# Notes on the Optionality of Agreement

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> *"I am not afraid of my subjects"*
> Greta Garbo in *Queen Christina*, directed by
> Rouben Mamoulian (1929).

0. Introduction

The Minimalist Program for Linguistic Theory (MPLT) developed in Chomsky (1992) proposes several restrictions concerning the form of the computational system of the grammar of a natural language. Among them, the MPLT claims that both agreement and structural Case are manifestations of the Spec-head relation between an NP and an Agr head:

(1)
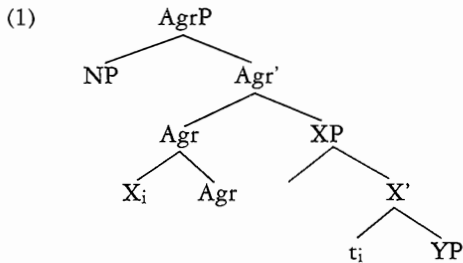
In a configuration like (1), the NP checks its agreement features against the features of the Agr head, and agreement obtains because these features are checked off. Also, the NP in [Spec, AgrP] can check its case features against the features of the structural Case assigning head X. This Spec-head relation can be sanctioned, within the framework of MPLT, at either of the only two levels of representation, PF and LF.

If the Agr head in (1) is Agr-s, the higher inflectional projection, the NP is checked for nominative Case. The case assigning head V raises to Agr-s through T, and it is the complex head [V+T+Agr-s] that is responsible for checking the nominative case of the subject NP. On the other hand, the subject checks its inflectional features against the features of the Agr-s head, and subject-verb agreement obtains.

The claim that this structural relation can occur at either of the two levels of representation predicts that subject-verb agreement should not be sensitive to the

linear order of the elements involved. The Spec-head configuration that checks the inflectional and case features of the verb and the subject NP can be sanctioned at LF, and need not have a direct reflection in the position of the elements in the overt syntax. Universally, then, all sentences conform to the structure (2) at LF:

(2) [$_{Agr-sP}$ NP$_i$ [$_{Agr-s}$ V+T+Agr-s] [... [$_{VP}$ t$_i$ t$_v$ ...]]]

This claim about the parallelism between agreement and structural Case is not without both theoretical and empirical problems. In this paper I will examine one of the theoretical problems, related to the assignment of nominative Case in structures in which subject-verb agreement is 'lost'.

In Arabic, subject agreement depends on linear order. When the subject in Arabic occupies the preverbal position, agreement with the verb is in person gender and number, as exemplified in (3).

(3) a. *al-ʔawlaad-u*   *jaaʔuu*   b. * *al-ʔawlaad-u*   *jaaʔa*
       the-boys-NOM   came 3pl.m.   the-boys-NOM   came 3sg.m.
       "The boys came"   "The boys came"

The minimalist framework correctly predicts the agreement pattern in (3). The inflectional features of the verb and the subject should match for the sentences to be grammatical. In (3a), both the subject and the verb are 3 pl. masc., and the sentence is grammatical. In (3b), the subject is 3rd pl. while the verb presents a 3rd sing. form. The sentence is ruled out.

When the subject in Arabic occupies the postverbal position, agreement with the verb is impoverished and only in person and gender, but not in number. This agreement pattern is exemplified in (4).

(4) a. *jaaʔa*   al-ʔawlaad-u   b. * *jaaʔuu*   al-ʔawlaad-u
       came 3sg.m.   the-boys-NOM   came3pl.m.   the-boys-NOM
       "The boys came"   "The boys came"

Now, the minimalist framework fails to predict both the grammaticality of (4a) and the ungrammaticality of (4b). In (4a) the inflectional features of the subject (3rd pl.) and the verb (3rd sing.) do not match. In (4b) the subject and the verb share the same features but the sentence is unexpectedly ungrammatical.

The way in which agreement in Arabic is affected by word order is not the only problem that the above examples posit for a minimalist approach. In both the grammatical examples in (3a) and (4a), the pre- and postverbal subjects are checked for nominative Case independently of the different agreement patterns. This fact seems to point out a difference in the mechanisms or the structural configurations that sanction agreement and the mechanism or configuration in which nominative Case is assigned (/checked). If we take the structural relation between the Agr-s head and its specifier to be the configuration in which both agreement and nominative Case are checked, we would expect a correlation between full subject-verb agreement and the presence of nominative in the subject. This prediction is borne out in (3a). But (4a) shows that even though the postverbal subject has checked its nominative Case, its number feature has not been checked.

In this paper I will claim that, despite apparent evidence to the contrary, the phenomena of agreement and nominative Case in Arabic are indeed best explained as manifestations of a structural relation between a functional head and its specifier position, as proposed by Chomsky (1992). The paper is organized as follows: In section 1 I will outline the relevant concepts of the MPLT that will constitute the theoretical framework of my analysis. Section 2 will present the analysis of the Arabic data just sketched above. In this section I will argue that preverbal subjects in Arabic are always left-dislocated and that they occupy the same position as nominative topics, an analysis that follows Demirdache (1992). I will claim the overt subject position to be adjunction to the highest maximal projection, i.e. Agr-s, and I will show that the preverbal subjects are directly generated in that position and coindexed with a resumptive empty pronominal *pro* in [Spec, VP]. Postverbal subjects, on the other hand, are the result of V-to-I movement while the subject remains in its base-generated position, [Spec, VP]. In section 3, I will show how these hypotheses receive a satisfactory explanation under the feature-checking system proposed in Chomsky (1992), once we assume that only Null-subject languages, but not non-Null-subject languages, project a [Spec, TP] in the overt syntax.

In the last section of the paper I will expand the analysis to another case of agreement loss in a Null-subject language. In Spanish, preverbal subjects that receive a collective interpretation show loss of person agreement, as shown in (5).

(5)   somos   are (1p.)
            Los estudiantes sois inteligentes   "The students are (2p.) intelligent'
                              son   are (3p.)

I will argue that in the above example, the preverbal subject is left-dislocated and coindexed with a *pro* in argument position, an analysis parallel to that proposed for Arabic in section 2. Independent evidence to support this analysis will be drawn from control, binding and raising structures in Spanish.

1. Framework: the Minimalist Program
1.1. Convergent Derivations

In the MPLT a language determines a set of linguistic expressions drawn from two levels, PF and LF. These two interface levels provide the instructions for the articulatory-perceptual and conceptual-intentional performance systems, respectively (Chomsky 1992: 3). Unlike in the Extended Standard Theory, these are the only two levels of representation.

In addition to the interface levels Chomsky's 1992 model assumes that there is only one lexicon and one computational system (p.5). Universal Grammar makes an array of elements from the lexicon accessible to the computational system through the mechanisms of X-bar Theory. The computational system takes representations of a given form and modifies them. The role of transformations in this model is to generate syntactic structures which contain only 'legitimate objects' at both levels of representation, PF and LF. If at both of these levels a representation contains no-

thing but legitimate objects the representation is said to be fully interpretable. Derivations that are fully interpretable are said to 'converge' at the interface levels. A derivation that is not fully interpretable 'crashes'.

1.2. Feature checking

In the Extended Standard Theory, transformations that affect the structure of any single syntactic object are driven by a restricted set of morphological requirements: Case theory requirements force NP movement and the properties of morphological affixes force head movement. In the Minimalist model, movement is also driven by morphological requirements and has to be motivated. Movement operations are forced to choose a more economical route over a less economical route. The first principle of Economy that affects movement operations is the principle of *Last Resort*, which requires movement to be necessary for convergence. According to the Last Resort principle, a movement operation is allowed if and only if the resulting structure is one in which morphological features of some object can be checked which could not be checked in the input structure. A 'legitimate object' is an element that has all its morphological features checked.
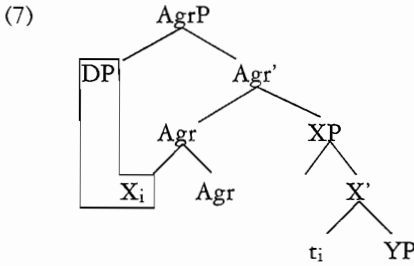
Checking of the morphological features of a syntactic element takes place only if the syntactic element enters into a specific structural relation with an appropriate functional head, a structural relation defined in terms of the head's 'checking domain'. This notion of 'checking domain' receives a detailed, formal definition in the MPLT (Chomsky 1992: 16-19). For the purposes of the first section of this paper, I will take the checking domain to be the set of nodes within a maximal projection of a head that is the complement set of the head-complement relation. Within its maximal projection, checking of the features of a head is therefore possible in two configurations, as illustrated in (6):

(6)   a.   XP   b.   XP
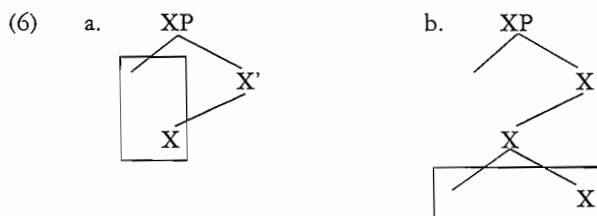
The configurations in (6a) is the Spec-head relation and that in (6b) is the relation between a head and the element(s) adjoined to it. An element can check its features in either configuration.

1.3. Case and Agreement
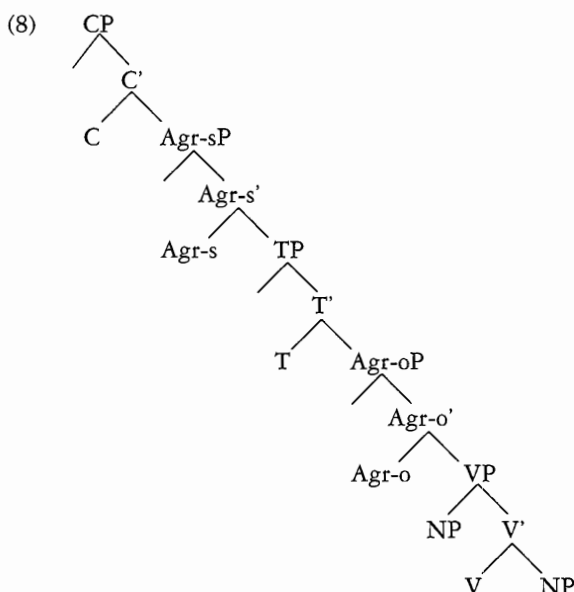
Chomsky proposes that Case Theory should be interpreted as a 'checking theory'. Head-government plays no role in this framework (p. 9). Within a feature checking theory of Case, an NP is legitimate if and only if all its morphological features are checked under a Spec-head relation with an appropriate head. The Case feature of an X-head is discharged in the following configuration:

(7)

```
                    AgrP
                   /    \
                  /      \
              ┌─────┐    Agr'
              │ DP  │   /    \
              │     │  Agr    XP
              │    Agr  /    /  \
              │   /  \      X'
              │ X_i   Agr  /  \
              └──┘        t_i  YP
```

Under this approach, lexical elements are inserted from the lexicon fully inflected. A DP, like any other lexical element, is taken to be a sequence $L = (a, INFL_1, ..., INFL_n)$ where a is the morphological complex [Lexical Root-$INFL_1$-...-$INFL_n$] and $INFL_x$ is a nominal morphological feature (a f-feature: gender, number, case, ...). Functional heads consist of L-related features $(F_1, ..., F_n)$. The function of the L-related features of an inflectional head is to check the morphological properties of the lexical item selected from the lexicon. Unlike in the EST, functional heads in the MPLT model do not represent agreement morphemes of a particular language, but rather a collection of abstract morphological features. The morphological elements are instantiations of the relevant features of the nouns (f-features) or verbs (agreement features) and not separate morphological heads generated in the inflectional projection. These L-features are therefore divided into N-related features (nominal agreement features and Case) and V-features (verbal agreement features and tense.)

When a lexical element L is adjoined to a functional category, the feature $INFL_1$ is removed from L if it matches F_1. If any L-feature $INFL_i$ remains at LF, the derivation crashes at this level of representation. Once all functional features F_i have been checked, the functional head that carries those features is deleted at LF and receives no interpretation.

Let us illustrate how the system works. The basic structure of a clause in MPLT assumes the Split INFL Hypothesis proposed by Pollock (1989) and extended in Chomsky (1991). Accordingly, a transitive sentence can have the following hierarchical structure:

(8)

```
        CP
       / \
          C'
         / \
        C   Agr-sP
             / \
          Agr-s'
           / \
        Agr-s  TP
               / \
                 T'
                / \
               T   Agr-oP
                   / \
                Agr-o'
                 / \
              Agr-o  VP
                     / \
                   NP   V'
                       / \
                      V   NP
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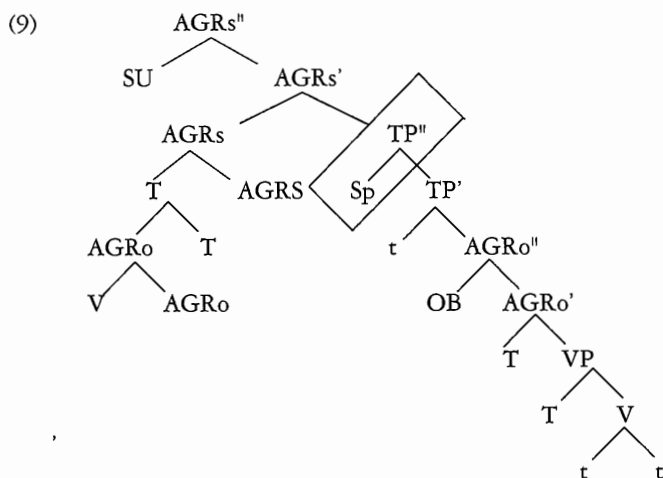
The basic sentence structure shown in (8) also assumes that both arguments of the verb are generated VP-internally, the object as the complement of V and the subject as the specifier of VP, a version of the Internal Subject Hypothesis (ISH) first proposed in Zagona (1982) and developed in Koopman & Sportiche (1991), among others. The NP-subject in VP has to raise at some point in the derivation in order to check its inflectional features in the checking domain of the appropriate inflectional head, Agr for agreement features and either Agr or TP for Nominative Case.[1] Following a proposal in Kayne's analysis of participial agreement in French, the MPLT assumes also the existence of a second Agr head that dominates VP. This head checks the inflectional features of the object (Accusative case and agreement) and is labeled Agr-o. The object, like the subject, must also raise at some point in the derivation for checking of its features.

1.4. Verb Movement and Form Chain

The verbal arguments are not the only elements that need to check their features against functional heads. The verbal head V is projected fully inflected from the lexicon and has to check its agreement and tense features. In (7) V raises to Agr-O, then to T and then to Agr-S to match its object agreement, tense and subject agreement features, respectively. This cyclic movement of the verb is restricted by a revision in the way cyclic transformations are considered. Cyclic movement is taken to count as a single complex operation called *Form Chain*, insuring that cyclic derivations are as "economical" as non-cyclic derivations. The result of the operation Form Chain is the formation of a chain that counts as a single complex object:

(1) I will leave this matter open for the time being. The possibility of checking the Nominative case in [Spec,TP] will be analyzed in more detail later on.

(9)   AGRs''

          SU   AGRs'

             AGRs   TP''

             T   AGRS   Sp   TP'

        AGRo   T   t   AGRo''

        V   AGRo   OB   AGRo'

                                         T   VP

                                           T   V

                                             t   t

In (9) ,V raises to Agr-o to form the chain $CH_v = (V, t_v)$. Once raised, V in (9) has no checking domain, but the chain CH_v that is headed by V does. The complex [V Agr-o] raises to T to check its V-related features and raises to adjoin Agr-o for the same reason. Neither V nor CH_v has a new checking domain in this adjoined position, but V, as part of the complex $[_T$ [V Agr-o]T], is now in the checking domain of Agr-s and shares features with it (cf. *supra*). Once the NP-subject raises to [Spec, Agr-s] the subject SU is also in the checking domain of Agr-s, and agrees directly with V in this position. Subject-verb agreement is therefore formally explained. At the same time, the subject in [Spec, Agr-s] is in the checking domain of Agr-s and in the checking domain of the chain headed by T. As a consequence it will have not only agreement but also case features.

To sum up, subject-verb agreement receives a formal explanation within the MPLT. The subject raises from its base-generated position to [Spec, Agr-s]. The verbal head raises to adjoin to the Agr-s head via cyclic adjunction to the intermediate functional heads, a movement that counts as a single complex operation. As a result of these two movement operations, both the verb and the subject are in the checking domain of Agr-s and can check their features against the appropiate L-related features of this functional head. When the features of both the verbal head and the subject match the L-related features of Agr-s, subject-verb agreement obtains and the derivation converges.

1.5. Spell-Out and Procrastinate

Two issues about this movement mechanism arise at this point. The first one is whether the movement of the verb or the movement of either of its arguments occurs in the overt syntax or at LF. The second is what prevents the arguments of the verb from raising to the specifiers of the inappropriate Agr projections, i.e. for the object to raise to [Spec, Agr-sP] and for the subject to raise to [Spec, Agr-oP].

The answer to the first question comes from the combination of two Economy

principles and a stipulation about the nature of inflectional features: All L-related features, that is to say, all inflectional features in Agr and T, can have two different values: [+strong] or [-strong]. The MPLT takes [+strong] features to be visible at PF while [-strong] are invisible at that level of representation. The interaction of this assumption about the different values of inflectional features and two of the economy principles, *Spell-Out* and *Procrastinate*, creates the typology of syntactic movement: The computational system tries to reach the PF component "as fast as possible" (Spell-Out). If the features that remain at this level of representation are only [-strong] features, the derivation will converge at PF since these features are not visible at this level. If any [+strong] feature remains, the derivation will crash at PF. As a result, overt syntactic movement will only be necessary when there are [+strong] features to be checked. Languages like French, in which the verb raises overtly to the higher inflectional projection, are explained then if we take the V-related features in Agr to be [+strong]. On the other hand, the computational system "procrastinates": If an operation can take place at LF, it will take place at this level rather than in the overt syntax. Those features that are [-strong] will be then checked after Spell-out, i.e. at LF; movement in order to match these features will be covert rather than overt.[2] The result of this interaction between Spell-Out and Procrastinate renders a system in which syntactic movement can be optionally overt or covert, depending on parametric variations of the strength of inflectional features. The classical distinction between verb movement in French and English, i.e., the distinction between V-to-I and I-to-V movement proposed in Emonds (1980) and developed in Pollock (1989) receives a new interpretation within the MPLT framework under the assumptions described here. While Spell-Out explains why verbs must raise in French, it does not explain why verbs (non-auxiliary verbs) do not raise in English. Procrastinate fills in the gap: It will force movement to be covert unless it is forced in the overt syntax by some principle. Unlike in French, English's V-related features in Agr are [-strong], and convergence is possible without overt verb raising (Chomsky 1992: 44).

Let us analyze now a simple transitive clause in English, like in (10):

(10) *Before Spell-Out*: [Agr-s Agr-s [TP T [Agr-o Agr-o [VP John [ate apples]]]]]

In English, a language with [-strong] V-related features, V-to-I movement takes place after Spell-Out. The position of the subject in the overt syntax will always be preverbal, because the N-related features of Agr (nominal agreement), and perhaps T (Nominative case),[3] with the value [+strong], force the subject NP to

(2) It is appropriate to notice that the system can also account for the overt V-to-I raising in English of the verbs *be* and *have*: Since *be* and *have* lack semantically-relevant features (Pollock 1989), we can assume that they are not visible at LF. Or in other terms, that their V-features are [+strong]. If they do not raise overtly, the derivation will crash (Chomsky 1992: 44). Furthermore, the system has a new advantage: the assumption that I lowers to V in English-type languages while V raises to I in French-type languages is no longer necessary once we assume that what differentiates these two languages is the fact that French has [+strong] V-related features ("strong agreement") while English V-related features are [-strong] ("weak agreement"). Overt V-to-I raising is forced in French, but not in English, for convergence.

(3) In the MPLT, T does not project a specifier position. The checking of Nominative case occurs

raise overtly to [Spec, AgrP] for convergence. The structure of (10) by Spell-Out is then shown in (11):

    (11) *By Spell-Out*:   [[$_{Agr-sP}$ John$_i$ [$_{Agr-s'}$ Agr-s]][$_{TP}$ T [$_{Agr-oP}$ Agr-o [$_{VP}$ t$_i$ [ate apples]]]]]]

At LF, V will raise to Agr-o, then to T and then to Agr-s, in the way previously analyzed when discussing Form Chain. If the [-strong] V-related features of T and Agr-s do not match the INFL features of the N-head of the NP subject and the V-head of the predicate, that is to say, if the subject and the verb do not agree, the derivation will crash at LF and will receive no interpretation.

So far, our analysis has dealt with subject-verb agreement without taking movement of the object into consideration. The problem, as mentioned before, is to decide what prevents the arguments of the verb from raising to the specifiers of the inappropriate Agr projections, rendering an ungrammatical structure like (12):

    (12) *By Spell-Out*:   * [[$_{Agr-sP}$ apples][$_{VP}$ John [$_{V'}$ ate t]]]

1.6. Shortest Movement and Relativized Minimality

In the Economy model of Chomsky (1991) there was no explanation of why the object could not raise to [Spec, Agr-sP], checking Nominative features, and the subject to [Spec, Agr-oP], checking Accusative features. Chomsky (1992) proposes a solution derived from the application of a new economy principle, *Shortest Movement*, and a derivational version of Rizzi's (1990) *Relativized Minimality* (Chomsky 1992: 21).

The idea behind Relativized Minimality is that at LF traces are well-formed only if they are created by a movement operation that takes the shortest steps available (Shortest Movement). According to this, syntactic movement of an element cannot skip any possible landing site, where possible landing sites are positions available for elements of the same type: head positions for Head-movement, the specifier position of inflectional heads for A-movement, and [Spec, CP] for A'-movement.

In (11), repeated below, the subject has moved from [Spec, VP] directly to [Spec, Agr-sP], leaving a trace in its base-generated position. This movement does not violate Relativized Minimality once we assume that T does not project a specifier (cf. fn.3). But in (12), also repeated below, movement of the object outside the VP and into the Spec of any inflectional projection will cross a possible landing site, namely [Spec, VP]. This results in a clear violation of Relativized Minimality:

    (11) *By Spell-Out* :   [[$_{Agr-sP}$ John$_i$ [$_{Agr-s'}$ Agr-s]][$_{TP}$ T [$_{Agr-oP}$ Agr-o [$_{VP}$ t$_i$ [ate apples]]]]]]

    (12) *By Spell-Out*:   * [[$_{Agr-sP}$ apples$_i$][$_{Agr-s'}$ Agr-s]][$_{TP}$ T [$_{Agr-oP}$ Agr-o [$_{VP}$ John [$_{V'}$ ate t$_i$]]]]

then at the point of the derivation in which the complex head created by adjunction of V to T raises to adjoin to Agr-s, rendering a configuration in which the element in [Spec, Agr-s] in is the checking domain of all the heads within the complex Agr-s, i.e. V, T and Agr-s. This issue will be discussed in further detail at the end of this section.

Chomsky proposes that distance for the purposes of Shortest Movement should be redefined by means of the notion of Equidistance:

(13) Two targets of movement are equidistant if they are in the same minimal domain (Chomsky 1992: 24)

One consequence of this definition is that head-movement extends the domain in which Relativized Minimality can be satisfied. In the case of movement of the object, adjunction of the verb to Agr-o forms a chain $CH_v = [V, t_{verb}]$ with the head in Agr-o and the foot in the VP-head, the domain of which includes the immediate constituents of both V and Agr-o. As a result, the specifiers of these two heads will be equidistant from the complement of V. As shown in (14), the verb raises to adjoin to Agr-o. Movement of the object to [Spec, Agr-oP] does not violate Relativized Minimality, since [Spec, VP] and [Spec, Agr-oP] are now equidistant. Posterior movement to the complex [V+Agr-o] to adjoin to the next inflectional head will make the specifier of this head available as a landing site for movement of the subject.

(14)
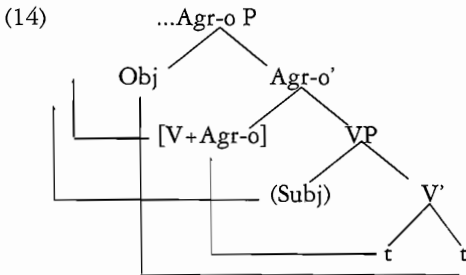
One result of this system is that raising of the object to [Spec, Agr-oP] depends on verb raising to Agr-o. Therefore, in languages with covert Verb-raising, like English, the object will have to raise covertly. Overt Object Shift, shown in (14), will be ruled out.

(15)   * John apples ate

Another result of this system is that no chain will have more than two specifier positions which are equidistant. As a result, A-movement will not be able to cross more than one specifier without violating Shortest Movement.[4] A-movement of the arguments of the verb follows, then, a pattern of "crossing" and not "nested" paths (Chomsky 26).[5]

(4) We can find here the basis for the assumption in MPLT that T does not project a specifier. Direct movement of the subject to [Spec, Agr-sP] when [Spec, TP] is present would violate Relativized Minimality since it would cross two specifier positions, [Spec, Agr-oP] and [Spec-TP]. Nevertheless, the result seems to be correct only for languages with covert V-to-I movement and obligatory subject raising. Adjunction of the verb to T and subsequent adjunction of the complex head to Agr-s will allow cyclic movement of the subject to [Spec, Agr-sP] through [Spec, TP].

(5) See Murasugui (1992) for an alternative possibility in which both nested and crossing paths are legitimate.

1.7. Base-generation of adjuncts and the A-A' distinction

I will propose in this paper that preverbal subjects in Arabic are base-generated as adjuncts to the highest inflectional projection, Agr-sP. It is necessary then to discuss at this point the analysis that base-generated adjuncts receive under minimalist assumptions.

In the MPLT, base generation of adjuncts is the result of the application of the rule *Generalized Transformation* (GT). This rule has two varieties, a binary operation —adjunction— and a singular operation —substitution. Base generated adjunction is the result of the binary GT which takes two phrase markers K — in our case Agr-sP— and K' —in our case the preverbal NP— and inserts K' into an empty position D in K to form a new phrase-marker K*, which must satisfy X-bar theory (Chomsky 1992: 31). In the case that will be our concern, namely that of an NP base-adjoined to the highest inflectional projection, the resulting configuration will be:

(16)   Agr-sP
          /   \
       NP   Agr-sP
                 /   \
             Spec   Agr-s'
                         /   \
                     Agr-s   TP
                                 /   \
                             Spec   T'
                                     /   \
                                    T   VP
                                         /   \
                                             V
                                           /
                                          V
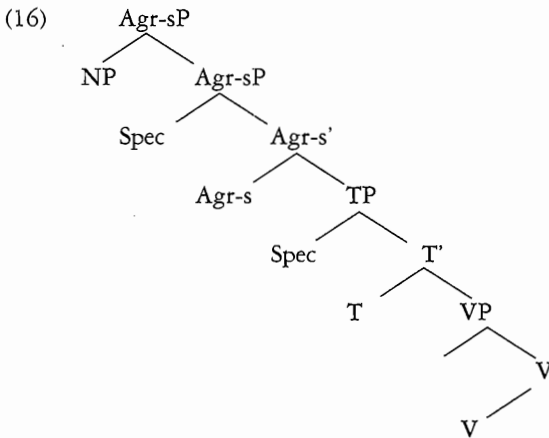
In (16), the adjoined NP is "broadly L-related". Chomsky (1992: 40) defines the argument-non argument distinction in terms of the notion "L-related", as follows: A position is L-related if it is in the checking domain of an L-head, where L-heads are both lexical heads and heads which check the features of lexical heads. V, N, P, A, T and Agr are L-heads. Argument positions are L-related while non-argument positions are not L-related. Among the L-related positions, we differentiate between narrowly and broadly related positions: the former correspond to the specifier position of L-heads and the latter to adjuncts. A structural position that is broadly L-related has the basic properties of non argument positions, properties that are shared with the not L-related positions.

1.8. Summary of the minimalist assumptions

In summary, the MPLT proposes a theoretical framework in which derivations and representations conform to a set of 'economy' principles. These economy principles, described above, should be 'minimal' in the sense that there should be no extra symbols and no extra steps in the derivations and conditions on representations.

Furthermore, transformations should not overlap in their effects, and the levels of representation should be reduced to well-formedness conditions at any of the two interface levels, PF and LF. In the next sections I will attempt to apply these minimalist assumptions to the analysis of the cases of loss of agreement in Arabic presented in the introduction.

2. Subject-verb agreement in Arabic

In this section I will review the analyses of subject-verb agreement and nominative Case in Arabic proposed in recent literature. I will discuss some of the theoretical and empirical problems that these analyses present, and argue, against them, that preverbal subjects are always left-dislocated in Arabic and that they occupy the same position as nominative topics, an analysis that follows Demirdache (1992). The organization of this section is as follows: Section 2.1 introduces the arguments in favor of the presence of an empty expletive in [Spec, IP] in Arabic. This expletive is assumed to dictate agreement on the verb when the subject is postverbal. In sections 2.2. I will review the theoretical problems that such analysis presents, and show empirical evidence against this analysis in section 2.3. Section 4 will present the arguments in favor of analyzing preverbal subjects in Arabic as left-dislocated elements, based generated as adjuncts to IP —Agrs-P— and coindexed with an empty pronominal in argument position.

Arabic, a Null-subject language, allows both preverbal and postverbal positions of the subject NP. But agreement in Arabic shows a peculiarity: it depends on the surface order of the subject. When the subject precedes the verb, the verb shows full agreement with the subject in person, number and gender, as shown in (3), repeated here as (17).

(17)a. al-ʔawlaad-u   jaaʔuu   b.* al-ʔawlaad-u   jaaʔa
      the-boys-NOM   came 3pl.m.   the-boys-NOM   came 3sg.m.
      "The boys came"   "The boys came"

In both the examples in (17) the subject is preverbal. A preverbal subject must agree in person, gender and number for the sentence to be grammatical (17a). When the number features of the verb and the preverbal subject do not match, the sentence is ungrammatical (17b). But if the subject is postverbal, the verb shows an "impoverished agreement" and the subject and the verb agree only in number and gender, as shown in (4), repeated here as (18):

(18)a. jaaʔa   al-ʔawlaad-u   b.* jaaʔuu   al-ʔawlaad-u
      came 3sg.m.   the-boys-NOM   came 3pl.m.   the-boys-NOM
      "The boys came"   "The boys came"

The Arabic examples above show that overt agreement is sensitive to word order changes. (18a) shows that subject-verb agreement in third person singular occurs when the plural subject is postverbal. When the postverbal subject and the verb agree in number, the sentence is ungrammatical (18b). As we saw in (17), this agreement pattern is affected by word order changes. When the plural subject

occupies the preverbal position agreement is not only in person and gender, but also in number.

Most recent work on Arabic is based in the assumption that the VS order in (18) is derived by V-to-I movement, while the subject remains in its VP-internal position. SV order is derived then by subject raising to [Spec, IP], as proposed, among others, in Fassi Fehri (1988), Mohammad (1990), Benmammoun (1991, 1992) and Ouhalla (1991, 1994). In (17) above, the subject is in [Spec, IP] and agrees with the verb in I in a Spec-head configuration. The "impoverished" agreement shown in the VSO order in (18) is assumed to obtain because the verb agrees not with the postverbal subject, in [Spec, VP], but with an empty expletive base-generated in [Spec, IP], as proposed in Aoun (1982), Mohammad (1990) and Benmammoun (1992). The assumption that this expletive *pro* is specified for person and gender only, but not for number, explains the lack of number agreement in the verb when the subject is postverbal.

2.1. Arguments for the empty expletive *pro* in Arabic

This section will review arguments supporting the existence of an empty expletive *pro* in Arabic, and summarize the role that expletive *pro* has been argued to have in account for the agreement paradigms discussed above.

Aoun (1982), Mohammad (1990) and Benmammoun (1992) posit a covert expletive in the preverbal position —[Spec, IP]— to explain the "default agreement" of the verb with the postverbal subject in Arabic. The existence of an empty expletive in Arabic is argued on the basis of the following generalization: The third person singular agreement features of the verb in VSO sentences in Arabic are those displayed by verbs which take non-argument subjects, as shown in examples of seem-type verbs in (19a) and impersonal passives in (19b) (examples from Mohammad 1990: 123).

> (19) a. ya-bdu   ?anna l-tullaab-a   wassl-uu
>   seems-3s   that   the students-ACC arrive-3p
>   "It seems that students have arrived"
>   b. niim-a tahta l-shajarat-i
>   sleep (PASS)-3s under the tree-GEN
>   Lit "It has been slept under the tree"

In both of the examples above, the matrix verb does not assign an external theta-role and the subject position in these sentences is filled with an expletive *pro* in Spec-head agreement with INFL. Since sentences with postverbal subjects resemble the ones in (19) with respect to verbal inflection, it has been assumed in the literature that they also instantiate an expletive *pro* subject, in addition to the lexical subject in postverbal position.

Mohammad (1990: 110) argues that the existence of the expletive subject can be more directly observed in situations where it is embedded under the complementizer *?anna* ('that'), which forces the expletive to be lexicalized. In Arabic, the matrix verb selects the complementizer of the embedded clause and the complementizer

assigns case to the adjacent element. The complementizer *?anna* assigns accusative case to the element that follows it, as shown in the contrast in (20):

(20) a. huwa   saafaruu
         they-m-NOM   left3pl.m
      b. al-?awlaad-u   qqaaluu   ?anna-hum   saafaruu
         the-boys-NOM   said3pl.m.   that-they-AC left3pl.m
         "The boys$_i$ said that they$_{i,j}$ left"

In the sentence (20a) the preverbal pronominal subject receives nominative Case. In (20b), when the same sentence appears embedded and the subject directly follows the complementizer, the preverbal pronominal subject is assigned accusative Case by this complementizer. In Arabic, this complementizer that assigns accusative to the subject of the embedded clause can never be followed by an empty category, as shown in (21):

(21) a. pro   saafaruu
         "They left"
      b. *al-?awlaad-u   qqaaluu   ?anna-pro   saafaruu
         the-boys-NOM   said3pm   that-pro left3pm
         *"The boys said that pro left"

Crucially, a 3p.sg. expletive appears overtly when a sentence with a postverbal subject is embedded, as shown in (22):

(22) a. jaa?a   ar-rijaal-u
         came 3sm   the-men-NOM
         "The men came"
      b. idda?a   ?aHmad-u   ?anna-hu   jaa?a   arrijaal-u
         claimed 3sm Ahmed-NOM   that-it   came 3sm the-men-NOM
         "Ahmed claimed that the men came"

The existence of an empty expletive can be thus observed in the analysis of sentences embedded under the complementizer *?anna* (20-22). The expletive pronoun is null in matrix sentences with postverbal lexical subjects, but surfaces in embedded clauses when it is assigned accusative case by the complementizer. Presumably, the expletive in (22b) cliticizes onto the complementizer from [Spec, IP], the position occupied by the empty pronominal in VSO sentences (Mohammad 1990: 112).

Let us return now to the contrast between (18a) and (18b), repeated here as (23a) and (23b) respectively. Assuming the existence of an empty expletive [Spec, IP] in sentences with postverbal syubjects, the structure of the sentences in (18) is, then:

(23) a. [$_{IP}$ pro$_i$ [$_{I'}$ jaa?a   [$_{VP}$ al-?awlaad-u $_i$ tv]
                      came 3sm   the-boys-NOM
      b. *[$_{IP}$ pro$_i$ [$_{I'}$ jaa?uu   [$_{VP}$ al-?awlaad-u $_i$ tv]
                      came 3pm the-boys-NOM

In both the examples in (23), the verb and the empty expletive are in a Spec-head

relation.[6] Since the expletive is specified as 3rd person singular, and agreement is with the expletive, both the grammaticality of (23a) and the ungrammaticality of (23b) are now predicted.

On the other hand, the SVO order in Arabic is the result of movement to the subject from its VP-internal position to [Spec, IP], and the representation of (17a) is then:

(24) [IP al-?awlaad-u i [I' jaa?uu [VP ti tv]

Preverbal subjects are thus in a Spec-head relation with the verb in INFL and we should expect full agreement between the verb and the preverbal subject.

To sum up, positing the existence of an empty expletive in [Spec, IP] in Arabic VSO sentences explains the fact that agreement in Arabic is sensitive to word order changes. Agreement obtains between the verb in Infl and the elements in [Spec, IP] The elements that occupy [Spec, IP] are either a lexical subject in the SVO order or an empty expletive pronoun in the VSO order. Since this expletive pronoun is specified as 3rd. sg., the verb in the VSO sentences will agree with this expletive, and not with the postverbal subject, in 3rd sg. In the SVO sentences, on the other hand, full agreement between the verb and the lexical subject is expected.

2.2. Some theoretical problems.

In this subsection, I will review some of the theoretical problems associated with the analysis described in the previous section. The first problem is related to nominative Case assignment. The assumption of the existence of an empty expletive in preverbal position coindexed with the postverbal subject in the VSO sentences in Arabic implies the existence of two subject positions. We must then ask how subjects receive nominative Case in the two positions they occupy, i.e. [Spec, IP] and [Spec, VP]. In the SVO order, the subject has raised from its base-generated position [Spec, VP] to [Spec, IP]. This movement is generally assumed to be forced by Case considerations (Koopman & Sportiche 1991). The subject raises to receive Case by agreement with Infl. It can be assumed then that in the VSO order the empty expletive in [Spec, IP] receives nominative Case, again by agreement with Infl. The problem that raises is then to explain how the postverbal subject in the VSO sentences receives nominative Case in its position, [Spec, VP].

The first possibility is that the empty expletive postulated in VSO sentences receives nominative Case by agreement in [Spec, IP], and that its case is transmitted to the postverbal subject, as argued in Ouhalla (1994). But this analysis faces a clear problem, noted by Coopmans (1994). The same structures that were used to support the existence of the preverbal expletive can be used against the idea of case transmis-

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(6) The empty expletive is not referential and consequently it does not bind the lexical NP in [Spec, VP]. A referential pronoun in this position would constitute a principle C violation, because the lexical NP would be bound by it. Furthermore, *pro* in (21) does not have a thematic role; it is an expletive. Otherwise it would constitute a violation of the thematic criterion since there are two arguments, preverbal pro and the postverbal subject, and only one external role available. In this configuration the lexical subject is not in Spec-head agreement with Infl.

sion in VSO sentences. Recall that in sentences with *?anna* the complementizer assigns accusative to the preverbal subject of the embedded clause. A relevant example is (22b), repeated here as (25):

> (25) idda?a   ?aHmad-u   ?anna-hu   jaa?a   arrijaalu
>   claimed 3sm Ahmed-NOM that-it-Acc came 3sm   the-men-NOM
>   "Ahmed claimed that the men came"

(25) shows that there is no case transmission: The expletive *-hu* surfaces as an accusative pronoun and does not match the nominative of the postverbal subject. If the expletive and the postverbal subject could form a proper chain for Case, the postverbal subject *arrijaalu* in (25) would be expected to be accusative.[7]

Since there are empirical reasons to question the existence of a mechanism of case transmission between the preverbal empty expletive and the postverbal thematic subject in the VSO sentences in Arabic, a different explanation of nominative Case assignment is required. Another possibility is explored in Benmamoun (1992). Following Koopman & Sportiche (1991), Benmamoun assumes that there are two possible configurations in which nominative Case is assigned, namely under government by INFL, and under Spec-head agreement.

> (26) a. Nominative under agreement: $[_{IP}$ NP_i I-Agr $[_{VP}$ t_i ...$]$
>   b. Nominative under government: $[_{IP}$ I-Agr $[_{VP}$ NP ...$]$

Benmamoun assumes that both possibilities are found in Arabic. Nominative case is assigned under agreement to the preverbal subject in the SVO order and to the empty expletive in preverbal position in the VSO order. Nominative Case under government is assigned to the lexical subject when it remains in its VP-internal position, i.e., in the VSO order. Both mechanisms of nominative Case assignment are then simultaneously instantiated in the VSO order.

A theoretical objection can be made against Benmamoun's analysis. As we have seen, he proposes that there are two independent nominative assignments in a VSO structure: the empty expletive in [Spec, IP] receives nominative by agreement and the thematic subject in [Spec, VP] receives nominative under government. Again, if the thematic subject can be assigned nominative Case under government, it would always remain in [Spec, VP]. The question is then why do any lexical subjects ever appear in preverbal position. Movement of the subject from its base-generated position to [Spec, IP] cannot be the motivated by Case considerations and the SVO order in Arabic would not be explained.

The appeal to a disjunctive formulation of the mechanism of Case assignment also raises a problem if we want to explain nominative Case in Arabic under minimalist assumptions. The analysis that posits the existence of an empty expletive in

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(7) Coopmans (1994) also argues against another previous analysis explored in Fahsi Fehri (1983). Fahsi Fehri claims that in VSO sentences in Arabic both the empty expletive and the postverbal subject receive nominative Case by a default mechanism. Coopmans notes that if nominative case of the subject in [Spec, VP] can be assigned by default, the thematic subject would always remain in [Spec, VP]. Then, the SVO order in Arabic would be unexplained since movement of the VP-internal subject to [Spec-IP] is forced by case considerations.

[Spec, IP] in the VSO sentences in Arabic must assume that structural case can be assigned *either* by government *or* by agreement. In order to explain the SVO order, this analysis has to assume that the thematic subject generated in [Spec, VP] raise *optionally* to [Spec, IP], since this movement cannot be forced by Case considerations. There are two minimalist assumptions that are crucial in this respect. The MPLT proposes that syntactic descriptions be reduced to "fundamental relations", spec-head and head-complement, dispensing with such notions as government by a head (Chomsky 1992: 9). It is also proposed that movement in the overt syntax should not be legitimate unless necessary for convergence, optional movement being thus eliminated from overt syntax (op.cit: 22). The analysis of Case assignment in Arabic proposed in recent literature, and analyzed here, is thus based on a set of assumptions that are not shared by the MPLT.

Moreover, Benmamoun (1992) argues that this disjunctive formulation of the mechanism of nominative Case —either by agreement or by government— also applies to the configurations in which agreement is sanctioned. His argument depends on two different agreement affixes in Arabic. One contains person and gender and is realized under the VS order, as in (23). Another agreement affix contains number and person and gender and is realized under SV, as in (24). He refers to the two patterns of agreement by the feature that singles them out. Person agreement and Number agreement.[8] The descriptive generalization is then:

> (27) a. P-agreement obtains either under head government or Spec-head agreement.
>   b. N-agreement obtains under Spec-head agreement.   .
>   (Benmamoun, op.cit. p.125)

Another consideration is in order at this point. It may seem at first glance that minimalist assumptions would allow us to get rid of this undesirable disjunction in the formulation of our theory of case assignment —and agreement. As proposed in Olarrea (1993), it could be claimed that the differences between SV and VS orders in Arabic are the reflex of two different specifications of the N-related features of T in Arabic (section 1.4). In the SV order, the N-related features of this functional head are specified as [+strong], forcing the overt movement of the VP-internal subject to [Spec, IP] in the overt syntax, as shown in (28).

> (28) [[$_{AGRs}$ al-?awlaad-u [$_{AGRs'}$[jaa?uu T]AGRs] t$_T$ [VP tsu t$_v$]]]
>   the-boys-NOM came3pm
>   [+] [+]
>   [+]
>   "The boys came"

In the VS order, on the other hand, the N-related features of T are [-strong] and the subject need not raise to [Spec, IP] until after Spell-out. Raising of the subject

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(8) It is necessary to observe that he restricts his discussion to the imperfective tense in Arabic, because it is in this form where both agreement patterns are more obvious, since they are represented by two different affixes (Benmamoun 1992: 120). Since the earlier descriptive texts it is also common to find in the literature about agreement in Arabic the idea that syntactic agreement is restricted to person and number. Gender agreement is considered optional, in both VS and SV orders. For a detailed discussion, vid. Fahsi Fehri (1988). I will adopt this view in the rest of the paper, to simplify the analyis.

in the SV order is overt but it is covert in the VS order. In either case the subject will be in a Spec-head configuration with a case assigning head at LF and nominative Case will be checked.

It may seem that this analysis allows us to get rid of a disjunctive formulation, since it is no longer necessary to postulate that structural case can be assigned *either* by government *or* by agreement. But in order to do so it has been necessary to replace this disjunction with a different one, not purely syntactic but somehow lexical and, as it is presently stated, of a very unclear formulation: Languages like Arabic that allow both pre- or postverbal subjects are the result of the presence of N-related features in Tense that can be specified as *either* [+strong] *or* [-strong]. It is then legitimate to question the degree of theoretical insight we have gained with what seems to be merely a substitution of disjunctive formulations. A more precise explanation of the mechanisms of agreement and Case assignment in Arabic under minimalist assumptions will be needed in order for the analysis to be satisfactory. I will come back to this issue in section three.

I have reviewed some of the theoretical problems with the existence of an empty expletive in preverbal position in Arabic. I have also discussed some of the problems that this analysis will create if one is to explain the phenomena of agreement and nominative Case assignment in Arabic within a minimalist framework. I will now analyze some of the empirical problems that the analysis based on the existence of an empty expletive in the VSO sentences presents. The following section draws largely from Aoun et al. (1994).

2.3. Some empirical problems

Aoun et al. (1994) use three dialects of Arabic, i.e. Standard, Moroccan and Lebanese (SA, MA and LA, respectively), to question that agreement of the verb in these dialects is with an empty expletive in [Spec, IP] in the VSO sentences. In Lebanese and Moroccan Arabic, the subject always agrees with the verb in person, gender and number; in Standard Arabic, on the other hand, the subject agrees in person, number and gender with the verb when the former precedes the latter. If the subject is postverbal, agreement is in person and gender, but not in number, as we have seen before. Aoun et al. criticize the idea that there is an empty pronominal dictating agreement with the verb, a pronominal that is partially specified for person and number in SA, but fully specified in MA and LA. They also address the issue of whether subject-verb agreement in person and number occurs in a configuration other than Spec-head. They assume that agreement can also by sanctioned by government, but come to the conclusion that Spec-head agreement in Arabic takes precedence over agreement under government. I will review their arguments in the next two subsections, since these empirical objections will be basic for my analysis.

2.3.1. *The complementizer* ʔinn

Aoun et al. (1994) use empirical arguments against the idea that agreement in the three dialects of Arabic under study is with a covert pronominal in the preverbal [Spec, IP] position. The evidence comes from the analysis of agreement patterns with subjects of embedded clauses introduced by the complementizer *ʔinn* in Leba-

nese. This complementizer presents an affix that agrees in the following examples with the null pronominal subject of the embedded clause, as in (29). (Examples (28-29) are taken from Aoun et al.: 201-202).

> (29) fakkar   ?iin-e   ruHt
>   thought 3ms that-1s. left 1s.
>   "He thought that I left"

When the preverbal subject is a full lexical NP, this NP and the morpheme attached to the complementizer do not agree in number or gender:

> (30) a. *fakkar   ?inn-un   l-baneet   raaHo
>   thought-3m   that-3pl. the-girls   left-3pl.
>   "He thought that the girls left"
>   b. fakkar   ?inn-o   l-baneet   raaHo
>   thought-3m   that-3m.sg. the-girls left-3pl.

In (30a), when the preverbal lexical subject and the morpheme in the complementizer agree, the sentence is not grammatical. In (30b), when the subject is preverbal, this morpheme takes a default value, i.e. third person masculine singular.

If sentences with postverbal lexical subjects include a preverbal covert expletive, and that this expletive is fully specified for number, gender and person in LA —recall that in LA the postverbal subject and the verb agree— we would expect the complementizer *?inn* to agree with the expletive, just as the complementizer agrees with the (null) pronominal in (29). But this is not the case, as shown in (31). Sentences containing postverbal lexical subjects differ from sentences that contain null pronominals.

> (31) *fakkar   ?inn-un   raaHo   l-baneet
>   thought 3msg. that-3pl. left-3pl. the girls

In (31), the complementizer affix *-un* cannot show agreement in third person plural with the verb or the hypothetical covert expletive in preverbal position, even though the example in (29) showed that the affix agrees with a null pronominal subject. Further, we cannot assume that the affix and the preverbal subject compete for the same structural position. If this were the case, the ungrammaticality of (31) could be explained based on the incompatibility of the affix and a pronominal subject, overt or covert. But this is not the case. (32) shows that the complementizer suffix *-e* and an overt pronominal subject *?ana* can co-occur in a sentence.

> (32) fakkar   ?iin-e   ?ana   ruHt
>   thought 3ms   that-1sg. I (1sg.)   left 1s.
>   "He thought that I left"

The embedded sentences introduced by the complementizer *?inn* cast some doubt on the existence of an empty expletive in preverbal position that dictates the agreement between the subject and the verb in Arabic.[9]

(9) It is also true that this argument can be compromised. The evidence against the existence of an empty expletive in Aoun et al. (1994) comes from the analysis of constructions in LA— examples

2.3.2 *Agreement under government*

Some Arabic data suggests that agreement is obtained under government, rather than as a result of Spec-head feature checking. When the subject is postverbal and it is formed by conjunction of NPs, the verb agrees in gender only with the first element of the conjunction. The examples in (33), from Mohammad (1989), ilustrate this point:

> (33) a. qara?a   9umar wa 9ali   l-qiSSat-a
>   read3ms   Omar and Ali   the story-Acc
>   "Omar and Ali read the story"
>   b. qara?a   9ali wa 9umar   l-qiSSat-a
>   read3fs   Ali and Omar   the story-Acc
>   "Ali and Omar read the story"

In (33a), the verb agrees in person and gender —masculine— with the first element of the conjunction, as shown clearly when we reverse the order of the conjoined elements and the verb agrees in person and gender —feminine— in (33b).

Benmammoun (1992: 128) suggests that postverbal conjoined subjects in Arabic may have the representation in (34):

> (34)   [$_{ConjP}$ NP$_1$ [Conj' Conj NP$_2$]]

The examples in (33) now receive a satisfactory explanation if we consider that agreement is obtained under either government or Spec-head, as proposed in Benmamoun (1992)—cf.2.2—. Assuming that the verb in INFL in (33) may govern into the Spec of a projection it governs, the verb in INFL can agree with the first element of the conjunction. If the conjoined NP precedes the verb, it can only agree with the conjunction itself, since it is in a Spec-head relation with the ConjP and not with the NP1 in [Spec, ConjP]. This is shown in the contrast in sentences (35a/b):

> (35) a. *9umar wa 9ali   qara?-a   l-qiSSat-a
>   Omar and Ali   read3ms   the story-Acc
>   b. 9umar wa 9ali   rara?-uu   l-qiSSat-a
>   Omar and Ali   read3mp   the story-Acc

Aoun et al. bring our attention to the problem that this analysis creates for the case of sentences having a "split" subject, a pre- and a postverbal one. The conjunction analysis described above predicts that the verb would agree with either subject, either by Spec-head or by government. But this prediction is wrong. This type of construction, in which we can find a pre- and postverbal subject, occurs in sentences with the auxiliary verb *keen* (be), as analyzed in Aoun et al. (1994: 208):

> (36) a. kariim w marwaan   keeno   9am   yil9abo
>   Karim y Marwan   were   Asp   playing

(29-32)— and Moroccan Arabic—examples *supra*. But in these two dialects the verb fully agrees with the subject, either in pre or postverbal position (op.cit. p 4). The need to postulate the existence of such an expletive was motivated to explain the default agreement with the postverbal subject in SA. Since there are no parallel constructions to those in (28-31) in SA, it is possible to assume that the argument against the existence of the expletive applies only to LA and MA, but not to SA.

    b. keen   kariim w marwaan   9am   yil9abo
       was   Karim y Marwan   Asp   playing

In (36) we find the expected agreement asymmetry between the pre- and the postverbal subject. The auxiliary has also the option of agreeing with the whole conjunction when the conjoined subject follows the verb, as we would expect if agreement obtains under government: the auxiliary governs not only the [Spec, ConjP] but also ConjP, as in (37):

    (37)   keeno karim w marwaan   9am   yil9abo
           were   Karim and Marwaan Asp   playing

But when there is an NP that precedes the auxiliary, and a conjoined subject, the agreement is with the preverbal NP, as in (36a), and never with the postverbal one.

    (38) a. kariim keen   huwwe w marwaa 9am yil9abo
           Kariim was   he and Marwaan Asp playing
       b. *kariim keeno   huwwe w marwaan   9am yil9abo
           Karim were   he and Marwaan   Asp playing

(38a) shows that in a "split" subject construction, one NP precedes the auxiliary, and a conjoined NP follows it. In this conjunction the first member is a pronoun coreferential with the preverbal NP. We would expect the verb here to agree by government with either the first element or with the entire conjunction, as in the contrast between (36b) and (37). But this is not the case, and the verb must agree with the preverbal NP, as shown in (38b). This shows, at least, that agreement under Spec-head takes precedence over agreement under government, in case we are forced to assume that the latter takes place in Arabic.

To summarize, the analysis of the examples in (29-38) affirms that: (i) The evidence about the existence of an empty expletive in preverbal position, coindexed with postverbal lexical NPs in Arabic is not compelling; and (ii), even if we are forced to assume that agreement can take place as a manifestation of either Spec-head coindexing or government, the former takes precedence over the latter.

Keeping in mind these considerations, I would like to return to the problem of nominative case assignment. My aim is to show that preverbal subjects in Arabic are base-generated as adjuncts to the highest inflectional projection. This analysis presents two advantages: First, it does not need to postulate the existence of an empty expletive in [Spec, IP]. The empirical arguments in favor of this expletive have been questioned in section 2.3.1. Second, this analysis allows both nominative Case and agreement to result from Spec-head configurations, the notion of agreement or structural Case assignment under government no longer necessary. With this intentions in mind, I will review some aspects of the analysis of nominative topics in Arabic found in Demirdache (1992). ·

2.4. Nominative topics and the preverbal subject

Demirdache (1992) shows that there are two types of NPs that receive nominative Case: subject NPs and what she denominates "nominative topics." Nominative

topics in Arabic are always coindexed with a pronominal in argument position: object of a verb, genitive complement and object of a preposition. These three possibilities are exemplified in (39-41) (Demirdache 1992: 1-3)

(39)   xaalid-un$_i$ ra?aa-hu$_i$ saalim-un
        Khalid-nom   saw-him   Salim-nom
        Kalid, Salim saw him

(40)   xaalid-un$_i$ ra?aa   sadiiqu-hu$_i$ saalim-an
        Khalid-nom   saw   friend-nom-his   Salim-acc
        Khalid, his friend saw Salim

(41)   ad-daaru$_i$ ra?aa   fii-haa$_i$ saalim-un   xaalida-an
        The house saw'   in-it   Salim-nom Khalid-acc
        The house, Salim saw Khalid in it

In all the above cases, the pronominal in argument position is both coindexed with the phrase in preverbal position and cliticised onto the head which governs it. Demirdache shows that these are left-dislocated structures, and that they present four characteristics relevant to her analysis: (i) they always bear nominative Case; (ii) the relation between the left-dislocated element and the place marking pronoun violates subjacency and island conditions; (iii) they are required to be definite; and (iv), they must be linked to a resumptive pronoun.

Crucially, these same characteristics are also true of preverbal subjects, the only difference being that there is no overt pronoun in the argumental position, [Spec, VP]. Preverbal subjects bear nominative Case, and are required to be definite, as shown in (42).

(42) a. al-rajul-u   ra?aa   saalim-an   b. *rajul-un ra?aa   saalim-an
        def-man-nom saw   Salim-acc   man-nom saw   Salim-acc
        The man saw Salim   A man saw Salim

In (42b), the presence of an indefinite subject in preverbal position renders the sentence ungrammatical. Arabic preverbal subjects violate the same island conditions that we can find in nominative topics, as shown by the violation of the Wh-island constraint in (43).

(43) a. [$_{CP}$al-rajul-u   [mataa [$_{IP}$kataabj-uu   [t$_j$ l-kitaab-a]]]]
        def-men-nom   when   wrote-3mp   def-book-acc
        The men when did they write the book?

The presence of the nominative NP in [Spec, CP] in (43) cannot then involve movement and consequently has to be base-generated to the left of the Wh-phrase. The subject's left-dislocation does not leave a lexical resumptive pronoun in the position of the external argument.

Based on these examples, Demirdache argues that preverbal subjects in Arabic are base-generated in the same position as the left-dislocated NPs in (39-41). She assumes, then, that left-dislocation of the preverbal subject leaves an empty pronominal *pro* in argument position, coindexed with the lexical subject.

In the next section, I will use Demirdache's analysis to explain the Arabic facts related to the assignment of nominative Case and the phenomenon of loss of agreement under minimalist assumptions.

3. A minimalist analysis

Keeping in mind that there are empirical reasons to doubt the existence of an expletive pronoun in preverbal position in the VSO order in Arabic (section 2.3.1), and that agreement under Spec-head seems to take precedence over agreement under government (section 2.3.2), I will argue that preverbal subjects in Arabic are not the result of movement of the VP-internal subjects to [Spec, AgrP], but rather that they are NPs adjoined to AgrP, paired by predication with the actual argumental subject, a null pronominal pro in VP-internal position. I will further claim that this possibility of having an argumental null pronominal in a VP-internal position applies to all languages whose [Spec, TP] is available for assignment of structural (nominative) Case. And I will argue that under minimalist assumptions it is possible to explain the phenomenon traditionally called Free Subject Inversion, characteristic of pro-drop languages, without resorting to the existence of L-related features specified with two different values for a given language, therefore abandoning the theoretical disjunction in the mechanisms of case assignment discussed in section 2.3.

The discussion will be organized as follows. In 3.1., I will discuss the basic assumptions about Arabic sentence structure that will set the basis for the analysis. More precisely, I will assume that in Arabic Agr-sP dominates TP and that T projects a specifier position. In 3.2., I will show that nominative Case is checked under Spec-head agreement with the complex head [$_T$ V+T], in both VS and SV word orders. Section 3.3 will discuss number agreement agreement in Arabic, and will provide an explanation for the loss of agreement number in VS sentences.

3.1. Initial assumptions

I will assume that the basic sentence structure in Arabic is the following, abstracting from the functional projections related to the position and Case of the object.

(44)   Agr-sP
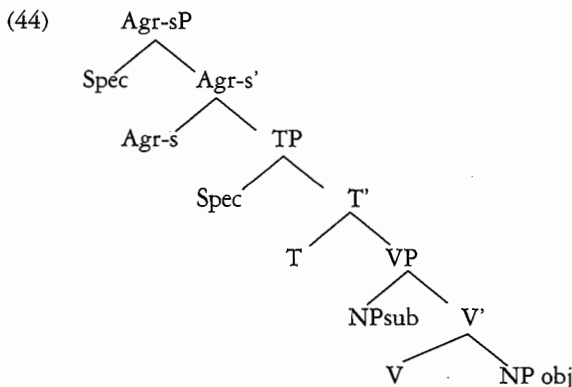
A first consideration is in order. In the pre-minimalist literature about Arabic sentential structure it is assumed that in this language Tense dominates Agr. Since Ouhalla's (1991) influential work, it has been widely accepted that there is a parametric variation in the order of the inflectional heads of a sentence that has a direct reflection on the word order possibilities of the subject. Ouhalla (1991) claims that in VSO languages such as Arabic, the Agr-s morphemes appear inside the Tense morphemes, while in SVO languages like French the order is the reverse. This difference in order in the inflectional morphemes reflects a basic typological distinction; in VSO languages, T is higher than Agr-s, whereas in SVO languages the reverse relation is found. The structure suggested for Arabic is given in (45).

(45)   TP
             /   \
         Spec   T'
                   /   \
                 T   Agr-sP
                        /   \
                    Spec   Agr-s'
                               /   \
                           Agr-s   VP
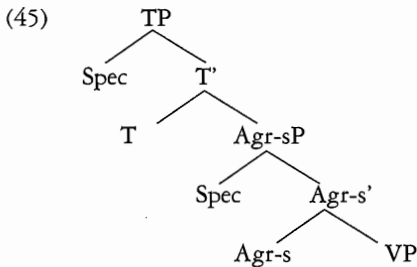
This difference on the order of the inflectional heads follows the lines of the Mirror Principle (Baker 1988)

(46) The Mirror Principle (Baker 1988: 13)
      Morphological derivations must directly reflect syntactic derivations (and
      vice versa)

But in the MPLT, a verb does not pick up morphological features in the course of the derivation. Instead, a verb is inserted in the structure fully inflected and verbal features are matched with those of functional categories, and disappear when checked off. Morphological derivations need not directly reflect the order of syntactic derivations. In this framework, there is no parametric difference in the syntax, and the structure of a sentence conforms universally to (44).

In (44), T projects a specifier position, against the original assumptions in the MPLT (section 1.5). I will assume with Jonas and Bobaljik (1993) and Branigan (1992) that Semitic and Romance Languages do project a [Spec, TP]. The argument is theoretically based. The MPLT assumes the T does not project a specifier because direct movement of the subject to [Spec, Agr-sP] when [Spec, TP] is present would violate Relativized Minimality, since it would cross two specifier positions, [Spec, Agr-oP] and [Spec-TP]. This result, as argued in Jonas and Bobaljik (1993), seems to be correct only for languages with covert V-to-I movement and obligatory overt subject raising. This is the case of English. In the Semitic and Romance languages, where the verb raises overtly, adjunction of the verb to T and the adjunction of the subsequent complex head to Agr-s will allow cyclic movement of the subject to [Spec, Agr-sP] through [Spec, TP].

The [Spec, TP] position is a position in which nominative Case can be checked

against the relevant features of the verbal complex [$_T$ V+T]. This specifier will create a minimality barrier for the direct movement to [Spec, AgrP] in the overt syntax of the base-generated subject —lexical NP or *pro* (section 1.6).

It is uncontroversial that in Arabic the verbal head raises to INFL in the overt syntax.[10] I claim then that in Arabic the basic order is VSO, the result of V-to-Agr movement forced by the [+strong] V-features of Agr that characterize Null-subject languages. I will also claim that N-related features of Agr-s in this language are uniformly [-strong], its features checked by the subject after Spell-Out.

3.2. Nominative under minimalist assumptions
3.2.1. *The VS order*

Once we assume the sentential structure discussed in the previous section, the derivation of the VS order in Arabic is straightforward. By Spell-out the verb has raised to T, and then the complex [$_T$ V+T] has raised and adjoined to Agr-s, leaving a trace in T. The strong features V-related features of T and Agr-s are checked and disappear. The VP-internal subject raises to [Spec, TP], a Spec position "opened up" as a possible landing site by the movement of V to T (section 1.5). In this position the subject checks its case features. The result is the configuration (47).

(47)

Agr-sP
Spec   Agr-s'
Agr-s   TP
T   Agr-s   Subj.   T'
V   T   t   VP
t   V'
t   Obj
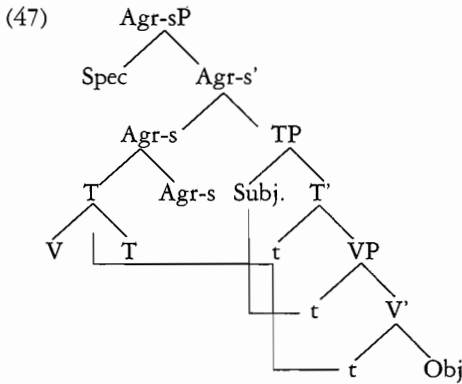
In (47), nominative Case has been assigned and all the inflectional features of the verb have been checked. In the overt syntax, the verb precedes the subject. Before Spell-out, then, the Arabic VS sentences in (4a), repeated here again as (48), have the following structural description:

(48)   [$_{Agr-sP}$ [$_{Agr-s}$ jaaʔ-a] [$_{TP}$ al-ʔawlaad-u t$_T$ [$_{VP}$ ti [$_{V'}$ tv]]]]]
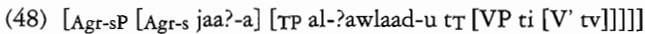
At LF, the subject in [Spec, TP] raises to [Spec, Agr-s] in order to check the [-strong] N-related features of this inflectional head. Crucially, the V and N-related features of Agr-s in Arabic are only Person and Gender. The configuration at LF is shown in (49).

(10) Vid. Fahsi Fehri (1988), Muhammad (1989), Benmamoun (1992) and Ouhalla (1994), among others.

(49)   Agr-sP
            /\
      Subject   Agr-s'
          | /\
        Agr-s   TP
          /\   /\
         T   Agr-s t   VP
        /\   /\
       V   T
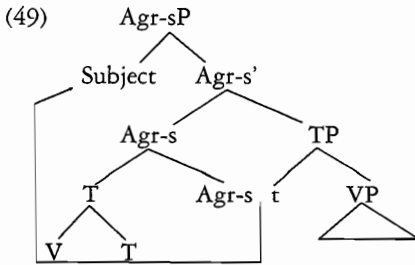
At LF, the subject is in the checking domain of the Agr-s head and agreement in Person and Gender obtains. The VS sentence in (48) presents the following structure at LF:

(50) [Agr-sP al-?awlaad-u [Agr-s jaa?-a] [TP tT [VP ti [V' tv]]]]]

In (50) the subject *al-a/wlaad-u* in [Spec, Agr-sP] is in a Spec-head relation with the verb *jaa?-a* adjoined to Agr-s via succesive adjunction to the intermediate functional heads. Agreement in person ans gender between the subject and the verb is checked at this level of representation.

3.2.2 *The SV order*

In this subsection I will analyze the mechanism of nominative Case checking in the Arabic SV sentences under minimalist assumptions. The basic asumption that I will explore in this subsection is that preverbal subjects are adjuncts to Agr-sP, coindexed by predication with an empty pronoun in the thematic position [Spec, VP]. I will also discuss the definiteness effects associated with the preverbal subject position. Finally, I will discuss the possibility of atributting the presence of nominative Case in the left-dislocated NP to a default mechanism characteristic of Arabic.

Following Demirdache (1992), I will assume that the preverbal position in the SV order is occupied by a left-dislocated NP, coindexed with a *pro* in argument position, as argued in section 2.4. I will assume that the left-dislocated NP is generated as an adjunct to Agr-sP. The base-generation of this preverbal subject posits no problems for the MPLT, as we saw in section 1.7. As discussed in that section, the position of a base-generated adjunct to Agr-sP has the basic properties of non-argument positions.

Before Spell-out, then, the structure of a SV sentence in Arabic presents the following configuration:

(51) [Agr-sP NP [Agr-sP [Agr-s V+T] [TP proi tT [VP ti [V' tv]]]]]

As in (48), in (51) V has raised and adjoined to Agr-s^0 via adjunction to T. The thematic subject *pro* has raised to [Spec, T] in order to check the [+strong] N-related feature of T, i.e. the nominative Case feature. The overt syntax representation of the Arabic SV sentence (3q) receives the following structural description:

(52) [Agr-sP al-?awlaad-u [Agr-sP [Agr-s jaa?-uu] [TP proi tT [VP ti [V' tv]]]]]

In the overt syntax, then, the the left-dislocated NP precedes the verb. But the

thematic subject, i.e., the empty pronominal, follows it. This empty pronominal is in [Spec, TP], a position in which nominative Case can be checked under Spec-head agreement with the complex [$_T$V+T] .

At LF, the empty pronominal in [Spec, TP] raises to [Spec, Agr-s] to check the [-strong] N-related features of Agr-s. The resulting configuration is shown in (53).

(53) [$_{Agr-sP}$ al-?awlaad-u [$_{Agr-sP}$ proi [$_{Agr-s}$ jaa?-uu] [$_{TP}$ t$_i$' t$_T$ [$_{VP}$ t$_i$ [$_{V'}$ tv]]]]]

The empty pronominal in [Spec, Agr-sP] is now in the checking domain of the complex [$_{Agr-s}$ Agr-s + [$_T$ V+T]]. Agreement between the verb and the empty pronominal obtains in this configuration. Since we have assumed that the N-related features of Agr-s are person and gender, the verb agrees with the empty pronominal in these features.[11]

3.2.2.1. *Specificity and the SV order*

It is at this level of representation that the preverbal NP and the empty pronominal are coindexed by a process akin to predication, a process that links a left-dislocated NP to a resumptive pronoun. Following Demirdache (1992) I will assume that when an NP is linked to a pronoun at LF they must match in features of gender, person, and specificity. This assumption correctly predicts the lack of non-definite NPs in preverbal position in Arabic if we take pronominals to be specific. A non-specific NP in preverbal position would not match the feature [+specific] of *pro* at LF and the derivation would crash. A personal pronoun, on the other hand, will always be allowed in preverbal position, since it will match the features of *pro*, as shown by the contrast in (54).

(54) a. *rajul-un jaa?-uu   b. al-rajul-u   jaa?-uu
       men-Nom came-3mp   def-men-Nom came-3mp
       Men came   The men came
    c. hum   jaa?-uu
       they   came-3mp

In all three examples above, and according to our hypothesis, the preverbal subject is coindexed by predication at LF with an empty resumptive pronoun *pro*. The preverbal subject has to agree with the resumptive pronoun in f-features and specificity. When the preverbal subject is not a referential indefinite, the value of its [specific] feature does not match the value of the feature of the empty pronominal; the derivation crashes.[12]

(11) We are mainly concerned with nominative Case assignment in this subsection. Up to this point, I haven't explained yet why in this configuration number agreement obtains. I will go back to this issue in the next section.

(12) It is necessary to mention at this point that an analysis of preverbal subjects in Arabic as base-generated adjuncts to Agr-sP correctly predicts the definiteness/specificity effects discussed in the Mapping Hypothesis proposed in Diesing (1990, 1992). Under this hypothesis the syntactic representation of a sentence is derived by splitting the syntactic tree into two parts that correspond to the two divisions of a quantificational structure, as stated in (i).

3.2.2.2. Nominative Case and the left-dislocated NP.

One question about the mechanism of Case assignment discussed in this section remains open: how the preverbal subject, base-generated in a non-argument position, checks its Case? Recall that we argued against the idea of Case transmission between the thematic subject *pro* and the non-thematic NP in section 2.2. In that section I also reviewed Coopman's objections to an analysis in which both subjects, the one in argument position and the one in a non-argument position, receive in Arabic nominative Case by default. I will refine this idea here and propose that all NPs base-generated outside the checking domain of a case assigner check their nominative Case features by default in Arabic. In other words, an NP will check nominative by default only in the absence of an structural Case checker. Independent evidence for this possibility can be found in a variety of Arabic constructions. Consider the following examples, from Ouhalla (1994: 48).

(55) a. Hind-un   qassasat-un   b. l-mudarris-u   mariid-un
       Hind-Nom story-writer-Nom   the teacher-Nom ill-Nom
       "Hind is a story writer"   "The teacher is ill"

The sentences in (55) show that in nominal sentences, both the subject and the predicate nominal present nominative. In this construction, the absence of a head that can check structural Case is clear, since there is no verb. But, as Ouhalla points out, when the subject of these sentences is within the scope of a head that can check structural Case, it presents the corresponding Case, as shown in (56).

(56) a. Hind-un   kaan-at   qassasat-an
       Hind-Nom was-3ps   story-writer-Acc
       "Hind was a story writer"
    b. ?anna al-mudarris-a   mariid-un
       that   the teacher-Acc ill-nom
       "That the teacher is ill"

With a copula (*kaan-* 'to be') in (56a), the preverbal subject remains nominative but the predicate receives accusative Case, the Case assigned by a copula to predicate nominals in Arabic. In (56b), the complementizer *?anna* assigns accusative to the preverbal subject, while the predicate remains nominative. These examples show that NPs in positions outside the checking domain of a head that can check structural Case present nominative Case by default.

I have proposed that left-dislocated NP's are base-generated as adjuncts to the highest inflectional projection, a broadly L-related position outside the checking domain of the complex head [V+T] that checks for structural nominative Case. As a

(i) a. VP maps into Nuclear Scope
    b. IP maps into a Restrictive Clause
I will leave a detailed explanation of the application of this hypothesis to the Arabic examples in section 3.2 to further research. For the time being, it will be sufficient to point out that Jelinek (1993) claims that the formulation in (i) leads to a hierarchical distribution in the syntactic tree of arguments defined in terms of definiteness/specificity: "By LF, definites must be "higher" in the tree than indefinites" (op.cit.: 33). This claim agrees with the proposal presented in this paper.

result, left-dislocated NP's will present nominative Case by default when adjoined to Agr-sP, independently of the position of the argumental resumptive pronoun to which they are linked. Recall that this is the case in all the examples of left-disloc-ated NP's analyzed in section 2.4, repeated here as (57-59).

(57) xaalid-un$_i$ ra?aa-hu$_i$ saalim-un
      Khalid-nom saw-him   Salim-nom
      Kalid, Salim saw him

(58) xaalid-un$_i$ ra?aa sadiiqu-hu$_i$ saalim-an
      Khalid-nom sawfriend-nom-his   Salim-acc
      Khalid, his friend saw Salim

(59) ad-daaru$_i$ ra?aa fii-haa$_i$ saalim-un   xaalida-an
      The house-nom saw'   in-it   Salim-nom   Khalid-acc
      The house, Salim saw Khalid in it

In the above examples, a left-dislocated object of a verb (57), a genitive complement (58) and an object of a preposition (59) present nominative Case by default when they are generated as adjuncts to Agr-sP.

To sum up, in this section I have shown that nominative Case in Arabic is checked under Spec-head agreement with the complex head [$_T$ V+T]. There are several assumptions that have been crucial to our purposes. In Arabic, T projects a specifier position, and as a consequence there are two positions in which the subject checks its inflectional features, [Spec, TP] and [Spec, Agr-sP]. The N-related feat-ures of T are [+strong]. The external argument of the verb will raise from its VP-internal position to [Spec, TP] in order to check its case features in the overt syntax. The basic word order in Arabic is thus VS, with V in Agr-s and the postverbal subject in [Spec, TP]. The SV order shows both a preverbal subject generated as an adjunct to Agr-sP, whose Case is nominative by default, and a resumptive *pro* in argument position, [Spec, TP]. At LF, the subject in [Spec, TP] will raise to [Spec, Agr-sP] to check the [-strong] N-related features of Agr-s. In the cases in which there is a left-dislocated NP adjoined to Agr-sP, i.e., in the overt SV order, the thematic *pro* in [Spec, Agr-sP] will be coindexed with the preverbal NP. At this level of representation their morphological features should agree in person, gender and specificity for the derivation to converge.

This analysis gives a uniform account of nominative Case checking in Arabic, but still fails to explain the characteristic agreement pattern of this language. I have argued that the thematic subject is always in [Spec, Agr-sP] at LF, independently of the position of the subject in the overt syntax, as shown in the derivations of the VS and SV order in (50) and (53), repeated again here as (60).

(60)a. [$_{Agr-sP}$ al-?awlaad-u [$_{Agr-s}$ jaa?-a] [$_{TP}$ t$_T$ [$_{VP}$ t$_i$ [V' tv]]]]]
     b. [$_{Agr-sP}$ al-?awlaad-u [$_{Agr-sP}$ proi [$_{Agr-s}$ jaa?-uu] [$_{TP}$ t$_i$' t$_T$ [$_{VP}$ t$_i$ [V' tv]]]]]

(60a) shows the LF representation of a VS sentence in Arabic, while (60b) shows the LF representation of an SV sentence. In both cases the thematic subject is in a Spec-head configuration with the complex Agr-s head, these thematic subjects

being either the postverbal subject in the VS order that has raised to [Spec, Agr-sP] in (60a), or a resumptive *pro* in the SV order (60b). Up to this point, I have assumed that the N-related features of Agr-s are person and gender features only. This has explained the fact that pre- and postverbal subjects agree always in person and gender with the verb, as shown in the above examples. But it still fails to predict the different number agreement patterns that characterize Arabic. In (60a) the verb agrees in person and gender with the postverbal subject, but agreement in number would result in ungrammaticality, as shown in (4b), repeated here as (61).

(61) * jaa?uu   al-?awlaad-u
       came3pl.m. the-boys-NOM
       "The boys came"

In the SV order, on the other hand, the verb and the subject agree not only in person and gender, but also in number. When the verb does not agree in number with the subject, the sentence is ruled out, as shown in (3b), repeated here as (62).

(62) * *al-?awlaad-u*   *jaa?a*
       the-boys-NOM came3sg.m.
       "The boys came"

The question of how the number agreement features that characterize the SV order are checked is still open. I turn to this issue in the next subsection.

3.3. Number agreement in Arabic

Number agreement can only be found in Arabic in the following configurations:

(63) a. jaa?-uu   b. hum   jaa?-uu
        came-3mp   they   came-3mp
        "They came"
     c. al-rajul-u   jaa?-uu
        def-men-Nom came-3mp
        "The men came"

The examples in (63) show that number agreement obtains when the subject is dropped (63a) and when the subject is preverbal, either as a pronoun (63b) or as a definite NP (63c). Our analysis assumes that in sentences with a preverbal subject like (63b/c) there is an empty pronominal in the thematic position. The representation before Spell-Out of the sentences in (63) is given in (64):

(64) a. [Agr-sP [Agr-s jaa?-uu] [TP pro$_i$ tT [VP t$_i$ [V' tv]]]]
     b. [Agr-sP hum [Agr-sP [Agr-s jaa?-uu] [TP proitT [VP t$_i$ [V' tv]]]]]
     c. [Agr-sP al-?awlaad-u [Agr-sP [Agr-s jaa?-uu] [TP proi tT [VP t$_i$ [V' tv]]]]]

Since in all the above examples there is a null pronominal in the thematic position, the following descriptive generalization can be made:

(65) Number agreement in Arabic obtains when there is a null pronominal in the thematic subject position.

This generalization constitutes the basis for our explanation of number agreement,

along the lines proposed in Demirdache (1992). Based on a morphological compari-
son between the inflectional markers for the perfective and the imperfective tenses of
the verb and the plural and dual markers for nouns and adjectives in Arabic,
Demirdache proposes that nominative plural and dual markers are affixes adjoined
to a head noun or adjective (p. 18-20):
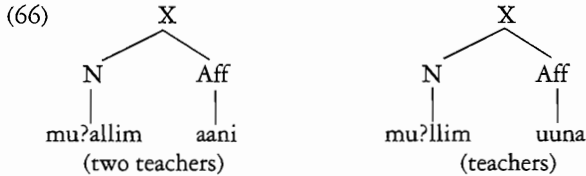
Head nouns are base-generated with this number affix adjoined to it. Crucially,
Demirdache shows that this affix cannot be incorporated to a null pronominal,
because a pronominal cannot serve as a base for it. Since the affix is a bound
morpheme that requires a base to attach to, it incorporates into the verb. As a
consequence, the number marker affixed to nouns is reanalyzed as agreement feat-
ures on the verb in those cases in which the thematic subject is a pronominal.

The examples (63) are now explained. Recall that we have taken the N-related
features of Agr-s in Arabic to be only Person and Gender. Recall also that, under our
analysis, there is an (empty) pronominal in [Spec, TP] in the overt syntax either
when there is a left-dislocated subject or when the sentence has a null subject. The
common configuration before Spell-Out of the examples in (64) is shown in (67).
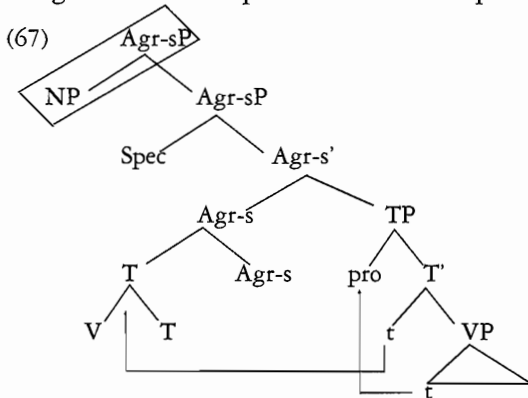
In the overt syntax, the verb in Agr-s c-commands the empty pronominal in [Spec,
TP]. This empty pronominal is generated with a number morpheme affix for which
it cannot be the base. The c-commanding verb in Agr-s licenses incorporation of the
number affix to the verb from the subject position. As a consequence, the verb will
present number agreement morphemes only when it c-commands an empty pro-
nominal before Spell-out.

When the thematic subject is not an empty pronominal, the number affix incor-
porates onto the head of the NP subject and the verb does not show number
inflection, only the NP subject does. The relevant configuration is shown in (68).

(68)

Agr-sP

Spec   Agr-s'

Agr-s   Tp

T   Agr-s   NP   T'

V   T   t   VP

t
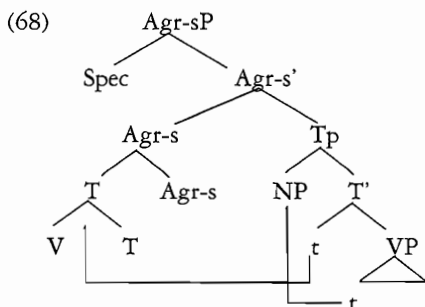
In this case, the only possible word order in the overt syntax is VS. By Spell-Out the verb will check the [+strong] V-related features of Agr-s, person and number. Since the N-related features of Agr-s are [-strong], the subject will raise at LF to check these same features. As a consequence the person and number features of both the verb and the subject need to match for the derivation to converge. But crucially, only the NP subject will present a number affix, as shown in the examples in (69)

(69) a. *jaa?a*   al-?awlaad-u   b. * *jaa?uu*   al-?awlaad-u
         came 3sg.m. the-boys-NOM   came3pl.m. the-boys-NOM
         "The boys came"   "The boys came"

In (69a) the postverbal subject carries the plural affix *-u,* and the verb and the postverbal subject agree in person and gender. The sentence is grammatical. In (69b), on the other hand, both the verb and the postverbal subject carry the plural affix. The verb agrees in person and number with the verb, but the presence of number morphemes in the both of them renders the sentence ungrammatical.

In the previous section I have proposed an analysis of the mechanisms of nominative Case checking and agreement under minimalist assumptions. The analysis assumes that preverbal subjects in Arabic are base-generated adjuncts to Agrs-P, coindexed by predication with an empty resumptive pronoun in thematic position. This empty pronominal in thematic position checks the Case features of T and the person and gender agreement features of Agr-s in Spec-head agreement. In the SV sentences, the preverbal NP checks its nominative features by a default mechanism. The VS order, on the other hand, is the result of V-to-Agr-s movement while the subject remains in [Spec, TP]. This subject raises at LF to check its person and gender features in the checking domain of the Agr-s complex head. A theoretical stipulation has allowed us to explain the number agreement patterns found in Arabic: Arabic nominative number markers are affixes that cannot be incorporated into an empty pronominal head. When the thematic subject is a null pronominal, i.e. in null-subject sentences or in SV sentences, this number affix incorporate into the verb and is reanalyzed as verbal agreement features. This stipulation need further analysis: It is not clear how such a mechanism could be made consistent with the minimalist assumption that all lexical items come fully inflected from the lexicon.

In the next section I will expand my analysis to a different case of agreement loss, the loss of person agreement in Spanish with subjects that receive a generic interpretation. Arabic and Spanish provide an interesting contrast: Both are pro-drop lan-

guages, and both allow pre- and postverbal positions of the subject. But the Spanish case of agreement loss differs from the Arabic examples in that Spanish person agreement with the preverbal subject is lost, while Arabic number agreement is lost with the postverbal subject. I will argue in the next section that an analysis of preverbal subjects in Spanish as base-generated adjuncts to the highest inflectional projection, coindexed with a resumptive *pro* in argument position, will account for these cases under minimalist assumptions.

4. Person agreement loss in Spanish

In this section I will briefly discuss some empirical evidence indicating that Spanish preverbal subjects, like Arabic subjects, are left-dislocated and coindexed with a null resumptive pronoun *pro* in argument position.

4.1. The position of subjects in Spanish

Recent work in the literature on Romance languages has claimed that subjects do not occupy [Spec, IP] —[Spec, Agr-sP].[13] In order to show that Spanish subjects are not in [Spec, IP], I will summarize arguments from Contreras (1994). This arguments are based on the relative order of negation and other functional projections.

Laka (1990) and Bosque (1992) argue convincingly that what differentiates English from Spanish is the relative order of the functional heads with respect to negation. In Spanish, NegP dominates TP, while in English NegP dominates Agr-sP:

(70) a. Spanish: [CP [Agr-sP [TP [NegP [VP...]]]]]
    b. English: [CP [NegP [Agr-sP [TP [VP...]]]]]

Based on this distinction, Contreras (1994) argues that the contrast in (71) shows that the subject never occupies [Spec, Agr-sP] in Spanish:

(71) a. ¿Qué libros_i no lee t_i Juan?   b. *¿Qué libros Juan lee?
     which books not read John   c. *¿Qué libros no Juan lee?
   "Which book doesn't John read?"

In Spanish Wh-interrogative sentences, the subject follows the verb (71a). When the subject precedes the verb, the sentence is ungrammatical (71b). This subject inversion in interrogatives cannot be due to the fact that the wh-phrase *qué libros* and the subject *Juan* compete for the same position, [Spec, Agr-sP]. If this were the case, we would predict (71c) to be grammatical: The wh-element occupies [Spec, Agr-sP], negation dominates VP, and the subject is base-generated in [Spec, VP]. But (61c) is ruled out, and the contrast between (71a) and (71b) shows that Wh-movement is not to Spec of Agr-sP. We thus have to assume that the wh-element in (71a) is not in that position and that [Spec, Agr-sP] is not filled. The fact that the negative element *no* in NegP precedes the verb suggests that there is no I-to-C movement in Spanish. If I-to-C movement were allowed, (72) should be grammatical:

(13) Vid. Barbosa (1993), Bok-Bennema (1992), Contreras (1991) and (1994), Rigau (1991), among others.

(72)   *¿Qué libros lee no Juan?

(72) shows that the verb does not raise to C. As a consequence, Contreras claims that the subject in Spanish cannot occupy [Spec, Agr-sP], as shown by the examples in (71-72). What then is the position of preverbal subjects in Spanish?

Contreras (1991, 1994a, 1994b) argues that AGR in Spanish is [+lexical], and therefore projects no specifier, according to Fukui and Speas' (1986) proposal. In his framework, subjects are generated as VP-internal adjuncts whose order with respect to the predicate is not specified:

(73)   IP
           /\
          I   VP
             /\
          NP* VP
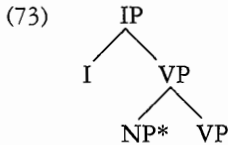
The internal subject receives nominative Case under government by INFL, since INFL L-marks the higher VP. Spanish SVO order is then the result of adjunction to INFL.

(74)   IP
       /\
      NP IP
         /\
        I   VP
           /__\
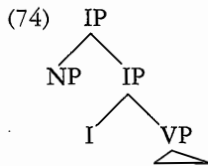
This adjunction of the NP subject to IP can be produced either by movement, as in (75), or by base-generation, as in the case of long movement of the subject in (76) (examples from Contreras 1991: 65):

(75) [IP María$_i$ [IP sabe$_k$[VP [VP t$_k$ la lección] t$_i$]]]

(76) [IP Esos futbolistas$_i$ [IP no sé [CP cómo se puede saber [CP cuánto dinero ganan pro$_i$]]]]

In (75), the subject position is subjacent to the adjoined phrase and the structure *may* result from movement.[14] But in (76) the deeply embedded subject is not subjacent to the NP adjoined to IP, since both CPs in (76) are barriers. This sentence cannot be the result of movement and the most embedded subject cannot be a trace: It has to be a resumptive empty pronominal and the initial phrase has to be left-dislocated.[15]

(14) By assuming that adjuncts are licensed at S-structure only if they are canonically governed, and that otherwise they are licensed at LF, Contreras (1991) correctly predicts several contrasts between languages like English, whose INFL is [-lexical], and Spanish, whose INFL is [+lexical]. In English topicalization is possible, while it is impossible in Spanish; Spanish shows postverbal subjects while English lacks them; English does not allow null empty subjects, and both languages show "contrasting ranges of closed domain facts" that receive a satisfactory explanation under the Close Domain Condition, i.e., the contrast between (i) and (ii):
(i)   *¿Qué lección María sabe? / What lesson does Mary know?
(ii) La lección que María sabe / The lesson that Mary knows

Evidence that left-dislocation of the subject is possible in Spanish can also be found in raising structures. Consider the following examples in Spanish and their English counterparts.

(77) a. Parece [que Juan come mucho]   b. It seems [that John eats a lot]

The verb *parecer* ('seem') is a raising verb. It does not assign a q-role to its external argument. In English, the subject position has to be filled by an overt expletive (77b). In Spanish, a pro-drop language, the subject of *parecer* is a covert expletive *pro expl* (77a). But when the embedded clause is non-finite, its subject does not receive Case and has to raise to the subject position of the main verb, as shown in (78), to avoid a violation of the Case Filter. The relevant contrast is illustrated in (78).

(78) a. Juan parece [comer mucho]   b. John seems [to eat a lot]

Now consider the contrast in (79).

(79) a. Juan y Pedro parece [que comen mucho]
      b. *John and Peter seems [that eat a lot]

In (79a) the plural subject in the Spanish example cannot be the subject of the main verb *parece*, in third person singular, as shown by the fact that there is no subject-verb agreement. The sentence is interpreted with the initial phrase as the subject of the embedded verb *comen*, third person plural. But movement of this subject from the embedded position to the subject position of the main clause is not motivated: the verb in the embedded sentence is finite and can assign nominative Case to its subject. It is reasonable to assume that (79a) is a left-dislocated structure, and that the subject of the embedded clause is an empty referential pronoun that dictates the agreement with the embedded subject. The initial phrase is adjoined to the main IP, whose subject is a null expletive, like in (78a).

Once we posit that Spanish preverbal subjects are base-generated as IP adjuncts we have established the basis for a minimalist analysis of agreement and nominative Case in Spanish, equivalent to the Arabic analysis proposed in section three. Under such an analysis, the structure of (75) can be considered to be (80):

(80) $[_{Agr\text{-}sP}$ María^i $[_{AgrSP}$ $[_{Agr\text{-}s'}$ sabe$_k$ $[_{TP}$ $[_{T'}$ t$_{k'}$ $[_{VP}$ pro^i $[_{V'}$ t$_k$ la lección] $]]]$

The theoretical framework developed in this paper differs from Contreras (1991), and it is not clear that it can explain the desirable results of Contreras' analysis mentioned above. For the time being I have to leave this issue open for future research.

(15) Contreras (1994) finds further evidence for the claim that preverbal subjects in Spanish are always left-dislocated in two problems that an analysis of adjunction as movement would posit: First, it would not explain why it is only the subject that can be adjoined in Spanish, as shown in (i).

(i) a. *Dicen que a su padre escribió Juan una carta.
     b.*Creo que esa carta Juan nunca escribió.

Second, an analysis of adjunction as movement wouldn't explain why this adjunction is limited to one XP.

(ii) a. Dicen que*Juan a su padre escribió un carta.   b. * a su padre Juan escribió una carta.
      c. * Juan una carta escribió a su padre.

In the next section I will describe this analysis in detail and outline an account of the cases of person agreement loss in Spanish.

4.2. SV vs. VS in Spanish

We can account now for both the VS and the SV orders in Spanish in a uniform way. The V-related features of T and Agr-s in Spanish are [+strong], forcing the overt raising of the verb. The N-related features of Agr-s, on the other hand, are [-strong]. Subjects are generated in [Spec, VP] and will raise covertly to the position in which their inflectional features are checked, [Spec, Agr-sP].[16]

A VS sentence is thus the result of V adjunction to Agr-s, via cyclic adjunction to the intermidiate functional heads. This movement is the product of the [+strong] V-related features of T and Agr-s. Before Spell-out, then, the representation of a VS sentence in Spanish is then:

(81) $[_{Agr\text{-}sP} [_{Agr\text{-}s'} sabe_k [_{TP} María_i [_{T'} t_{k'} [_{VP} t_i [_{V'} t_k la lección]`]]]]$

In the overt syntax, the verb will always precede the thematic subject. At LF, the subject will raise to [Spec, Agr-sP] to check the N-related features of Agr-s, features that I have assumed to be specified as [-strong]. This movement at LF is the result of Procrastinate. Movement at LF is more "economical" than overt movement. The resulting LF configuration is, then,

(82) $[_{AgrSP} María_i [_{Agr\text{-}s'} sabe_k [_{TP} t_{i'} [_{T'} t_{k'} [_{VP} t_i [_{V'} t_k la lección]]]]]$

In (82), both the subject and the verb are in the checking domain of the Agr-s head, and subject-verb agreement obtains.

In the SV order, the thematic subject is a null referential pronoun that follows the verb in the overt syntax, since its agreement features are [-strong]. This null resumptive pronoun is coindexed at LF with a NP base-generated as an Agr-sP adjunct. This position is broadly L-related, i.e., a non-argument position.[17] Note that the analysis is identical to that proposed for Arabic in examples (51-53). Before Spell-out, then, an SVO sentence in Spanish presents the following configuration:

(83) $[_{Agr\text{-}sP} María [_{AgrSP} [_{Agr\text{-}s'} sabe_k [_{TP} pro_i[_{T'} t_{k'} [_{VP} t_i [_{V'} t_k la lección]]]]]]$

(16) I am not ready to make any claims about the value of the N-related feature of T in Spanish or about the possibility of this functional head projecting a specifier position. For the purposes of this paper, it is sufficient to assume that the N-related features of Agr-s are [-strong], and that in consequence the VP-internal subject will check its features at LF. Independently of the strengh of the features of T, and due to the fact that the subject raises to Agr-s covertly, the result is always the postverbal position of the thematic subject in the overt syntax, since V raises to Agr-s. For the time being I will assume, with Jonas & Bobaljik (1993) that Spanish projects a specifier in TP and that in this position nominative Case is checked. A study of the interactions between the movements of the internal arguments in VSO and SVO orders in Spanish would confirm this hypothesis.

For the ease of the exposition, and to benefit from a possible parallelism between Arabic and French, I will analyze the Spanish sentences as if the N-related feature of T were [+strong].

(17) The definition of the preverbal subject position as an A'-position seems to predict correctly the asimmetry in terms of scope ambiguity between pre and postverbal subjects in Spanish, as discussed in Uribe-Etxebarría (1992).

At LF, the thematic null pronominal raises to [Spec, Agr-sP] to check its agreement features. At this level of representation, the left-dislocated subject and the null pronominal are coindexed. The thematic null pronominal and the verb are in the checking domain of Agr-s and agreement is between the verb and the pronominal subject. The relevant structure is exemplified in (84).

(84) [$_{Agr-sP}$ María [$_{AgrSP}$ pro$_i$ [$_{Agr-s'}$ sabe$_k$ [$_{TP}$ t$_{i'}$ [$_{T'}$ t$_{k'}$ [$_{VP}$ t$_i$ [$_{V'}$ t$_k$ la lección]]]]

In both the VS and SV orders, the configurations in which agreement and nominative Case are checked are the same Spec-head configurations. Nominative Case is checked before Spell-out, under Spec-head agreement in [Spec, TP]. This is shown in the abstract sentence structure in (85).

(85) Before Spell-Out
      (a) VS order: [$_{Agr-sP}$ [$_{Agr-s}$V+T] [$_{TP}$ NP$_i$ [$_{T'}$ tT [$_{VP}$ t$_i$ [$_{V'}$ tv]]]]]
      (b) SV order: [$_{Agr-sP}$ NP [$_{Agr-sP}$ [$_{Agr-s}$V+T][$_{TP}$ proi [$_{T'}$ tT [$_{VP}$ t$_i$ [$_{V'}$ tv]]]]]]

Subject agreement is checked in a Spec-head relation between the subject NP or *pro*, and the complex [$_{Agr-s}$V+T]. The preverbal NP in the SV order gets interpreted at LF by coindexation with the thematic *pro*. Both elements, the adjoined NP and the null pronominal, must share their φ-features (section 3.2.2). This is exemplified in the abstract sentence structures in (86).

(86) After Spell-Out
      (a) VS order: [$_{Agr-sP}$ NP$_i$ [$_{Agr-s}$V+T] [$_{TP}$ t$_{i'}$ [$_{T'}$ tT [$_{VP}$ t$_i$ [$_{V'}$ tv]]]]]
      (b) SV order: [$_{Agr-sP}$ NP [$_{Agr-sP}$ pro$_i$ [$_{Agr-s}$V+T][$_{TP}$ t$_{i'}$[$_{T'}$tT [$_{VP}$ t$_i$ [$_{V'}$ tv]]]]]]

    The next section analyzes the behavior of preverbal subjects that receive a collective interpretation in Spanish under the structures proposed in (85a) and (86a).

4.3. Subjects with a collective interpretation

    It has been pointed out in the literature that certain subject NPs in Spanish trigger agreement in first, second or third person when they refer to a group that may include the first or the second person (Hurtado 1981; Fernández Soriano 1989). This phenomenon is exemplified in (87).

(87)   a. tenemos
      Los estudiantes de Lingüística   b. tenéis   que ser pacientes.
                                        c. tienen
                                        a. have-1pl
      "the students of Linguistics   b. have-2pl   to be patient-pl"
                                        c. have-3pl

Under the analysis proposed in the previous section for SV sentences, the verb agrees with a referential *pro* in [Spec, Agr-sP] after Spell-out at LF, and the preverbal NP "los estudiantes de Lingüística" is adjoined to Agr-sP. Evidence from the existence of an empty pronominal that agrees with the verb comes from cases in which an anaphor is present. In these cases, the anaphoric element has to agree in person number and gender with the features of *pro* and not with those of the subject.

(72)	a. tenemos	nosotros mismos
Los estudiantes	b. teneis un alto concepto de	vosotros mismos
	c. tienen	sí mismos
	a. have-1pl	ourselves
"the students	b. have-2pl a high opinion of	yourselves"
	c. have-3pl	themselves

Similar evidence can be found in control structures.

(73)	queremos	[PRO matarnos]
Los estudiantes	quereis	[PRO mataros].
	quieren	[PRO matarse]
	want-1pl.	[PRO to-kill-ourselves]
"the students	want-2pl.	[PRO to-kill-yourselves]"
	want-3pl.	[PRO to-kill-themselves]

In (73) the null subject pronoun, rather than the preverbal NP, is the controller.

All the examples above show that the preverbal subject in Spanish is not the result of movement, but rather left-dislocated and coindexed with an argumental empty resumptive pronoun that dictates the agreement with the verb and that, according to our analysis, checks the nominative Case of INFL by Spec-head agreement at LF. The coindexation of these two elements at LF allows the preverbal NP to be interpreted. Unlike the Arabic examples discussed in section 3, in Spanish the left-dislocated NP has to match its case features against the case features of the resumptive pronoun, as shown in the examples of left-dislocation of objects in (73):

(73)		nos	
a.	A los estudiantes no	os	ha visto nadie.
		los	
		nos	
b.	* Los estudiantes no	os	ha visto nadie.
		los	

One question remains unsolved. This lack of person agreement in the examples in (71) cannot be found when the preverbal subject is singular:

(74)	a. *tengo	
El estudiante de Lingüística	b. *tienes	que ser paciente.
	c. tiene	

Because this ungrammaticality occurs only when subjects that may receive a colective interpretation, I have to assume that is due to discourse factors, and that the predication relation between the left-dislocated subject and the pronominal is restricted to matching of gender and number features.

5. Conclusion

In this paper I have shown that, despite apparent evidence to the contrary, the phenomena of agreement and nominative Case in Arabic are indeed best explained as manifestations of a structural relation between a functional head and its specifier position, as proposed by Chomsky (1992). The assumption that preverbal subjects

are base-generated as adjuncts to Agr-s, and that they are coindexed with an empty resumptive pronoun in the thematic position has been crucial. I have drawn independent evidence for this analysis from examples of person agreement loss in Spanish.

The analysis of preverbal subjects as base-generated adjuncts to Agr-s opens an interesting theoretical possibility. I have restricted the analysis in this paper to the relative positions of the verb and the subject in Arabic and in Spanish. But in Spanish there are two possible word orders in which the verb precedes the subject, VSO and VOS. It may be possible to extend our analysis and claim that the appearance of any verbal argument outside its thematic VP domain in the overt syntax is the result of base-generated adjunction of the argument to the correspondent Agr projection (Agr-sP or Agr-oP). This could set a theoretical framework that could explain the VSO and VOS orders in Spanish under minimalist ssumptions. I expect to explore this idea in future work.

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