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NASSER AL-HORAIS



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# A Minimalist Approach to Agreement in Arabic\*

NASSER AL-HORAIS

## Abstract

Starting from the observation that there is interaction between the richness of verbal agreement and the licensing of consistent null subjects, the current paper aims to provide a fresh account for the agreement asymmetries found in Standard Arabic. The link between rich agreement and null subjects has been virtually ignored by the previous studies on agreement in Standard Arabic. This fresh account is based on the theory of null subjects and agreement articulated recently by Holmberg (2008). This theory takes the rich agreement to result from incorporation of a null subject pronoun in T as a direct result of Agree in the sense of Chomsky (2001). Evidence from Standard Arabic, a consistent null subject language, proves that the richness of agreement is always tied to the presence of a null pronominal subject.

## 1. Introduction

The rich and complex agreement system in Standard Arabic (Arabic, henceforward) has attracted a great deal of attention in the literature from a number of perspectives, chiefly because the asymmetry relation of subject-verb agreement, which is affected mainly by word order, differs in a number of ways from more usual patterns of agreement in the world's languages, and presents some challenges to the basic tenets of syntactic theory.

In this paper, I review two major theories proposed to account for agreement and word-order asymmetry for agreement in Arabic. One is a pre-minimalist analysis that considers this asymmetry relation as manifestations of structural relation between a functional head and its specifier (i.e. between I/T and the DP in its Spec). This analysis, as will be explained in the next section, is commonly known in the literature as a Spec-head approach and it has been proposed for agreement in Arabic by Aoun (1982), Mohammad (1990, 2000), Fassi Fehri (1993), Aoun et al. (1994) and Ouhalla (1994), *inter alia*. The other one is a minimalist analysis based on the idea that agreement is induced by the operation Agree whereby agreement obtains because there is a *primitive* built-in operation in the grammar that says *Agree* ( $\alpha$ ,  $\beta$ ), subject to certain locality conditions, where  $\alpha$  and  $\beta$  are two elements in the structure. This analysis has been proposed recently by Soltan (2006) though its origins can be traced back to Olarrea (1996). Having done that, I shall argue that neither of these analyses is, in fact, empirically adequate since they both, as will be demonstrated later, are flawed in a number of ways. To provide an alternative analysis from a minimalist perspective, I

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- c. \*qaraʔa hum d-dars-a. \*VS+partial agreement  
 read.3ms they the-lesson-Acc

Full agreement can also be triggered by a null pronoun referring to a person or object already introduced as a topic, as will be explained in section 4. (4) is an example:

- (4) a. ʔaT-Taalibaat-u ʔakal-na.  
 the-students.fp-Nom ate.3fp  
 “The students (F) ate.”  
 b. \*ʔaT-Taalibaat-u ʔakal-at.  
 the-student.fp-Nom ate.3f

Having described the agreement system in Arabic, I now turn to review the analyses proposed in the literature to provide an explanation for this agreement asymmetry.

**3. Previous analyses**

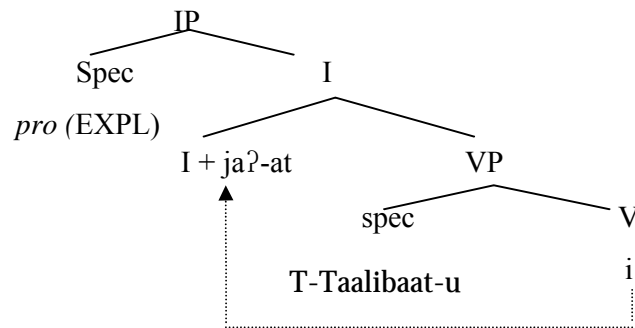
**3.1. A Pre-minimalist analysis: Spec-Head Agreement**

Within the Government-Binding (GB) framework, subject-verb agreement (as well as nominative case assignment) was assumed to be associated with the head I<sup>0</sup> and a subject in its spec — hence under a local configuration. This idea is probably influenced by Kayne’s (1989) discussion of past participle agreement in Romance, and it has been developed in detail in Pollock’s (1989) article on the layered structure of IP (the functional domain associated with tense and agreement). The generalization formulated within this approach to agreement in natural languages is spelled out in (5).

- (5) If Y agrees with XP, XP and Y are or have been in a Spec-head relation in the course of the derivation (see Kayne 1989).

This generalization about how agreement obtains in syntactic configurations leads Mohammad (1990, 2000) to provide an explanation of the agreement asymmetry in Arabic through proposing the so-called ‘Null Expletive analysis’. Under this analysis, partial agreement in VS orders is achieved as a result of a Spec-head relation between I<sup>0</sup> and a null expletive in its Spec. Accordingly, the partial agreement in (1a), will have a derivation along the lines in (6):

- (6)



Assuming the existence of an empty expletive in the spec of IP in Arabic VSO order comes, according to Mohammad (1990: 123), from the observation that the third singular person 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 verbs like *seem* and impersonal passives shown in (7) and (8) respectively:

- (7) ya-bdu    ʔanna T-Tullab-a           waSal-uu.  
seems-3s that the-students-Acc arrive-3mp  
“It seems that the students have arrived.”
- (8) niima           tahta           Ŝ-Ŝajarat-i.  
sleep(Pass)-3s under the tree-Gen  
Literally: “it has been slept under the tree.” (Mohammad 1990: 123)

In both examples above, the main verb has no role for assigning an external theta-role, which means the subject positions in (7) and (8) are filled with a null expletive *pro* positioned in spec I° and showing agreement with it.

The idea of the spec IP being occupied by an empty expletive *pro* in VSO sentences can be further supported by the overt appearance of a third singular pronominal when these sentences are embedded under the complementizer *inna* or *ʔanna*, which both force the expletive to be lexicalized (Mohammad 1990), as shown in (9) and (10) respectively:

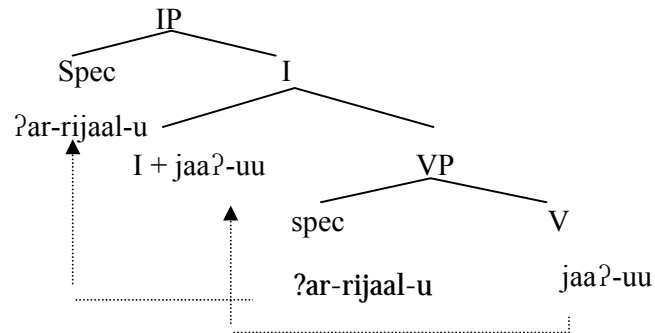
- (9) a. hum                   saafar-uu.  
they-3mp-Nom left.3mp  
“They left.”
- b. ʔal-ʔawlaad-u qaal-uu inna-hum           saafar-uu.  
the-boys-Nom said.3mp that-they-Acc left.3mp  
“The boys said that they left.”
- (10) a. jaaʔa           r-rijaal-u.  
came.3ms the-men-Nom  
“The men came.”
- b. iddaʔa           ahmad-u    ʔanna-hu jaaʔa           r-rijaal-u.  
claimed.3ms Ahmad-Nom that-it came.3ms the-men-Nom  
“Ahmad claimed that the men came.”

What the contrast in (9) and (10) indicates is that the expletive pronoun is null in the spec of IP in matrix sentences but it is overt in embedded sentences by being cliticized onto *inna* and *ʔanna* from the spec IP. From this, it follows that the verb and the null expletive are in a Spec-head relation and the agreement is always with the expletive specified for 3<sup>rd</sup> person singular, not with the postverbal DP.

As for full agreement with SVO sentences as in (11) below, this analysis assumes that the verb and the subject are also in a Spec-head relation, resulting from movement of the subject from its VP-internal position to the spec of IP and hence full agreement is obtained. The structure which emerges in (11) is a representation along the lines in (12):

- (11) *ʔar-rijaal-u jaaʔ-uu.*  
 the-men-Nom came.3mp  
 "The men came."

(12)



According to the above derivation in (12), the preverbal subject *ʔar-rijaal-u* is in a Spec-head relation with the verb in INFL and hence full agreement between the verb and the preverbal DP should be obtained.

Two strong arguments can be put forward against this analysis. One is theoretical and the other is empirical. On a theoretical level, the Null Expletive analysis fails to handle the problem of nominative Case assignment and to reflect the properties of overt expletives in Arabic. With respect to the former, the assumption of the existence of an empty expletive in the spec of IP coindexed with the postverbal subject in the VS order implies the existence of two subject positions, namely spec IP and spec VP. In this regard, one may suggest that the empty expletive obviously receives its nominative case by agreement with INFL exactly as the preverbal full DP does in the SV order. The problem that arises is then to explain how the postverbal subject receives nominative Case in the position inside VP.

In an attempt to resolve this problem, Safir (1985), Chomsky (1981) and others working on expletive constructions in English proposed that the nominative is transmitted from the expletive to the postverbal subject via co-indexing. Ouhalla (1994) extends this proposal to Arabic and suggests that the nominative Case that the null expletive receives by the agreement in spec IP is transmitted to the postverbal subject. But this suggestion, as noted by Coopmans (1994), is implausible since the preverbal expletive can be assigned accusative Case by the complementizer *ʔanna* as in (10b) above. What that example shows is that there is no case transmission. The null expletive subject is in accusative, whereas the postverbal subject *r-rijaal-u* is nominative. If the idea of the case transmission were correct, *r-rijaal-u* would be expected to be accusative.

With regard to the failure of the Null expletive analysis to reflect the properties of Arabic overt expletives, Fassi Fehri (1993) mentions cases where there are constructions in which third person pronouns function as expletives, but in these constructions the overt expletive pronouns have to be plural in nominal sentences as shown by the following example in (13):

- (13) a. hum            l-junuud-u  
           they.m.Nom the-soldiers.Nom  
           ‘‘It is the soldiers.’’ Or ‘‘That’s the soldiers.’’  
       b. hunna        n-nisaaʔ-u  
           they.f.Nom the-women.Nom  
           ‘‘It is the women.’’ Or ‘‘That’s women.’’

What the example in (13) implies is that non-singular overt expletives are available in the language, and hence it is inaccurate to limit the list of expletives to singular pronominal forms (see Fassi Fehri 1993: 40).

The empirical argument against the spec-head analysis comes from two different sources. The first one comes from Arabic itself (Aoun et al. 1994) and the second is cross-linguistically observed in Icelandic (Taraldsen 1996: 191). Starting first with the internal empirical argument, Aoun et al. (1994) provide a strong argument against the Null Expletive analysis. This argument comes from the analysis of agreement patterns in Lebanese Arabic<sup>2</sup> with subjects of embedded clauses introduced by the complementizer *ʔinn* which has an agreement morpheme *-e* attached onto to show optionally agreement with the null pronominal subject of the embedded clauses as in (14a). In case the complementizer *ʔinn* does not agree with the subject, it takes a default 3<sup>rd</sup> person singular value as in (14b), similar to when the preverbal subject is a full lexical DP as in (15). (All the examples below are taken from Aoun et al. 1994: 201-202).

- (14) a. Fakkar        ʔinne (ʔana) ruht.            (Lebanese Arabic)  
           thought.3m that.1s (I) left.1s  
           ‘‘He thought that I left.’’  
       b. Fakkar        ʔinno (ʔana) ruht  
           thought.3m that.3ms (I) left.1s  
           ‘‘He thought that I left.’’
- (15) a. Fakkar        ʔinno l-baneet raaho. (Lebanese Arabic)  
           thought.3m that.3ms the-girls left.3p  
           ‘‘He thought that the girls left.’’  
       b. Fakkar        ʔinno zeena raahit.  
           thought.3m that.3ms Zeena left.3f  
           ‘‘He thought that Zeena left.’’

From the above constructions in (14) and (15), it follows that if sentences with a lexical subject in postverbal position include a preverbal covert expletive, which in this dialect is fully specified for agreement like most Arabic dialects<sup>3</sup>, one ‘‘would expect the morpheme attached to the complementizer to have the option of agreeing with this silent expletive [just as the complementizer agrees with null pronominal in (14)]’’ (Aoun et al. 1994: 202). But this is not the case since the complementizer takes only a default agreement as indicated below by the well-formedness of both Lebanese Arabic

<sup>2</sup> Lebanese Arabic is a variety of Arabic spoken mainly in Lebanon.

<sup>3</sup> In these dialects, the verb fully agrees with the subject whether it is postverbal or preverbal (see Aoun et al. 1994, Benmamoun 2000).

examples in (16a) and (17a), in contrast with (16b) and (17b), all of which are taken from Aoun et al. 1994: 202).

- (16) a. Fakkar           ʔinno           raaho l-baneet.  
           thought.3m    that.3ms       left.3p the-girls  
           “He thought that the girls left.”  
       b. \*Fakkar        ʔinnun         raaho l-baneet.  
           thought.3m    that.3p        left.3p the-girls
- (17) a. Fakkar           ʔinno           raahit zeena.  
           thought.3m    that.3ms       left.3f Zeena  
           “He thought that Zeena left.”  
       b. \*Fakkar        ʔinna           raahit zeena.  
           thought.3m    that.3fs        left .3f Zeena

As for the external argument contra the spec-head analysis, in addition to many cross-syntactic studies that have cast doubts on this analysis (see Rizzi 1982, Samek-Lodovici 1996: chap. 5, Weerman 1989, Alexiadou & Anagnostopoulou 1999), clear evidence for non-local agreement comes from Icelandic as observed by Taraldsen (1996: 191). Consider the following example:

- (18) Okkur   haf-a   likað hestarnir.  
       We-Dat have-3p liked horses-the-Nom  
       “We have liked the horses.”

As demonstrated by Thráinsson (1979) and Sigurðsson (1992), the subject *okkur* (we) is in spec IP<sup>4</sup>. This leads to the following two significant conclusions. (i) There simply is no available spec IP position for a null expletive *pro*. (ii) The subject cannot agree with I<sup>o</sup> because it is lexically marked with dative case. Instead, I<sup>o</sup> assigns nominative case and agrees in number with the object *hestarnir* (horses) in its VP-complement. What this shows is that (non-local) agreement with an argument which is not in a spec-head relation with I is permitted by Universal Grammar. So an alternative analysis is required for Arabic. To do so, it is appropriate now to see how this interesting agreement asymmetry is captured within the minimalist framework.

### 3.2. A Minimalist Approach: Null *Pro* Analysis

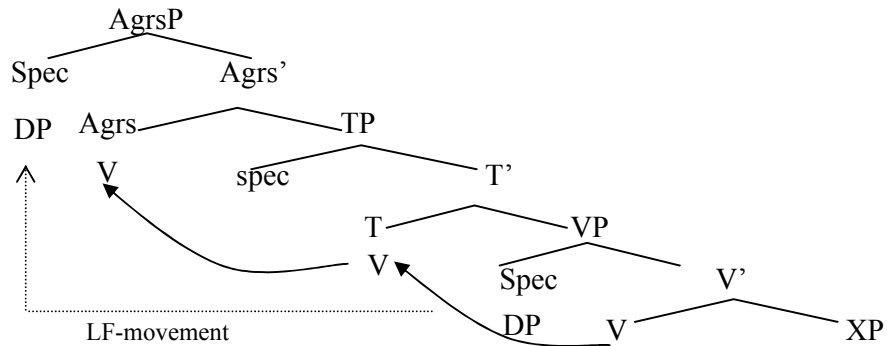
A minimalist analysis of the agreement asymmetry observed in Arabic VSO versus SVO structures has been proposed first by Olarrea (1996) and developed in some detail later in Soltan (2006), though he does not refer to Olarrea’s analysis at all. As will be seen shortly, this analysis builds mainly on the assumption that rich agreement in Arabic is always associated with a null pronominal in the thematic subject position. For this reason, I will call it the Null *Pro* analysis.

<sup>4</sup> The subject being indeed in spec IP was demonstrated further by Sigurðsson (1992: 204-209), who shows how oblique subjects (i.e. subjects with a case other than nominative) behave like nominative marked subjects in spec IP with respect to a great variety of properties, including reflexivization, Wh-extraction, cliticization, and distribution.

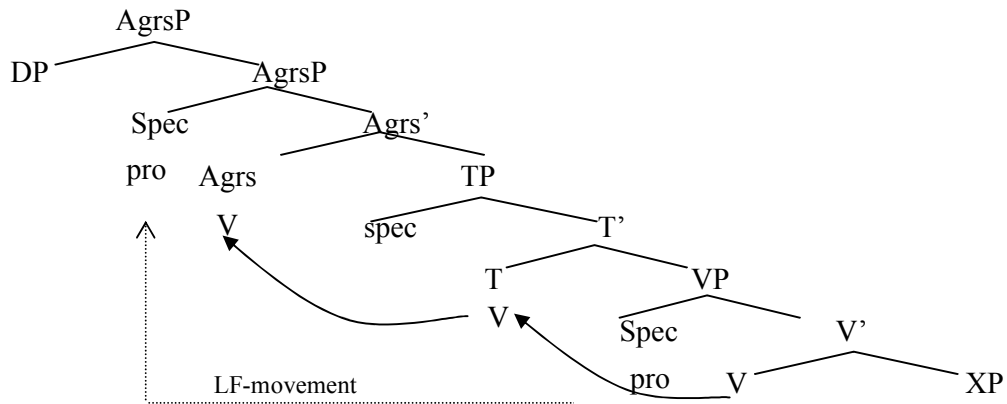
**3.2.1. The Early version of the Null Pro analysis (Olarrea 1996)**

Adopting the assumptions of an early version of the minimalist syntax (Chomsky 1993, 1995), Olarrea (1996), who also builds his analysis on Demirdache’s (1992) observations about word order in Arabic, suggests the following in order to explain the agreement asymmetry in Arabic. (i) Both VSO and SVO orders are derived as a result of V-to-AgrS movement forced by the [+strong] V-features of Agr that characterize Null-subject languages. (ii) AgrSP dominates TP (i.e. AgrS is higher than T in the derivation) (contra Ouhalla 1991). (iii) Nominal features of AgrS in Arabic are uniformly [-strong] and hence its features are covertly checked by the full lexical subject in VSO sentences and by the empty pronominal subject in SVO sentences through raising from spec VP to spec AgrS. (iv) AgrS in SVO sentences has multiple specifiers filled by the left-dislocated NP (at PF and LF) and also covertly filled by the thematic subject; the empty pronominal (at LF only) as represented in (19) and (20) respectively.

(19) VSO



(20) SVO



Having illustrated how the VSO and SVO orders are derived, Olarrea observes that full agreement obtains in Arabic when the subject is dropped (21a), and when the subject is preverbal, either as a pronoun (21b) or as a definite NP (21c).

- (21) a. jaaʔ-uu.  
       came.3mp  
       ‘‘They came.’’  
       b. hum            jaaʔ-uu.  
       they.Nom        came.3mp  
       c. ʔar-rijaal-u    jaaʔ-uu.  
       the-men-Nom    came.3mp  
       ‘‘The men came.’’

According to Olarrea, the conclusion to be drawn from these facts is that there is an empty *pro* in spec VP at PF either when there is a left-dislocated subject (21b, c) or when the sentence has a null subject (21a, b). Therefore, full agreement in Arabic exists when there is a null *pro* in the thematic subject position (Olarrea 1996: 174). A piece of evidence in support of the presence of this null *pro* comes from the fact that in Arabic an indefinite NP in preverbal position is not allowed as in (22) below vs. (21c) above.

- (22) \*rijaal-un        jaaʔ-uu.  
       men-Nom        came.3mp  
       Intended: ‘‘Men came.’’

The reason, as suggested by Demirdache (1992) and adopted by Olarrea (1996: 167-168), is that a non-specific NP in this particular position would not match the feature [+specific] of *pro* in the spec VP at LF, and as a result, the derivation would crash as indicated by the ungrammaticality of (22) above (see Fassi Fehri 1993: 30, for a different view on the question whether preverbal subjects can be indefinite). By contrast, an overt pronoun or a definite DP, being able to match the features of *pro*, will always be allowed in preverbal position as shown in (21b, c) above.

The question that should be asked at this point is why full agreement is only found when the thematic subject is a null *pro*? Olarrea (1996: 175) provides the following answer, based on Demirdache’s (1992: 18-20) analysis of the morphology of Arabic agreement markers:

The empty pronominal is generated with a number morpheme affix for which it cannot be the base. The C-commanding verb in AgrS 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 pronominal before Spell-out.

Summarizing, Olarrea’s (1996) analysis just presented above is, in fact, another way to analyse agreement in Arabic as a Spec-head configuration by assuming LF-movement of the subject, whether it is a full lexical DP (VS) or a null *pro* (SV), into the head AgrS. A problem is that LF-movement is no longer invoked in the minimalist syntax (see Chomsky 1993, 1995, 2000). Chomsky (1995: 377) also rejects the

existence of Agr projection<sup>5</sup>. Therefore, this analysis is questionable within today's minimalist conventions. What is crucial and interesting about this analysis is the observation that rich agreement in Arabic is always associated with a null pronominal in the thematic subject position. This observation was the interesting starting point for Soltan's (2006) analysis, which will be discussed in the next section.

### 3.2.2. The Latest version of the Null Pro analysis (Soltan 2006)

Following Chomsky's recent work (2000, 2001) in assuming that agreement in natural language grammar is induced within a local search domain through the application of an operation *Agree*, not via a Spec-head configuration, Soltan (2006) assumes that T in Arabic has the following three uninterpretable features: (i) T may appear with  $\phi$ -features for the traditional Person and Number features. (ii) T must have a separate gender feature or what he prefers to call CLASS feature. (iii) T may appear with an EPP feature. This means that T in Arabic is always valued for gender but need not be valued for person and number, and need not have a specifier.

Given the above theoretical assumptions, the SV order with full agreement is derived as follows. As argued in Olarrea (1996) and Demirdache (1992), the preverbal subject is in a Clitic Left Dislocation position (CLLD) and does not involve a spec head relation with the finite verb or, in more technical terms, with T. In this connection, Soltan (2006: 248-49) offers, relying on the previous analyses of word order in Arabic proposed by Demirdache (1992) (cf. Fassi Fehri (1993)), the following three empirical considerations favoring the A'-status of the position of the preverbal DP in SV structures in contrast to the postverbal DP in VS structures: (i) the pre- and postverbal DPs are semantically different. The former is interpreted as topic of the discourse against which the event is presented, whereas the latter denotes the (default/unmarked) "thetic" interpretation. (ii) VS and SV orders differ with regard to their interaction with wh-movement: while extraction across a postverbal DP is nonproblematic, (23a), extraction across a preverbal DP is not acceptable, (23b):

- (23) a. man Daraba Zayd-un.  
       who hit.3ms Zayd-Nom  
       "Who did Zayd hit?"  
       b. \*man Zayd-un Daraba  
           who Zayd-Nom hit.3ms (Soltan 2006: 249)

The ungrammaticality of (23b) is explained if the preverbal DP in this language is actually sitting in a non-argument position, rather than arriving there via movement from within the thematic domain. (iii) Case properties of post- and preverbal DPs add evidence that both structures are indeed different. Postverbal DPs consistently appear with nominative case, whereas preverbal DPs appear with nominative case only in absence of an available Case assigner such as the complementizer *?inna*, as exemplified in (24).

<sup>5</sup> After the operation *Agree* has been introduced in Chomsky (2001), AgrP must be rejected since it was defined as a mere set of uninterpretable  $\phi$ -features that needed checking during the derivation to enable the derivation to converge at LF. But under *Agree*, checking is defined as "deletion" of the uninterpretable features on a head, involving no movement.



unvalued  $\varphi$ , EPP, CLASS features in VS sentences, and only with CLASS feature in its corresponding VS.

### 3.2.2.1. Against Soltan's analysis

Soltan's analysis does not, in fact, provide a satisfactory Minimalist account for the agreement asymmetry in Arabic. The analysis suffers from two serious problems. First, based on Rizzi's *pro* identification requirement given in (26) above, this analysis assumes that agreement with a *pro* subject is only compatible with a full T ( $u\varphi$ -features, gender and EPP features), necessarily required so *pro* can be identified and the derivation converges at the interface. As pointed out by Holmberg (2005, 2008), Rizzi's account of the identification of *pro* cannot be maintained in the context of the approach to feature-valuing under the operation Agree. According to this approach, the  $\varphi$ -features of T are uninterpretable, and are valued by entering into an Agree relation with the subject DP that is fully specified for  $\varphi$ -features. Only the interpretable features of Argumental DPs are able to value the  $\varphi$ -features of T (see Chomsky 1995: ch. 4, 2001). So it is mistaken under the minimalist feature-valuing approach, which is adopted by Soltan's analysis, to assume that *pro* is in need of identification simply because "[w]ithin this theory of agreement, it is obviously not possible for an inherently unspecified pronoun to be specified by the  $\varphi$ -features of I [i.e. T, AGR], as those features are themselves inherently unspecified" (Holmberg 2005: 537).

Another problem with the null *pro* analysis and particularly with Soltan's analysis is the assumption that the preverbal subject in SV order is base-generated in a Clitic Left Dislocation position and does not arrive there via movement. Such an assumption is incompatible with the syntactic nature of CLLD phenomenon cross-linguistically. This phenomenon is usually characterized by the presence of a lexical DP in a clause-initial position related to a resumptive pronoun incorporated into the verb, in the associated sentence (see Cinque 1977 for Italian, Escobar 1997 for Spanish, Aoun & Benmamoun 1998 for Lebanese Arabic and Villalba 2000 for Catalan). The pronominal clitic related to the CLLDed element can be a direct object clitic (28), or a complement of PP (29) or NP (30). The deletion of this resumptive pronoun leads to ill-formed structures.

- (28) a.  $\text{?aT-Tullaab-u}$        $\text{?u-hibu-hum}$   
           the-students-Nom    1s-like-them  
           "The students, I like them."  
       b. \*  $\text{?a-Tullaab-u}$        $\text{?u-hibu-}\emptyset$   
           the students-Nom    1s-like
- (29) a.  $\text{?al-malik-u}$        $\text{Qaddam-tu}$      $\text{la-hu}$      $\text{naSiĥat-an}$   
           the-king-Nom      gave- 1s    to him    advice-Acc  
           "The king, I gave him advice."  
       b. \*  $\text{?al-malik-u}$        $\text{Qaddam-tu}$      $\text{la-}\emptyset$      $\text{nasiĥat-an}$   
           the-king-Nom      gave- 1s    to        advice-Acc
- (30) a.  $\text{?abeer-un-(F)}$      $\text{kasara}$                      $\text{l-walad-u}$        $\text{siarata-ha}$   
           Abeer-Nom    broke.3ms                    the-boy-Nom    car-her  
           "Abeer, the boy broke her car."

b.\*  $\zeta$ abeer-un-(F) kasara l-walad-u siarata- $\emptyset$   
 Abeer-Nom broke.3ms the-boy-Nom car

By contrast, the preverbal DP in SV sentences is not linked to a resumptive pronoun as shown by (24) above. This being the case, it cannot be similarly treated as a CLLDed element like the DPs in (28-30) above, though we tentatively agree with Soltan's analysis that the preverbal DP has not undergone movement from a position inside the associated clause as will be argued in section 5. Having explained the problems of the previous attempts to account for the agreement asymmetry in Arabic, in following section, I provide, adopting Holmberg's (2008) theory of null subjects and agreement, an alternative minimalist analysis.

#### 4. An Alternative analysis

Based on the observation that there is an interaction between the richness of verbal agreement and the licensing of consistent null subjects, I adopt Holmberg's (2008) theory of null subjects and agreement to provide an alternative analysis to account for the agreement asymmetry in Arabic. Under this promising theory, two types of null subject languages (NSLs) are distinguished: (i) consistent NSLs such as Arabic, Greek, Spanish, Turkish, Italian, etc., where the subject pronoun has to be null and (ii) a partial NSL, such as Brazilian Portuguese, Finnish, or Marathi, where the pronominal subject can optionally be null. The crucial property that makes the null subject pronoun used more in consistent NSLs than in partial NSLs, as argued in Rizzi (1982), Alexiadou & Anagnostopoulou (1998) and more precisely in Holmberg (2005, 2008), is the presence of a D(efinite)-feature as part of the  $\phi$ -feature make-up of finite T in consistent NSLs. In partial NSLs, by contrast, T does not have a D-feature. The D-feature being present in T of consistent NSLs and absent in partial NSLs, makes the null subject properties in both types of NSLs syntactically different. Holmberg outlines the following properties characterising the two types of NSLs (all the data below are from Holmberg 2008).

(31) a. *Consistent NSLs:*

Null definite subject pronouns (null *he/she*);

No null indefinite pronoun (null 'one').

b. Verrà. (Italian)

come-FUT-3SG

"He will come."

(32) a. *Partial NSLs:*

Null definite pronouns only if locally c-commanded by an antecedent;

Null indefinite subject pronoun.

b. Juha<sub>1</sub>ei ole sanonut mitään, mutta Pauli<sub>2</sub> sanoo että  $\emptyset$ <sub>2</sub>/\*<sub>1</sub>haluaa ostaa  
 Juha not has said anything, but Pauli says that wants buy  
 uuden auton. (Finnish)  
 new car

"Juha<sub>1</sub> hasn't said anything, but Pauli<sub>2</sub> says that he<sub>2</sub>/\*<sub>1</sub> wants to buy a new car."

- c. Hya khurchi-war aaramani bushushakto. (Marathi)  
 this chair -on comfort-with sit-PRS.3SG  
 “One can sit comfortably in this chair.”

The question that needs to be addressed at this point is how the null pronoun is derived. Since Arabic is considered a consistent NSL, I will limit the answer to the derivation of null subjects in consistent NSLs, leaving partial NSLs aside.

#### 4.1. The derivation of null subjects and agreement in consistent NSLs

Adopting, though the mechanism is a bit different, the incorporation analysis of null subjects articulated by Fassi Fehri (1993), Platzack (2004), and in part following Roberts’ (2007) theory of clitics and incorporation, Holmberg (2008) proposes that null subjects in consistent NSLs are derived by means of incorporation of a subject pronoun in T as a direct result of Agree, in the sense of Chomsky (2001). This operates as follows: Finite T has a uD-feature, a set of unvalued  $\phi$ -features and perhaps an EPP-feature, and therefore probes for a category with matching valued features. A defective subject pronoun is an eligible goal since it has the required valued  $\phi$ -features, and therefore values T’s u $\phi$ -features by having its own values copied by T. In return, T values the subject’s unvalued case feature.

Once the copying and valuation of features are successfully established, if the pronoun is a defective pronoun, consisting only of  $\phi$ -features without, for instance, an additional focus feature, then features of the goal are properly included in the features of the probe, forming one chain, as proposed by Roberts (2007)<sup>8</sup>. This chain is defined by the union of the valued features of T and its probed goal. Therefore, it is subject to the principal rules of chain reduction in (33) below.

- (33) a. Pronounce the highest chain copy.  
 b. Pronounce only one chain copy. (see Nunes 2004)

Consequently the subject pronoun positioned in spec vP is not pronounced since it is not the highest chain copy. What must be pronounced is only the highest chain copy appearing as an affix (i.e., agreement markers) on the finite verb or auxiliary. That is to say, the subject in spec vP is null because it is a deleted copy in a chain headed by T. But the subject chain is not null since it is headed by the incorporated pronoun which is spelled out as an affix on the verb.

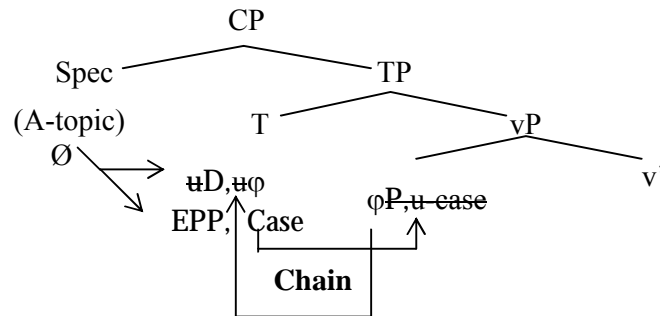
The remaining issue now is the interpretation of the null subject pronoun. According to this theory, the interpretation depends on the antecedent of the null pronoun which the feature [D] in T must be valued by. If the feature [D] is valued by a topic (or according to Frascarelli (2007), a particular type of topic: an Aboutness-shift topic (A-topic))<sup>9</sup> – then the result is a definite 3<sup>rd</sup> person null subject construction, with a binding or control relation with the A-topic. But if the feature [D] is valued by a speaker/addressee feature in the sense of Sigurðsson’s (2004) hypothesis that every

<sup>8</sup> In this sense the subject pronoun is incorporated in T.

<sup>9</sup> This A-topic is merged covertly in spec CP (or TopP, if an articulated CP-structure is assumed as advocated by Rizzi 1997 and Frascarelli 2007). In the next section, I argue that the A-topic can be merged overtly as what looks like a preverbal subject in SV sentences is actually a base-generated A-topic.

clause has features representing the speaker and the addressee in the C-domain, then the result is a definite 1<sup>st</sup> or 2<sup>nd</sup> person null subject construction<sup>10</sup>. Schematically, this analysis will have the derivation in (34) below.

(34)



In the light of the above discussion, the question that arises at this point is why the lexical DP in spec vP cannot be incorporated in T. According to Holmberg (2008), the answer, which we shall adopt here, is that a lexical DP has “features whose values cannot be copied by T as T lacks the requisite unvalued features. Most obviously, a lexical DP has a root, which is not copied by T under Agree”<sup>11</sup>. Although, the lexical DP cannot be incorporated in T, the two elements share  $\phi$ -feature values through Agree, though the mechanism is different from that of null subjects where the agreement is full. The first difference is that T’s uD-feature will be valued by the subject’s D as either definite or indefinite, preventing “the assignment of a referential index to T by a null A-topic in spec CP. Instead the subject, if specific-indefinite or definite, will typically be an A-topic” (Holmberg 2008). The second one is that T and the lexical subject DP in spec vP, after sharing  $\phi$ -feature values through Agree, do not form a chain, and consequently the lexical subject must be pronounced and remain in spec vP as is the case in Arabic, as will be demonstrated next, or undergo movement to a higher position, as is the case in Romance languages (see Sheehan 2006).

In the following section, I shall show that this theory can be translated straightforwardly to account for the agreement asymmetry in Arabic.

## 5. Null Subjects and Agreement Theory and Agreement in Arabic

Recall from section 2 that in Arabic, SV orders show full agreement between subject and verb in all  $\phi$ -features. The most crucial conclusion suggested by the Null Pro analysis discussed in section 2.3 above, was that full agreement is always required when the subject is a null pronominal in spec vP controlled by a higher definite DP, whether it is an overt pronominal DP (35) or a full lexical DP (36):

<sup>10</sup> If T is valued with the EPP feature, then this feature is also checked by the A-topic or the speaker/addressee feature in the case where T has a uD-feature. If not, as in partial NSLs, the EPP must be satisfied by movement of a category to spec TP. This means that spec TP in consistent NSLs is not projected, whereas in partial NSLs, the situation is reversed (see Holmberg (2008) and references therein for more discussion about how is the EPP checked in NSLs).

<sup>11</sup> See Roberts (forthcoming) for an alternative explanation.

- (35) a. (hum) qaraʔ-uu d-dars-a.  
 they read.3mp the-lesson-Acc  
 “They read the lesson.”  
 b. \*hum qaraʔa d-dars-a.  
 they read.3ms the-lesson-Acc
- (36) a. ʔaT-Taalibaat-u ʔakal-na.  
 the-students.fp-Nom ate.3fp  
 “The students (F) ate.”  
 b. \*ʔaT-Taalibaat-u ʔakalat  
 the-students.fp-Nom ate.3fs

Full agreement is also triggered when there is no local overt antecedent as shown in (21a), reproduced here once again in (37):

- (37) jaaʔ-uu.  
 came.3mp  
 “They came.”

When the spec vP is occupied by a full lexical DP, full agreement cannot be obtained. The only available option is partial agreement, typically in gender features as in (1), repeated here as (38).

- (38) a. jaʔ-at T-Taalibaat-u  
 came.3fs the- students.fp-Nom  
 “The students came.”  
 b. \*jiʔ-na T-Taalibaat-u  
 came.3fp the-students.fp-Nom

The above data clearly show that full agreement in Arabic, a consistent null subject language, is always associated with pronominal null subjects. This being the case, we are now in a position to present an explicit derivation of the agreement asymmetry in Arabic by adopting the premises suggested by Holmberg’s theory of null subjects and agreement outlined earlier in section 4. Under this theory, full agreement in Arabic is straightforwardly explained and it proceeds as follows. T in finite Arabic clauses with null subjects has the following inventory of unvalued features:  $\phi$ -features, a D-feature, but it is valued with a case feature. T, after its D-feature is valued by the preverbal DP (which is an A-topic, in the sense of this theory), probes for a category with matching valued features. A  $\phi$ P subject positioned in the spec vP has the required  $\phi$ -features. Accordingly, the probe-goal relation between T and a  $\phi$ P subject immediately takes place, resulting in a union of the valued features between the probe and its goal: the  $\phi$ P’s valued features value T’s  $\mu\phi$ -features and at the same time T values the subject’s unvalued case feature. With respect to the EPP feature, although A-topic values T’s D-feature, it does not do the same for the T’s EPP feature since Arabic does not have this feature, as shown by the fact that VSO is the unmarked word order, while SVO order is

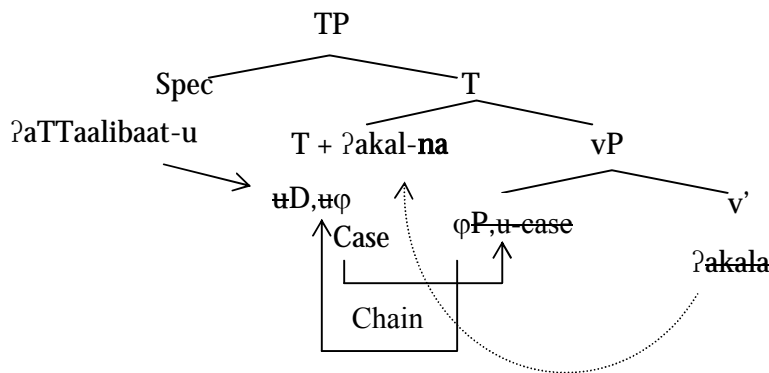
always marked. The ‘S’ in SVO sentences is merged in its surface position for a semantic reason because it is a topic. What is interesting about this theory is the proposal that this union of the valued features, which works via the incorporation of a  $\phi$ P in T by making the  $\phi$ -feature values of the subject pronoun copied by T, forms a chain. Therefore, the principal rules of chain reduction given in (33) must apply, and therefore the subject  $\phi$ P in the spec vP is obligatorily not pronounced. What must be pronounced of the subject chain is an affix on the finite verb appearing as a reflex of the deleted subject.

Before I draw an illustrative derivation of full agreement in Arabic, I shall argue contra Holmberg’s theory that the antecedent (A-topic), which null subjects in consistent NSLs are dependent on, is not necessarily base-generated in spec of CP. Arabic provides evidence that the A-topic must be first merged in a position lower than CP, perhaps spec TP or a low TopP, since the clause can be headed by the complementizer *ʔinna* which always occupies the head C. This is shown by the example in (24c), repeated here as (39).

- (39) ʔinna l-ʔawlaad-a qaraʔ-uu d-dars-a.  
indeed the-boys-Acc read.3mp the-lesson-Acc  
“(I affirm that) The boys read the lesson.”

Let us now conclude this section by providing a derivational structure of full agreement in Arabic within the framework of Holmberg’s theory (modifying the position of A-topic). For instance, (36a) will have the derivation along the lines of (40).

- (40)



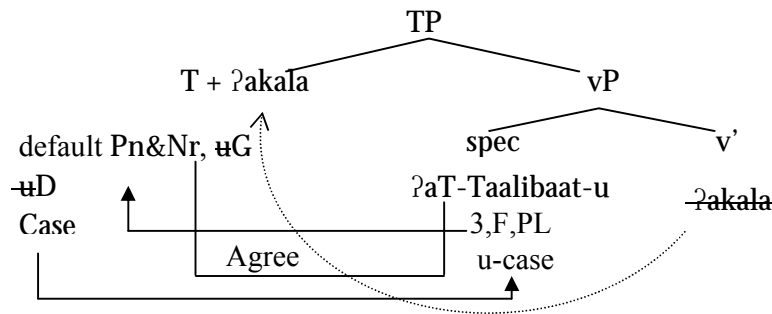
In addition to its immediate advantage of providing an explanation of how full agreement is derived, this theory adds increasing evidence that the preverbal full DP in so-called SV orders is actually base-generated in its surface position, rather than arriving there via movement, since this DP is functioning as an antecedent of the null  $\phi$ P in the sense of Holmberg’s theory.

The discussion about agreement in Arabic cannot be, however, deemed complete before the explanation of partial agreement is considered. As the example in (38) shows, partial agreement limited only to gender features is obtained when the subject is a full lexical DP in spec vP. Under this theory, Agree, which takes a place between the finite

T and its full lexical DP, works as follows. T's uD-feature will be valued by the subject's D as either definite or indefinite. That is, there is no need to have a referential index to T by a null or an overt A-topic in a higher clause since the subject can immediately value T's uD-feature. Consequently, as a lexical DP has a root, which is not copied by T under Agree, it cannot be incorporated in T. Moreover, there is another good reason why the incorporation of a full lexical DP in T cannot be established. This reason is related to the fact that T's uPerson (uPn) feature can only be valued by a pronoun (in any language) since this feature is "an inherent feature of the pronoun" (Corbett 2006: 131), and therefore only pronouns have person. So when the subject in Spec vP is a lexical DP, T's [uPn] feature gets the default value [3]. Assume that in Standard Arabic, though not its dialects, T's uNumber (uNr) feature is 'bundled together' with [uPn]. They are either valued together, or they both get default value (which is singular for [uNr]). This implies that u $\phi$ -features in T of partial agreement are of two types. (i) Default number and person features and (ii) gender feature.

Even though the lexical DP cannot be incorporated in T, T and the lexical subject DP in spec vP share  $\phi$ -feature values through Agree (the subject values T's uD-feature and its  $\phi$ -features 'gender only', in return the subject gets its case valued) as in (41). What is crucial here is that T and the lexical DP do not form a chain, and hence the lexical subject, unlike the null subject, is not derived by virtue of incorporation with chain reduction. Therefore, it must be spelled out. Unlike other consistent NSLs, in Arabic the lexical subject DP cannot undergo movement to spec TP since T in this language lacks an EPP feature, and thus Spec TP remains unfilled, except when a topic is merged there.

(41)



**6. Conclusion**

The goal of this paper has been to provide an explanation of the agreement asymmetries in Arabic. Taking the derivation of null subjects and rich agreement to result from incorporation of a null subject pronoun in T as a direct result of Agree with subsequent chain reduction seems a tenable analysis for Arabic full agreement, which is always tied to the presence of a null pronominal subject. As for partial agreement where the subject always is a lexical DP, incorporation, for reasons discussed there, is not allowed, though Agree between the two elements can be successfully established. Both partial and full agreements are explained from a minimalist perspective by applying the premises of Holmberg's (2008) theory of null subjects and agreement.

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*Nasser Al-Horais*  
*School of English Literature, Language and Linguistics*  
*Newcastle University*  
*NE1 7RU*  
*United Kingdom*

*Nasser.Al-Horais@newcastle.ac.uk*