possible antecedent.

- (49) a. *??Durante la recepción, primero entró Marta_i, inmediatamente*
during the reception first entered Marta_i immediately
después empezó a llover. Saludad-a pro_i, el presidente continuó
after started to rain greeted-FEM.SG she_i the president continued
con el evento.
with the event
‘During the reception, first Maria entered, immediately after, it started to rain. (Having) greeted (her), the president continued with the event.’
- b. *Durante la recepción, primero entró Marta_i, después entró*
during the reception, first entered Marta, then entered
Miguel_j. A continuación, pro_{i/j} se dirigió a saludar al presidente.
Miguel next pro CL went to greet to the president
‘During the reception, first Marta came in, then Miguel came in. Next, s/he went to greet the president.’

Both types of *pro* require an antecedent, particularly if they are referential. However, only generic/arbitrary finite *pro* is possible as a discourse-initial statement, as shown in (50). Nothing similar is possible with ACs.²²

- (50) *En Colombia pro se come frutas.*
in Colombia CL pro eat fruits
‘In Colombia, they eat fruits.’

²²*Pro* AC can be interpreted as arbitrary, but only if the main clause also is (cf. (i)). However, AC *pro* cannot have a *pro* associated with an impersonal *se* as an antecedent (cf. (ii)):

Another difference between AC and finite-clause *pro* involves whether the antecedent of the null subject must be a syntactically encoded constituent or not. In the case of a finite-clause *pro*, one can point to somebody in the room and say:

- (51) *Pro se acaba de comer dos plátanos.*
 pro CL finishes of eat two bananas.
 ‘S/he just ate two bananas.’

This option does not exist for an AC *pro*: If I point to someone in the room, this is not enough to identify the subject of the AC in (52).

- (52) **Un vez saludad-o, nos vamos.*
 once greeted-MASC.SG, CL leave
 ‘Once greeted, we will leave.’

These differences are summarized in (53).

- (53) Summary of discourse properties of null subjects.

	Indefinite antecedent	Local antecedent	Required antecedent	Deictic antecedent
AC <i>pro</i>	No	Yes	Yes	No
Fin <i>pro</i>	Yes	No	No	Yes

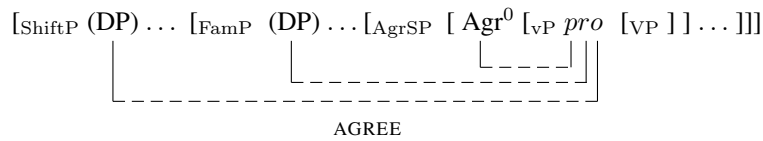
6.3. The fine structure of the topic periphery

If both finite and AC *pro* are identified by an Aboutness Shift topic, the differences just described are mysterious, because the shift topic is the only element that determines *pro*’s identity. Rather, I will assume with Frascarelli that *pro* is bound by a topic, but the type of topic depends on the structural configuration *pro* appears in. In finite clauses, it can be bound either by inflection, by an Aboutness Shift topic or by a Familiar topic (cf. fn. 21 above). When it appears in an AC, it can be bound by a Familiar topic or by inflection, but not by Aboutness Shift topic because this topic does not project, as schematized in (54).²³

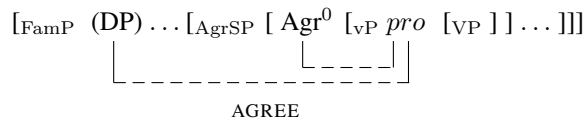
-
- (i) *Agotado por las repetidas traiciones de los representantes políticos, uno vota en blanco.*
 tired by the repeated betrayals of the representative political one votes in blank
 ‘Tired of the repeated betrayals by political representatives, one votes blank in the elections.’
- (ii) **Agotado por las repetidas traiciones de los representantes políticos, se vota en blanco.*
 tired by the repeated betrayals of the representative political CL votes in blank
 ‘Tired of the repeated betrayals by political representatives, one votes blank in the elections.’

²³Pérez Jiménez (2008) points out that ACs are background, secondary assertions, and in this sense, they never introduce a new (aboutness shift) topic. See sec. 6.5 below.

(54) a. Identification possibilities for finite *pro*



b. Identification possibilities for finite *pro*



With this idea in mind, consider again the difference between AC and finite *pro* with respect to licensing by a deictic gesture. One could reasonably assume that a deictic pointing gesture introduces a new topic or reintroduces one in the background. Its syntactic correlate is to fill the Aboutness ShiftP position, which then identifies *pro*. Since this projection is absent in ACs, the corresponding DP cannot appear, hence it cannot identify *pro*.

Let us now consider the stricter locality requirement for AC *pro* than for finite *pro* (cf. (49) above). In my account, this amounts to saying that the relationship between the AC silent topic and its own antecedent is local. I've argued that the AC topic is a Familiar topic, which, by definition, requires, itself an antecedent. If we assume that more distant an antecedent is, the harder it is to keep it active or accessible for further mention, it follows that AC Familiar topic will seek closer antecedent than AboutnessShift topic.

The impossibility of having generic/arbitrary interpretations with *pro* can also be derived from the same proposal, assuming that a Familiar topic essentially means discourse old. A sentence with an arbitrary or generic DP does not introduce a specific referent in discourse that could be taken as antecedent for the AC Familiar topic, hence *pro* will remain unvalued.

Finally, the contrast in the possibility of having indefinite antecedents illustrated in (48) requires some more elaboration. Consider the case of a finite *pro*, as in (55). As mentioned earlier, when the null subject refers to the DP introduced in the first clause, the interpretation is definite (i.e. the guards just mentioned). Erteschik-Shir (1997:62) suggests “that introducing an indefinite NP on stage does not, in and of itself, make the NP specific.” According to her, “the indefinite becomes specific only by means of the entry made by updating according to the *following* [emphasis in the original, J.C.] sentence.” The example in (55) illustrates this point straight-forwardly.

- (55) *A la entrada del edificio había vigilantes. A las 4 cambiaban de turno.*
 at the entrance of the building was guards. At 4 changed of turn
 ‘At the entrance of the building there were guards. At 4, they would change shifts.’

Let us assume, then, when the Familiar topic picks up its antecedent in (55), it does so as an indefinite. The definite interpretation must come from somewhere else. In

the present framework, one can argue that specificity comes from the fact that agreement is a potential antecedent for *pro*. One specific implementation would be to argue that AGR carries a D feature (cf. Roberts and Holmberg, 2010:14), which makes the indefinite antecedent definite.²⁴

In the case of AC *pro*, the D feature is unvalued, so it cannot turn the indefinite antecedent into a definite.

To summarize, this section has argued that the identifying antecedent varies for finite and AC *pro*. In the first case, it can be done either by an Aboutness Shift topic, or by a Familiar topic or by inflection. In the second case, it is vacuously identified by a Familiar topic or by inflection. Being unvalued, these two antecedents must seek another antecedent outside of the AC clause. I have also argued that these properties correlate with the distribution of topics associated with AC: only Familiar topics project in ACs, hence no bare NP indefinites or deictically identified topics are possible.

6.4. Topic accommodation

Erteschik-Shir (1997:78), quotes Reinhart's (1986) observation that in examples of backwards generalization such as (56), "the function of backward anaphora in actual discourse might be, contrary to common assumptions, that of introducing a new topic into the discourse." Erteschik-Shir further notes that an example like (56a) cannot be a request for information about *Bill*. It is clear that these cases also involve a topic antecedent, as the contrasts between (56a) and b) show. Thus, in (56a) only the passive subject can be the antecedent of the pronoun, because only the subject is the topic. (cf. Williams, 1994; Villalba, 1999 and Pérez Jiménez, 2008:263 for similar observations).

- (56) a. When he_{i/*j} entered the room, Bill_i was greeted by Max_j.
 b. When he_{i/j} entered the room, Max_i greeted Bill_j.

The same phenomenon can be observed with ACs: the AC's topic can supplant the main clause's aboutness topic. In (57) (from Pérez Jiménez, 2008:264), it is the AC that sets the topic of the main clause, not the other way around. This can be seen in (58), where only the main-clause example in (58c) can be a response to the background statement in (58a) that sets *los sueños de Juan* 'Juan's dreams' as the aboutness topic. On the other hand, if the aboutness topic is only *Juan*, as in (59a), an appropriate response includes the AC (cf. (59b)) but not only the main clause (cf. (59c)).

- (57) *Liberado al fin tras veinte años de prisión, los sueños de Juan empezaban*
 freed finally after twenty years of prison, the dreams of Juan began
a cumplirse.
 to come true.CL
 'Free after twenty years in prison, Juan's dreams began to come true.'

²⁴Clearly this cannot be the whole picture, otherwise we would predict that *Ayer llegaron personas* 'Yesterday, people arrived' would not be possible with an existential, indefinite reading. Note that in those cases there tends to be a preposed constituent, which one could take to saturate the D feature of AGR.

- (58) a. *Háblame de los sueños de Juan*
 tell.ME of the dreams of Juan
 ‘Tell me about Juan’s dreams.’
- b. *#Liberado al fin tras veinte años de prisión, los sueños de Juan*
 freed finally after twenty years of prison, the dreams of Juan
empezaban a cumplirse.
 began to come true.CL
 ‘Free after twenty years in prison, Juan’s dreams began to come true.’
- c. *Los sueños de Juan empezaban a cumplirse.*
 the dreams of Juan began to come true.CL
 ‘Juan’s dreams began to come true.’
- (59) a. *Háblame de Juan*
 tell.CL of Juan
 ‘Tell me about Juan.’
- b. *Liberado al fin tras veinte años de prisión, los sueños de Juan*
 freed finally after twenty years of prison, the dreams of Juan
empezaban a cumplirse.
 began to come true.CL
 ‘Free after twenty years in prison, Juan’s dreams began to come true.’
- c. *#Los sueños de Juan empezaban a cumplirse.*
 the dreams of Juan began to come true.CL
 ‘Juan’s dreams began to come true.’

In order to see how this process of topic promotion or topic accommodation works, consider the discourse structure for (57). In the absence of the AC, the discourse structure for the main clause would be (60a). If the AC is present, then *los sueños de Juan* would become the Familiar topic inside the AC, as in (60b). However, this creates a clash between the AC INFL’s number feature (singular) and *pro*’s number value (plural).

- (60) a. [_{ShiftP} [Los sueños de Juan]_i [_{TP} *pro*_i *empezaban a cumplirse*]]
- b. [_{ShiftP} [Los sueños de Juan]_i [_{AC} [_{FamP} [Los sueños de Juan]_i *liberado* *pro*_i *empezaban a cumplirse*]]

On the other hand, if the AC Familiar topic promotes *Juan* in the main clause to Aboutness Shift topic, by the independently motivated process of topic accommodation (Erteschik-Shir, 1997:46), a process by which an embedded topic structure becomes the main topic structure, then the main-clause Aboutness topic the AC’s Familiar topic and *pro*’s referent will be the same (i.e. *Juan*), yielding no conflict with INFL.

The process of topic accommodation has its limits: It is well-known that postverbal subjects in Spanish are not interpreted as topics (cf. Contreras, 1976; Zubizarreta, 1999; Casielles-Suárez, 2004); they are either narrowly focused, or they can be part of the wide-focus interpretation of the sentence. The first option is illustrated in the use of (61c) as a response to (61a); the second one is shown in (61c) as a response to (61b).

- (61) a. *¿Quién lava los platos en tu casa?*
 ‘Who washes the dishes in your house?’
 b. *¿Qué pasa en tu casa?*
 ‘What happens in your house?’
 c. *En mi casa lava los platos mi hijo.*
 in my house washes the dishes my son
 ‘In my house, my son washes the dishes.’

This suggests that postverbal subjects should not be possible antecedents of the AC subject, as opposed to preverbal ones, and this seems to be correct, as (62) shows. In the first example, the postverbal subject cannot identify the AC subject. In the second one, it can.

- (62) a. *??Cansado de que los platos quedaran mal lavados, en mi casa los*
 tired of that the dishes remain poorly washed, in my house CL
lavó mi hijo.
 washed my son
 ‘Tired that the dishes would remain dirty, in my house, my son washed them.’
 b. *Cansado de que los platos quedaran mal lavados, en mi casa mi*
 tired of that the dishes remain poorly washed, in my house my
hijo los lavó.
 son CL washed
 ‘Tired that the dishes would always remain dirty, in my house, my son washed them.’

6.5. Topic mismatch

In certain cases, it seems that the AC *pro*'s topic antecedent comes from the preceding clause, but is not present in the main clause. Consider, for example, (63), suggested by an anonymous reviewer (from Fernández Fernández 1993:104, quoted in Pérez Jiménez 2008:166). In (63), the AC *pro* is coreferential with *el permiso de conducir* ‘the driving license’ from the first clause, however, that constituent does not overtly appear in the final clause. One natural, if counterintuitive extension of the proposed analysis for these cases would be to argue that the constituent from the first clause is the topic of the AC, as in (64).

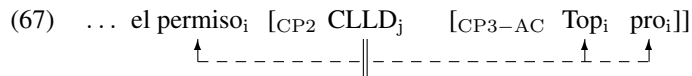
- (63) *Solicitaron el permiso de conducir y, concedido, llevaron los*
 requested.3.PL the license of driving and granted, took the
materiales.
 materials
 ‘They applied for their driving license, and once granted, they took the materials.’
- (64) [_{CP1}[_{DP} el permiso de conducir_i]] . . . [_{CP3-AC} Top_i [_{IP} concedido *pro*_i] . . .]

The natural question is whether that same topic is the topic for the last clause (as in (65a), or whether an intervening topic appears between CP1 and CP3, as in (65b). If that is the case, why doesn't Top_j block the relationship between the two instances of Top_i?

- (65) a. [CP₁[DP el permiso_i]] [CP₂ Top_i [CP_{3-AC} Top_i [CP_{3-AC} Top_i pro_i] ...]
 b. [CP₁[DP el permiso_i]] [CP₂ **Top_j** [CP_{3-AC} Top_i [CP_{3-AC} Top_i pro_i] ...]

To explore this issue, consider the examples in (66), where CP3 has a dislocated constituent. In (66a), the clitic left-dislocated constituent is to the right of the AC and the result is acceptable, but in (66b) it appears to the left of the AC with a highly deviant result.²⁵ This contrast follows if the relationship between the topic from the first clause and the AC topic is blocked by the CLLD constituent, as schematized in (67).

- (66) a. *Solicitaron el permiso de conducir y, concedido, los materiales,*
 requested.3.PL the license of driving and granted.SG, the materials,
los llevaron enseguida.
 CL took quickly
 'They applied for their driving license, and once granted, the materials,
 they took them quickly.'
 b. *??Solicitaron el permiso de conducir y, los materiales,*
 requested.3.PL the license of driving and the materials,
concedido, los llevaron enseguida.
 granted.SG, CL took quickly
 'They applied for their driving license, and the materials, once granted,
 they took them quickly.'



Additionally, the contrast between (66a) and b) suggests that the right structure for (63) is (68). In this structure, CP2 has Top_i as its initial topic, which identifies AC *pro*. However, it can still have a second topic after the AC. Presumably, this would be an Aboutness Shift Topic, which introduces a new topic.

- (68) [CP₁[DP el permiso_i]] [CP₂ Top_i [CP_{3-AC} Top_i pro_i] Top_j ...]

This analysis resolves the apparent paradox that the topic from CP1 and CP3-AC does not seem to be the topic for CP2 in any obvious way: as it stands, the AC in effect allows for the succession of similar topics to break. I believe this apparent paradox relates to Pérez Jiménez (2008:225) observation that AC clauses are backgrounded secondary assertions to the main clause (in the sense of Chierchia & McConnell Ginet, 1990). Pérez Jiménez and Kortmann (1991:113) note that the AC's truth value is not affected when the main clause is embedded under negation:

²⁵CLLD constituents can appear to the right or to the left of the AC in general (cf. Pérez Jiménez, 2008:59).

- (69) a. *No es verdad que, muy enferma por la gripe aviaria, hayan echado a*
 not is true that very sick by the flu avian have fired to
Ana del trabajo.
 Ana of the job
 ‘It’s not true that, (being) very sick from avian flu, they have fired Ana
 from her job.’
- b. It is still true that Ana was very sick from avian flu.’

In this sense, the topic that serves as AC subject antecedent is a part of the background but not part of the foregrounded main-clause assertion.

7. Conclusions

The analysis of absolute clauses in Spanish fosters the case for identification of *pro* by an antecedent in an adjacent clause. The operation is mediated by a Familiar topic located in the periphery of the clause. Formally, *pro* identification is taken to be AGREE, a matching operation between two categories in which one of them copies its values to the other. The theory also distinguishes two contexts for *pro* identification: The first one includes finite clauses, where the potential antecedents are, in addition to the Familiar topic, an Aboutness Shift topic (which introduces a new topic or reintroduces it from the discourse) or inflection. The second one is restricted to a null Familiar topic antecedent or an unvalued inflection, both of which must be valued in the preceding clause. ACs, it is argued, lack an Aboutness Shift topic projection.

These asymmetries between ACs and finite clauses account for the different constraints *pro* antecedent topics are subjected to in AC clauses and finite clauses. Specifically, I have argued that finite clause *pro* can be identified by a deictic gesture, whereas AC *pro* cannot, and this follows from the assumption that a deictic gesture fills the Aboutness Shift position. The other differences between AC and finite *pro* antecedents have also been argued to follow from the analysis, specifically, from the lack of an Aboutness Shift projection and the need to value the features of *pro*.

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