ABSTRACT: Holmberg (2005) points out that the GB account of pro, proposed in Chomsky (1982) and Rizzi (1982), which assumes that pro is identified by Infl (I) or Tense (T) collapses in the Minimalist framework. He argues that it is not possible for finite T (or I), which inherently lacks interpretable φ-features to identify a nonspecific element, pro. Thus, he assumes two hypotheses; either 1) finite I has interpretable φ-features and acts as an argument or, 2) pro is a pronominal subject with interpretable φ-features in Spec TP. I show that though both Modern Standard Arabic (MSA) and Tihami Yemeni Arabic (TYA) are pro drop languages, neither hypothesis works for them. I propose that pro is a pronominal variable with interpretable φ-features in Spec v*P, that is associated with the preverbal base-generated Topic in A’-position.

KEYWORDS: arabic, pro drop, null subject, C-to-T transfer, pronominal variable

1. INTRODUCTION

Most of the GB Null Subject (NS) proposals (Chomsky 1982; Rizzi 1982, 1986; inter alia) are based on the assumption that pro is a nonspecific independent syntactic element which needs to be identified by I or AGR. Hornstein and Polinsky (2010) argue that the base consists of two kinds of operations; phrase structure rules that build structures and lexical insertion operations that fill them. They point out that by applying the former, PRO is allowed. However, phrase structure rules are abandoned in the Minimalist approach represented in Bare Phrase structure (BPS) (Chomsky, 1995). In such a framework, it is not permitted to generate GB-PRO [NP e]. Since both pro and PRO are pronominal empty categories generated as [NP e] (Chomsky 1982), pro is also not permitted in BPS.

1 Deep thanks to my supervisor, Dr. Rahul Balusu for his valuable comments and corrections. I am also grateful to Al-Alhdal, Al-Anbari and A-Khuleidi for proofreading this paper.

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Moreover, the GB account of pro’s identification by AGR or I doesn’t work in the Minimalist framework according to Holmberg (2005) who argues against pro’s identification particularly Rizzi’s (1986). Rizzi (1986) defines pro’s identification as follows:

(1) “Identification: pro inherits the \( \varphi \)-feature values of \( X^\circ \), (if it has \( \varphi \)-features; if not, pro gets a default interpretation, typically arb)” (p.538).

Holmberg (2005) reasons that since the \( \varphi \)-features of T help in identifying pro content according to Rizzi (1986), pro inherits \( \varphi \)-features from T. However, the \( \varphi \)-features of both T and pro are uninterpretable, as it is clear from (2).

(2)

He points out that the GB proposal is incompatible with the Feature-Valuing System in Chomsky (2000) in which either the probe or goal should have interpretable \( \varphi \)-features. The solution suggested by Holmberg is that either T or pro should bear interpretable \( \varphi \)-features. Thus, he proposes two hypotheses:

“Hypothesis A: in null-subject languages, the \( \varphi \)-features of T are interpretable. Spec TP is, therefore, either absent or filled by an expletive (depending on whether T’s EPP-feature needs to be satisfied independently of its \( \varphi \)-features).

Hypothesis B: pro has interpretable features, occupies Spec TP and functions just like an overt pronoun. That pro is silent is Thus, a PF matter.” (p.540)

1.1 The contribution of this paper
Holmberg’s (2005) hypotheses can be considered as a bridge between two accounts of *pro*; the GB and minimalist accounts. These two hypotheses are supposed to be the universal NS parameters for all rich agreement Null Subject Languages (NSLs) in Minimalism. In spite of the importance of Holmberg’s (2005) hypotheses, MSA studies (Soltan 2007, 2011; Al-Baluashi 2011; Jalabneh 2011; Fassi Fehri 2012; AlAlamat 2014; inter alia), which discuss *pro* in MSA, do not discuss and/or modify Holmberg’s (2005) hypotheses. In addition, almost all the MSA studies, as far as I know, assume that *pro* is inserted as an empty category. This is the first MSA study which assumes that *pro* is a pronominal variable that becomes null before LF. Besides, NSs have not been investigated at all in TYA. Moreover, this is the first MSA study, to the best of my knowledge, which utilizes the Inheritance Approach (IC) (Chomsky 2004) and its modification in Quali (2008) to give theoretical justification for the absence of Spec TP in MSA and TYA. IC assumes that T inherits its formal features from C. For instance, T inherits EPP from C.

It will be argued in this paper that neither of Holmberg’s (2005) hypotheses is suitable for the MSA and TYA context. To prove this, the following research questions are raised and answered in this paper:

I. Is the subject-verb agreement verbal agreement or a pronominal clitic?
II. Does Spec TP in VSO sentences contain overt/null expletives?
III. Is the preverbal DP a subject or Topic?
IV. Do overt/covert subjects move to Spec TP? and
V. Do referential NSs occur in VSO and/or SVO?

2. **HYPOTHESIS ‘A’ DOES NOT WORK**

Holmberg’s Hypothesis A assumes that T has interpretable φ-features. This means that agreement markers are considered as a pronominal clitic in such a

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2 Al-Horais (2009) talks about Holmberg’s (2005) hypotheses and how the GB account of *pro* is changed by them, however, he does not try to validate or refute them.
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way that EPP can be satisfied by this pronominal clitic bound to *v or by an expletive. Otherwise, Spec TP is absent. I show that this approach does not work in MSA, TYA and many NSLs in Section 2.1. I will also argue in Section 2.1 that the “I-subject” approach needs to be rejected, and the preverbal subject proves to be a base-generated Topic in A’-position co-indexed with the NS in Spec v*P. Regarding expletives, it is pointed out in Section 2.3 that expletive pro is eliminated in many NSLs, particularly MSA and TYA.

2.1. The “I-subject” approach fails
This analysis regards agreement inflections as a pronominal clitic which function like subjects whereas the preverbal and postverbal subjects are considered as non-arguments in A’-position (Borer 1989; Alexiadou & Anagnostopoulou 1998). The “I-subject” approach is sometimes referred to as the Incorporation Hypothesis which assumes that the pronominal external argument is incorporated into the verbal heads. Since the pronominal agreement is the subject, pro becomes redundant. Studies like Chomsky (1982), Deen (2002), Frascarelli (2007), Soltan (2007, 2011), Al-Asbahi (2001), Al-Horais (2009), Saeed (2011), A-Sharaf (2014), among others argue that the verbal inflections are agreement affixes which license and recover the content of NSs in NSLs.

Steele (1995, 1975, 1977) and Langacker (1977) cited in Deen (2002) maintain that the word order is the criteria that can distinguish between the pronominal clitic and agreement affix. When the verbal agreement is fixed in a particular position with respect to the verb, it is considered as a verbal affix. On the other hand, when the verbal agreement is not fixed in a specific position and it is free, it can be called a pronominal clitic. Deen (2002) observes that the subject agreement is fixed in a strict order with respect to the verb in Swahili. When the verb moves, all the subject agreements move with it in the same order. On the other hand, when the lexical subject moves, the subject agreement markers do not move. The verb and the subject agreement behave as one unit. Deen (2002) concludes that the word order test shows that the verbal inflections in Swahili are verbal affixes rather than pronominal

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3 Thanks to an anonymous reviewer who drew my attention to avoiding using the term ‘pronominal affix’. In fact, Deen (2002) uses the term ‘pronominal clitic’ and not ‘pronominal affix’.
clitics. By the same token, I will try to apply this test to MSA and TYA as in (3-4) below:

(3) a. T-Tulab-u safar-uu the-students-Nom traveled-3.p.m

b. safar-a T-Tulab-u traveled-3.s.m the-students-Nom ‘The students traveled.’

c. * T-Tulab-u uu-safar the-students-Nom 3.p.m -traveled

(4) a. am-Tulab safar-uu the-students traveled-3.p.m

b. safar-uu m-Tulab traveled-3.p.m the-students ‘The students traveled.’

c. * am-Tulab uu-safar the-students 3.p.m-traveled

The above examples show that the verbal agreements behave like agreement affixes because they follow a strict order; i.e. verb-affix in the past tense appears in all cases as in ‘a’ and ‘b’ examples in (3-4). When this order is changed, i.e. it becomes affix-verb; the sentences become ungrammatical as in ‘c’ examples in (3-4).

Some good empirical evidence comes from the distribution of pronominal elements. Lexical subjects and pronominal elements are in complementary distribution with each other as in (5):

(5) a. He came.

b. Ali came.
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c.* Ali he came.

It can be noticed in (5) that the lexical subject and the pronominal subject cannot be in the same clause in English because this results in ungrammatical sentences as in (5c). On the other hand, the lexical postverbal subject can co-occur with verbal agreement as in ‘b’ examples in (3-4) above. The subject in MSA and TYA can occupy the postverbal position directly after the verbal agreement. This shows that the verbal agreement is an agreement affix and not a pronominal clitic in MSA and TYA. If it is a pronominal clitic, it cannot co-occur with the lexical object as in ‘c’ examples in (6-7) from MSA and TYA respectively;

(6) a. Darab-tu-hum
    hit-1.s.m-3.p.m
    ‘I hit them.’

b. Darab-tu T-Tulaab-a
    hit-1.s.m the-students-Acc
    ‘I hit the students.’

c. *Darab-tu-hum T-Tulaab-a
    hit-1.s.m-3.p.m the-students-Acc.

(7) a. Darab-t un
    Hit-1.s.m-3.p
    ‘I hit them.’

b. Darab-t m-Tulaab
    hit-1.s.m the-students
    ‘I hit the students.’

c. *Darab-tu-hum m-Tulaab
    hit-1.s.m-3.p.m the-students

It can be noticed in (6-7) that the object pronominal clitic is in complementary distribution with lexical DPs. Contrary to the overt postverbal subject, the lexical objects cannot co-occur with the object pronominal clitic.
2.2. A topic-based approach
Soltan (2007) points out that the preverbal DP in SVO in MSA is not the subject but a base-generated Topic in A’-position called Hanging Left Dislocated Topic (LD Topic for short). Empirical evidence is provided by Soltan (2007, pp.51-53) to prove his claim. This conclusion can be supported by the fact that nonspecific lexical NPs cannot occur in preverbal positions in MSA but they can in postverbal position as in (8-9);

(8) a. kasara walad-un l-baab-a MSA
    broke-3.s.m boy-Nom the-door-Acc
    ‘A boy broke the door.’

    b. *walad-un kasar-a l-baab-a
       boy-Nom broke-3.s.m the-door-Acc

(9) a. kasar wuleedu m-baab TYA
    broke-3.s.m° boy the-door
    ‘A boy broke the door.’

    b. *wuleedu kasar m-baab-a
       boy broke-3.s.m the-door-Acc

In addition, VSO and SVO are distinguished with respect to their interaction with wh-movement: while extraction across the postverbal DP of wh-words is permitted, as in (10a), such extraction across the preverbal DP is typically not permitted, as in (10b);

(10) a. man Darab-at hind-un ?
    whom hit-3.s.f hind-Nom
    ‘Whom Hind hit?’

    b. *man hind-un Darab-at?
       who hind-Nom hit-3.s.f

I, however, argued in Al-Sharafi (2014) that the nominative Case of indefinite DPs and third person verbal agreement are covert in TYA.
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The same restriction is attested in TYA;

(11) a. min Darab-an hind ?
who hit-3.s.f hind
‘Whom Hind hit?’

b.*min hind Darab-an?
who hind hit-3.s.f

wh-movement is blocked in (10b, 11b) because the A'-position is already occupied by the preverbal DPs; so these sentences are ruled out.

Moreover, the preverbal DP can be associated with an overt Resumptive Pronoun (RP) inside a coordinate island as in (12b):

(12) a. HaDar-a zayd-un wa ?aliyy-un
came-3.s.m zayd-Nom and ali-Nom
‘Zayd and Ali came.’

b. zayd-un HaDara huwa wa ?aliyy-un
zayd-Nom came-3.s.m he and ali-Nom
Literally ‘Zayd, he and Ali came.’

As we know, moving DPs out of a coordinate island is not allowed (Ross, 1967). The RP inside the coordinate island associated with the preverbal DP in (12b) shows that the preverbal DP has not been moved and it is base-generated. The same analysis is true in TYA.

(13) a. HaDar zayd wa ?ali
came-3.s.m zayd and ali
‘Zayd and Ali came.’

b. zayd HaDar huwh wa ?ali
zayd came-3.s.m he and ali
‘Zayd, he and Ali came.’
Based on these arguments and others, Soltan (2007) proposes that MSA does not exhibit A-movement for arguments. The preverbal DP is a base-generated LD Topic in A’-position and it satisfies EPP. It should be noted that Alexiadou & Anagnostopoulou (1998) also claims that the preverbal DP is a base-generated Topic in MSA and not a subject. I adopt the Topic-based approach in this paper.

2.2.1 A pro analysis in MSA
Unlike Romance languages, MSA has two alternate agreement patterns; VSO and SVO. The unmarked word order in MSA is VSO. The agreement patterns for the word orders in MSA are: full agreement in SVO in ‘a’ and ‘c’ examples in (14) and partial agreement in VSO (14b) when the subject is a lexical DP:

(14) a. ?al-Tulaab-u fahim-u d-dars-a
     the-students-Nom understood -3.p.m the-lesson-Acc

     b. fahim-a T-Tulaab-u d-dars-a
        understood -3.s.m the-students-Nom the-lesson-Acc

     c. fahim-u d-dars-a
        understood -3.p.m the-lesson-Acc
          ‘The students understood the lesson.’

When the subject is a pronominal, MSA exhibits full agreement in VSO and SVO as illustrated in (15):

(15) a. (hum) Darab-u l-Kalb-a
     they hit-3.p.m the-dog-Acc

     b. Darab-u (hum) l-Kalb-a
        hit-3.p.m they the-dog-Acc
          ‘They hit the dog.’

Soltan (2007) argues that pro plays an important role in explaining full and partial agreement in MSA as in (14). Full agreement is maintained when there
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is pro and partial agreement takes place when pro is absent; “A null element pro has to be identified at the interface, where identification is established by a complete φ-complex associated with pro.” (p.64)

Soltan (2007) shows how full agreement is maintained in (14’a’ and ‘c’ -15) above. Full agreement in SVO in (14’a’ and ‘c’) requires pro in Spec v*P co indexed with the overt or covert Topic in A’-position below C in (14a) and (14c) respectively. When the subject is a pronominal as in (15), pronouns begin the derivation as pro but they then get lexicalized for emphatic interface purposes by applying Late Insertion Rules (LIRs) resulting in full agreement in both VSO and SVO. On the other hand, since lexical DPs are not under the identification requirement (they are not pros), they do not trigger full agreement in VSO structures. They have only Class (gender) feature as in (14b). The partial (default) agreement does not affect convergence; hence the derivation does not crash.

Soltan’s (2007) pro analysis has some problems. He points out that pro can be lexicalized as a pronominal for emphasis reasons by applying LIRs. On the other hand, Müller (2005) points out that LIRs are incompatible with Inclusiveness Condition and Legibility Condition. The former states that new material is not allowed to be inserted during the derivation and the latter maintains that features can be available in a specific syntactic element only if they are interpretable at that element.

Moreover, Soltan (2007) emphasisez that full agreement results from the presence of pro in Spec v*P in SVO and partial agreement takes place when pro is absent in VSO in MSA. The question now is why TYA shows full agreement in both SVO and VSO as in (16):

(16) a. am-jahlhī rigad-u
    the-children slept-3.pTYA

    b. rigad-u m-jahlh
        slept-3.p the-children
        ‘The children slept.’
The sentences in (16) exhibit full agreement in both VSO and SVO. Thus relating full agreement to pro is not an acceptable solution. Since the focus in this paper is on analyzing Arabic NSs in relation to Holmberg’s (2005) hypotheses, the discussion of agreement asymmetry in MSA is not within the scope of this paper. Therefore, I will just give my analysis for the absence of pro in VSO in MSA and TYA. In fact, pro is absent in VSO because the thematic position of external arguments (Spec v*P) is already occupied by the overt postverbal subject in VSO but this position is occupied by pro only in SVO. If the thematic subject pro (nominal) stays in Spec v*P along with the overt thematic postverbal subject in VSO, the thematic position will be occupied by two thematic subjects; pro and the lexical postverbal subject, and this violates Theta Criterion and Principle B of Binding Theory. Thus, NS should be absent in VSO whether there is partial agreement as in MSA or full agreement as in TYA and all other Arabic dialects.

According to Hypothesis A in Holmberg (2005), Spec TP is either absent or filled by an expletive. The next subsection argues against the expletive analysis.

2.3 Against an expletive analysis
It is argued that Spec TP in VSO is occupied by a null expletive by Ouhalla, 1994; Tucker, 2007; inter alia. However, the null expletive is rejected in cross-linguistic literature (Borer, 1989; Alexiadou & Anagnostopoulou 1998; Holmberg & Nikanne, 2002; inter alia) because the null expletive is required neither semantically nor phonologically. Soltan (2007) argues that pro expletive has neither PF nor LF interface values in MSA and other NSLs. He points out that the minimalist approach should not permit such elements.

Expletive subjects are related to the Definiteness Effect (DE) with the associated indefinite postverbal subjects as in the English example below:

(17) a. There came a man.
    b.*There came the man.

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5 I argued about Agreement Asymmetry in MSA in Al-Sharafi (2013). I pointed out that agreement asymmetry in MSA is a result of phonological –syntactic derivations.
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The overt expletives are typically not allowed in preverbal position in MSA and TYA. Thus, the English overt expletive in (17) has no counter example(s) in MSA and TYA. The English examples in (17) show that expletive subjects are allowed only when the associate is indefinite. On the contrary, the postverbal subject can be definite or indefinite in Italian (Alexiadou & Anagnostopoulou, 1998) and MSA and TYA as in (18-19):

(18) a. jaʔa-a rajul-un
    came-3.s.m man-Nom
    ‘A man came.’

    b. jaʔa-a r-rajul-u
    came-3.s.m the-man-Nom
    ‘The man came.’

(19) a. ðateʔ rijalu
    came-3.s.m man
    ‘A man came.’

    b. ðateʔ m-rijal
    came-3.s.m the-man
    ‘The man came.’

It is easily noticed in (18-19) that the associate in VSO in MSA and TYA needs not be indefinite. This means that MSA and TYA lack DE, and hence an overt/null expletive cannot be postulated in these languages.

In sum, the arguments so far show that Hypothesis ‘A’ is not viable in the MSA and TYA context.

3. AGAINST HYPOTHESIS B

Hypothesis B maintains that pro has interpretable φ-features and occupies Spec TP. In addition, overt expletives are dispensed with in Hypothesis B

6 The equivalent of English expletive ‘there’ has a locative meaning rather than the existing meaning in MSA and TYA and it is rarely used.
Although, I agree with Holmberg (2005) that pro bears interpretable φ-features and it is just like overt pronouns without phonological realization, I disagree with him in assuming that pro is in Spec TP. Many studies point out that pro stays in situ in Spec v*P in NSLs (Soltan 2007; Al-Horais 2009; Al-Balaushi 2011; Philippaki-Warburton 1987; Spyropoulos 2007; Kučerová 2014 inter alia).

The trigger for assuming that pro is in Spec TP is to satisfy EPP. On the other hand, studies like Boškovic’ (2002), Epstein and Seely (2002), Epstein, Pires, and Seely (2005), and Grohmann, Drury, and Castillo (2000) eliminate EPP from UG. Boškovic’ (2002) points out that EPP must be eliminated because EPP is not required in many syntactic structures. For instance, the intermediate Spec IP in successive cyclicity can remain empty and this means that EPP is selective. Grohmann et al. (2000) also argue that EPP is not required and can be dispensed with. In a recent study of a group of NSLs, Kučerová (2014) points out that NS never moves to Spec TP. The theoretical assumption for assuming EPP is that it should be satisfied by overt elements and not null ones as argued in Holmberg (2000) and Landau (2007) cited in Kučerová (2014, p.138). This means that neither referential NS, nor null expletives can satisfy EPP.

Moreover, if an XP is not moved nor merged in Spec IP, there is no EPP according to Chomsky (1995). Thus, EPP is absent in VSO in MSA (Nasu 2001; Soltan 2007; Al-Horais 2009; Saeed 2011; Al-Balaushi 2011; Fassi Fehri 2012; inter alia). With relevance to SVO, Al-Balushi (2011) argues that since MSA needs not allow A-movement according to Soltan (2007), postulating EPP is redundant. In addition, since the preverbal DP is a Topic, it can be said that it is merged in A’-position for semantic interpretation (Al-Horais 2009).

An alternative analysis is that Spec TP is absent in MSA and TYA and EPP can be satisfied by merging the preverbal Topic in SVO. Soltan (2007) and others already argue that pro does not move to Spec TP because it can value nominative Case in situ by agree with T. He also argues that EPP is satisfied by merging the LD Topic in C. This analysis is descriptive and does not utilize quite recent minimalist work like IC.
My analysis is based on IC and its modification in Quali (2008). Quali (2008) argues that C can keep some features and needs not transfer them to T. Thus, it can be argued that this happens in MSA and TYA. C in the phase CP\textsuperscript{7} keeps EPP which requires external merge in A'-position. Therefore, only base-generated Topics will satisfy EPP in C and the NS in SVO stays \textit{in situ} in MSA and TYA\textsuperscript{8}. It is worth mentioning that the verb moves to T for morphological reasons in SVO and VSO in MSA and TYA. This movement is necessary for supporting bound morphemes in rich-agreement languages (Chomsky 1995; Radford 2009; \textit{inter alia}). Thus, the T node is projected without its Spec in MSA and TYA context\textsuperscript{9}.

4. AN ALTERNATIVE HYPOTHESIS

The arguments in the previous sections show that Holmberg’s (2005) hypotheses do not fit MSA and TYA context. However, Hypothesis B is right in proposing that NS’s $\phi$-features are interpretable and it functions like overt pronouns without phonological realization. I have also argued above that \textit{pro} is in Spec v*P (A-position) associated with the base-generated preverbal Topic in A'-position. \textit{Pro} is a pronominal variable because it is referentially dependent on the base-generated Topic in A'-position and so they have the same $\phi$-features in the sense of Baker (2008). Based on the arguments in this paper, I propose an alternative hypothesis for MSA and TYA:

\textit{\textbf{Pro is a pronominal variable with interpretable $\phi$-features in Spec v*P associated with the preverbal base-generated Topic in A’-position. That pro is silent is thus a PF matter.}}

\textsuperscript{7} An anonymous reviewer asks about the role of the Phase-Impenetrability Condition (PIC) (Chomsky, 2000) in my analysis. It is known that PIC restricts movement but A-movement is absent in MSA and TYA. Thus, PIC is not discussed.

\textsuperscript{8} Thanks to an anonymous examiner of my PhD thesis who suggests utilizing IC (Chomsky 2004) to give theoretical justification for rejecting Spec TP in MSA and TYA. Then I found that Quali’s (2008) modifications of IC suits MSA and TYA quite well.

\textsuperscript{9} This analysis may be generalized to dispense with all A-movement in MSA and TYA. I will leave this for further research.
The mechanism which explains pro’s silence takes place at PF. Basing on Holmberg (2005), Holmberg (2010) proposes this mechanism in NSLs like Italian. He argues that pro begins as a weak pronominal then it is deleted prior to LF. Due to limitations of space, I will leave this topic for future work.

4. CONCLUSION

This paper started by noting that the GB account which regards pro as an independent syntactic element is incompatible with the Minimalist Approach. Therefore, Holmberg (2005) proposes two viable Minimalist hypotheses. However, neither of the two hypotheses A and B fit MSA and TYA. I propose an alternative hypothesis, and in my analysis, in MSA and TYA, pro is analyzed as a pronominal variable because it is in an A-position, which is then associated with the preverbal Topic in A’-position.

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