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Agreement lost, Agreement Regained:
A Minimalist Account of Word Order and Agreement Variation in Arabic

Abstract. The present paper discusses word order (variation) in both Standard and Tunisian Arabic, which has a similar syntactic behaviour as most other Arabic dialects. The discussion includes the difference in the two varieties' unmarked order in verbal sentences, the VSO/SVO variation they both exhibit, and the change of agreement that correlates with word order variation in Standard Arabic. The variation in word order in both varieties and the agreement asymmetry in MSA are explained within the new developments of transformational syntax (Chomsky, 1999; 2000), whose main changes include the disappearance of the functional category Agr. The proposed analysis saves the findings reached in previous studies within the Principles and Parameters framework (P&P) or in the early Minimalist Program (MP) (Chomsky, 1995) in relation to word order, namely that the basic order in both languages is the same and the variation is due to a parametric choice in the element that moves. A new analysis is, however, proposed in relation to the asymmetry in agreement in MSA.

0. Introduction

The main purpose of the present paper is to discuss the most recent approaches that have analyzed the sentence structure in Modern Standard Arabic (MSA) within the framework of Generative Grammar. An attempt is made to adopt these analyses to Tunisian Arabic (TA), which has the same word order as most other Arabic dialects (Shlonsky, 1997; Aoun, Benmamoun, and Sportiche, 1994; Benmammoun, 2000). These analyses within the Principles and Parameters (P&P) framework and the earlier Minimalist Program (MP)

(Chomsky, 1995) are accommodated to the new developments of the theory (Chomsky, 1999; 2000).

The paper is organized as follows. The first section presents the issue of the difference of word order in MSA and TA and the asymmetry in agreement that correlates with word order variation in MSA. The second section is concerned with the question of basic word order in both varieties under study. In the third section, different analyses of the SVO/VSO variation in Arabic are critically reviewed. The fourth section presents an analysis that best accounts for the difference in word order between MSA and SA. The fifth section surveys the new developments of the Minimalist Program that require the readjustment of the findings reached in the P&P framework and the early MP. In the sixth section, a proposal along the lines of the latest minimalist ideas to account for the variation in word order in Arabic is provided. In the seventh section, a different account is proposed to explain the asymmetry of agreement in MSA. Finally, a brief summary of the discussion is given.

1. The issue

An important (surface) difference exists between MSA and TA. In (1), the preferred word order, i.e. the unmarked[1] order, in MSA verbal sentences is VSO. But in a similar construction in TA (2), the preferred word order is SVO.

    (1) Darba ?a-rrijal-u ?al-awlad-a   (MSA)

      hit3m.s the- men-nominative - the-boys

      'The men hit the boys.'

    (2) i-rrjel Darb-u l-awled   (TA)

      the men hit-3m.p the boys

      'The men hit the boys'

To make this difference clearer, let us reverse the order of this sentence in (3), trying an ambiguity test. This order gives a totally different meaning that it is: the boys who hit the men (not the opposite).

(3) Darbu i-rrejel l-awled.

       hit3m.p the men the boys

       'The boys hit the men'

This contrast between MSA and TA is clearer in the case of proper nouns that do not bear morphological case marking. While in MSA, the order is VSO, in TA the order is SVO despite the fact that both lack morphological marking for case.

    (4) Darab-a Mussa Issa

      hit3m.s Mussa Issa

      'Mussa hit Issa.'

    (5) Mussa Darab Issa

      Mussa hit Issa

      'Mussa hit Issa.'

This difference is also present in embedded sentences, as shown below (6-7). Whereas, in MSA the unmarked order is Comp-verb-subject-object, in TA the order is subject-comp-verb-object[2].

    (6) ?arad-tu ?an y'-ukl-a ?a-rrajul-u tuffaHa-tan   (MSA)

      wanted I that 3m.s. eat-subj -the man-nominative - an apple-Acc

      'I wanted the man to eat an apple.'

    (7) Habb-iit e-rrajil bash y-akul tuffaHa.   (TA)

      wanted-I the man that 3m.s eat-subj an apple-Acc

      'I wanted the man to eat an apple.'

The question here is: is this difference fundamental (at DS) or is it an SS phenomenon, in other terms: what operations differentiate the two varieties, and by extension the other Arabic varieties? As both varieties exhibit both orders, another related question is why this variation?

A related issue that will also be addressed is the asymmetry of agreement that accompanies word order variation in MSA. The phenomenon, which exists in many other languages, includes the following asymmetry: when the verb follows the NP subject it agrees with it fully (person, gender and number) but when the verb precedes the NP subject it

partially agrees with it (in person and gender). The question we will try to answer is why this asymmetry.

2. Basic word order in Arabic

As it has been shown above, TA and MSA differ in their unmarked word order. While MSA is mainly VSO, TA is predominantly SVO. Since the two varieties have both SVO/VSO orders at the surface and adopting the recent proposals (Koopman and Sportiche, 1991) concerning the fact that the subject is generated in VP[3], we argue that the two varieties have the same basic order, i.e. SVO[4].

This section reviews the different analyses of MSA, the more studied variety, and implications are drawn for TA.

Because of the variation at the level of surface word order, MSA allows (see examples in 8), there had been little agreement on its basic order.

<u>VSO</u> (this is the common form in MSA and CL)

(8)a. ?akal-a ?a-rrajul-u tuffaHa-tan

     ate3m.s the-man-Nom apple-Acc

<u>SVO</u> (this is used in MSA especially for topicalization, and is therefore common as well)

  b. ?a-rrajul-u ?akal-a tuffaHa-tan

  the-man-Nom ate3m.s. apple-Acc

<u>VOS</u> (this is also used for emphasis)

  c. ?akal-a tuffaHa-tan ?a-rrajul-u

  eat-3m.s. apple-Acc the-man-Nom

<u>OVS</u> (this is also used for contrastive focus).

  d. tuffaHa-tan ?akal-a ?a-rrajul-u

   apple-Acc ate3m.s. the-man-Nom

Majdi (1990), for instance, argues on the basis of Binding Theory that the underlying structure of derivations of this kind is VOS. This proposal is not supported by the data. In

sentences like the one below, where there is no covert case the order is presumably of the underlying order (Fassi-Fehri, 1993:20).

(9) Darab-a Issa Mussa
    hit 3.s.m Issa Mussa
    'Issa hit Mussa'

Most recent analyses, however, agree that the subject is generated inside VP and that the basic order of Arabic and VSO languages in general is SVO. The evidence for the generation of subjects in lower position is based on Sportiche (1988) that in French and English floating quantifiers like 'all' occur between the Aux and the main verb, an evidence that the subject has moved from there leaving a trace. VSO order is derived by raising the verb to I position (e.g., Fassi-Fehri, 1993; Plunkett, 1993; Koopman and Sportiche, 1991; Aoun et al 1994; Benmamoun, 2000). Schlonsky (1997) also proposes the same analysis but does not specify the position to which the verb moves, a position he calls F.

Most analysts (e.g. Fassi-Fehri, 1993; Plunkett, 1993) also think that the verb does not move to C at least in declarative sentences. The evidence is that the complementiser occurs in front of negation, modality and these both occur in front of the SVO (Fassi-Fehri, 1993). The following is an illustrative example:

(10) za'am-a ?an qad laa y-a?tii Zayd-un
     pretended -3.s.m. that may not 3-comes Zayd-Nom
     'He pretended that Zayd may not come.' (ibid, 26)

Plunkett (1993) also adopts the same analysis that the verb does not move beyond I to C since it precedes the subject in both matrix and embedded clauses. In Arabic, she claims the verb does not move farther than the Mood position (240-241).

Aoun et al (1994) propose that unlike in affirmative sentences, the verb might move to C in interrogative sentences. This remark is based on the fact the verb cliticisizes with the question particle as is shown in (13) and the order in Wh-questions is always VS.

(11) "?a-qara?ta l-kitaaba

QU-read-2s the-book-ACC

'Did you read the book.'" (ibid, 204).

The SVO order is derived by moving the subject to Spec, IP (e.g. Fassi-Fehri, 1993; Aoun et al, 1994, Benmamoun, 2000). Shlonsky (1997) is equally imprecise about the position to which the subject moves, a position he calls G. Some other analysts (e.g. Akkal, 1996, Ouhalla, 1997) propose that the preverbal NP is a topic or focus phrase that has moved to Spec, FP, a position below CP to get focus/to check the feature [+f](Ouhalla,1997) (a similar view in Alexiadou and Anagnostopoulou, 1998) and to Spec,Tnse to get either case or topicalization (Akkal, 1996).

This leads us to the still controversial question of whether the preverbal NP in MSA is a subject (a view shared by Fassi-Fehri, 1993; Plunkett, 1993; Aoun et al, 1994 and Bolotin, 1995) or a topic (a view shared by Akkal, 1996; Khairi, 1996; Ouhalla, 1997). Akkal (1996) proposes that the base order in Arabic is SVO where the subject is generated in Spec, VP. The order VSO is the result of verb-raising to Tnse and the SVO order is the result of focus movement of the NP to Spec, TnseP and it bounds the resumptive pronoun (e.g.uu) in examples like the following.

(12) ?al-awladu jaa-<u>uu</u>

the boys   came-3m.p

'The boys came'

A similar analysis is adopted by Khairi (1996) who asserts that the preverbal subject is actually a topic. He proposes that the rich agreement in the cases of SVO order is an Agr-pro that functions as a subject and therefore it is redundant to interpret the preverbal NP as a subject which is base generated in an A' position and interpreted in relation with the pro, not as a result of movement as the case of preverbal objects as the test of subjacency testify. Preverbal subjects, by contrast, do not obey subjacency (191-194). As evidence for this

analysis is the fact that definite preverbal subjects can precede a wh-word. He, however, ignores the case of indefinite subjects which Fassi-Fehri (1993) describes as subjects, unlike the definite NP that he analyzes as topics.

These analyses fail to account for the data in TA and other regional dialects, where the Agr is kept in both orders SVO/VSO. We will consider an alternative view in section (4) below.

Because of the similarity of word order variation in both varieties (both exhibit SVO and VSO as their surface orders) and because TA favours SVO order, it is safe to extend the same analysis concerning basic order in MSA to TA, particularly that the basic order is SVO where the subject is generated in Spec, VP. Aoun et al (1994) and Schlonsky (1997) adopt the same analysis for Moroccan and Lebanese Arabic and Palestinian Arabic, respectively. These varieties, as mentioned earlier, exhibit almost the same syntactic behaviour as TA.

The following question is in order now: is the difference in the case of SVO preference in TA due to the fact that the verb in TA has not moved or is it due to further movement of the subject?

I will, first, examine the first hypothesis. Using the tests used by Pollock (1989) for French and English (even without adopting the split INFL hypothesis into Agr and Tense) for the TA data below. It is clear that the verb in (13) has moved from its base position to raise to I or Tense, landing between the two Neg particles.

(13) l-awlaad ma kla-uu-sh a-ttufaHa
    the boys no ate3mp-not the-apple
    'The boys did not eat the apple'

The same is true in the VSO order, as (14) illustrates.

(14) ma kla-uu-sh l-awlaad a-ttufaHa
    no ate3mp-not the boys the-apple
    'The boys did not eat the apple'

The second hypothesis is then more plausible. Since the verb has moved to I in SVO order, as well as in the VSO order, the subject has definitely moved beyond I. The landing site of the subject is very likely Spec, IP.

Another question that arises at this stage of discussion is: what is the cause of this variation in word order? The following section attempts to answer this question.

3. On SVO/VSO variation in Arabic

In the present section, different attempts to explain the variation of word order in MSA, the more studied variety, are surveyed and conclusions are drawn for both MSA and TA.

The discussion of this variation in word order has often been related to the phenomenon of agreement that accompanies each order. In fact, MSA has an interesting phenomenon of correlation between subject verb agreement and word order, which also exists in some other languages (Bolotin, 1995). The verb agrees totally with the verb (person, gender, and number) in the SVO order (i.e. when the subject is preverbal) but only partially (person and gender) in the VSO order, as is shown in (15a-b) below.

> (15)a. ?akala-ti ?al-banat-u tuffaH-an
>   ate-3f.s the girls-Nom apples-Acc
>   'The girls ate apples'
>   b. ?al-banat-u ?akal-na tuffaH-an
>   the girls-Nom ate-3fp apples-Acc
>   'The girls ate apples'

Earlier analyses Demirdache (1991, cited in Bolotin,1995)in the case of SVO the subject is base generated in Spec, TP and divides the agreement into affixes, the one of number being affixed to the verb in the case of topicalization or pro-drop and the affix of person and gender is in Agr and verb gets adjoined to it (cited in Bolotin, 1995:12-13).

A more common view is to propose that each word has resulted from a different verb movement. Mohamed (1990) for instance suggests that while in the case of VSO order the verb raises to I and therefore is no longer c-commanded by the subject in Spec, VP and

therefore does not agree with it, it lowers from I to V in the case of SVO and is therefore c-commanded by the subject and agrees with it. The solution is elegant but it has some deficiency especially the lowering effect which violates the ECP.

To account for this asymmetry in the subject verb agreement in the two word orders, Akkal (1993, cited in Akkal, 1996) proposes that Agr in Arabic takes place in Spec-Head relation and therefore full-agreement takes place only when the subject precedes the verb. He, however, thinks that Agr is not projected but rather derived as soon as there is a coindexed subject and verb in a Spec-Head relationship, which he thinks takes place in the positions Spec,TenseP and Tense.

A different view is found in Fassi-Fehri (1993) who claims that the preverbal subject, being licenced by rich agreement, moves from its original position in Spec, VP to Spec, AgrP whenever Agr is rich and reciprocally rich Agr is licenced by the presence of a subject in that position. Fassi-Fehri calls this reciprocal licensing the Agr Criterion. This seems to deal with the asymmetry between subject Agr in the SVO order and the VSO order. In a sentence like (16), the raised object is adjoined to CP. In (17), it is clear that the AgrP position is being taken by the preverbial subject that, in this case, agrees with the verb (third person plural on the verb).

> (16) ?a-ttufaHat-u ?akalaha ?al-awlad-u
>
>   the apple-Nom ate3s-it the boys-Nom
>
>   'The apple, the boys ate it"
>
> (17) ?a-ttufaHat-u ?al-awlad-u akaluha
>
>   the apple-Nom the boys-Nom ate3p-it
>
>   'The apple, the boys ate it'

However, this criterion seems to work only with preverbal subjects, not objects. An essential shortcoming of this proposal is that it does not fit the data in the other varieties of Arabic, TA in our case. In TA, Agr is not rich but both orders are possible.

Akkal (1996) points out that both previous analyses (i.e. Akkal, 1993 and Fassi-Fehri, 1993) cannot account for data where the preverbal NP does not agree with the verbs as is the case in (18), below.

(18) inna l-?awlaad-a Darab-at-hum ?al-bint-u
        that the boys-Acc hit-f-them the girl-Nom
        'It is the case that the girl hit the boys' (Akkal, 1996:109).

Other evidence comes from the subjunctive (ibid, 110-111). In the subjunctive, which is licensed by *?an*, no NP can intervene between *?an* and the verb, yet agreement shows up on the verb as is shown in data like (19) below. Neither of these two analyses can account for this phenomenon.

(19) ?urid-u ?an yarHal-uu
        want-I that leave-3p
        'I want them to leave'

The last criticism can be avoided if we propose that in the sentence above the Spec, AgrP/TenseP (depending on the analysis) is filled by pro, an analysis that Akkal (1996) himself adopts in his pron proposal, to which we now turn.

Akkal (1996) proposes another analysis to account for similar data that the two previous approaches could not account for. The main claim in his analysis is that rich Agr is a separate pronoun (he calls *pron* in order not to be confused with *pro*). This claim is based mainly on the fact that rich agreement is in complementary distribution with NPs (and by the same token he extends the analysis to object pronouns). He claims that Agr does not project an Xmax, rather "it generates as a pron (i.e., a cluster of features ranging over person, number, and gender) in the thematic subject position. Subsequently, it is morphologically realised as rich Agr and, as such, ends up by incorporating on the relevant verb" (115). *Pron* is morphologically visible only when it gets case, thus the difference between subject and object pronouns. The preverbal subject in (20), below, is analyzed as topic and rich Agr is analyzed as a resumptive pronoun.

(20) ?al-awlad-u ?akal-uu ?a-ttufaHat-a

the boys-Nom ate3mp the-apple-Acc

'The boys ate the apple'

This analysis of preverbal subjects as topics can be plausible in relation to definite NPs but seems counter-intuitive in relation to indefinite NPs that do not sound being topicalized. A more serious shortcoming of this analysis, and most of the analyses discussed so far, is that it does not account for the data in TA (and other dialects). In (21 a-b), the order changes but the rich Agr/resumptive pronoun (in Akkal's analysis) persists.

(21)a. l-awlaad kla-uu a-ttufaHa

the boys ate3mp the-apple

'The boys ate the apple'

b. kla-uu   l-awlaad a-ttufaHa

ate3mp the boys the-apple

'The boys ate the apple'

Aoun et al (1994) also examined the variation between MSA and Lebanese and Moroccan Arabic in relation to agreement and word order and concluded that agreement is assigned in a structural relation between a head and its specifier. They do not give an explanation to the difference (change) between the standard variety and the regional varieties. To explain the asymmetry in agreement in the SVO/VSO order in MSA, they assume that "head raising does not always preserve agreement"(204).They do not, however, give an explanation for that.

All the analyses discussed above, apart from the fact that they have some difficulty accounting for the data in MSA, cannot be used to account for similar data in TA and why both varieties (have come to) have different unmarked word orders. Besides, these analyses cannot account for the same phenomenon in other languages like Breton (in negative clauses) several varieties of Italian, and Standard Dutch (Bolotin, 1995). In the following

section, an analysis within checking theory (the MP) that overcomes these difficulties is

presented.

## 4. Checking theory and the weak/strong Agr parameter hypothesis

4.1. Checking theory

The main assumption of the checking theory is that in the process of Merge-Move, the latter

is motivated by the attraction of the functional heads which bear offensive features that have

to be checked and movement should remain a last resort operation abiding by the principles

of economy. This proposal follows from the view that verbs are generated with their

inflections on them, that is there is no need for the movement to support the affixes (cf.e.g.

Haegeman, 1997: 12-20)[5].

If we accept the proposal that there are strong and weak V and N featuers on both Agr

and T, we end up with many parametric values of word order (see e.g. Marantz, 1995).

4.2. The strong/weak Agr parameter hypothesis

Bolotin (1995) proposes a parametric variation in terms of feature values in which rich

agreement is associated with movement. She adopts the tree proposed in the early Minimalist

Program (henceforth, MP). A similar analysis is presented by Alexiadou and

Anagnostopoulou, 1998, which some of its suggestions will be adopted in the analysis

proposed below.
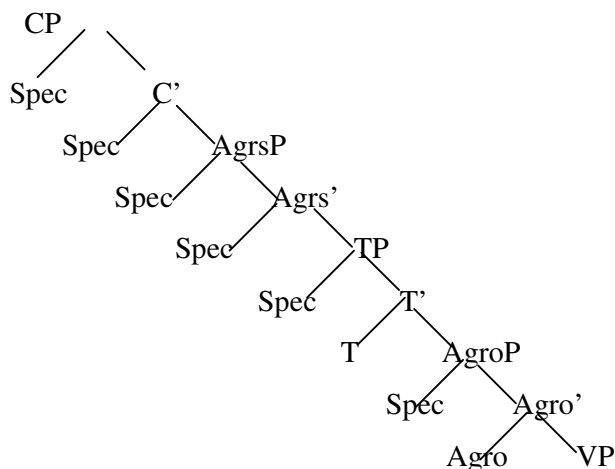
Verbs have to move to check Agr and Tense by being adjoined to the appropriate heads, nominative case is checked by the relation T+Agrs and accusative V+Agro.

Bolotin (1995) proposes that the SVO/VSO word order variation is related to an inflectional parameter in which only Agr changes:

	VSO order	SVO order
V features of T	strong	strong
V features of Agr	weak	**strong**
N features of T	weak	weak
N features of Agr	weak	**strong**
		(Bolotin, 1995:20).

In VSO, the verb raises to T but does not raise to check its Agr features before Spell-Out and so is the subject. The Agr feature of gender that appears on the verb in this order (see 17a-b, above) is assumed to be intrinsically generated on the verb from the lexicon. In the SVO order, on the other hand, the strong V and N features on Agr urge the verb to move to Agr and the subject to Spec, AgrsP (ibid, 20-21).

While this inflectional parameter accounts for the variation in MSA, it does not explain why Agr is maintained in TA, and other regional dialects and languages like Berber. To solve this problem, Bolotin proposes another parameter:

	poor VSO (Arabic)	rich VSO (Berber)
V features of T	strong	strong
V features of Agr	**weak**	**strong**
N features of T	weak	weak
N features of Agr	weak	weak
		(ibid, 23).

The difference in this case is due to the V features on Agr, which is weak in the case of Arabic and strong in a language like Berber.

If we adopt this hypothesis to describe the difference between MSA and TA, the parameter setting in both languages will be as follows:

Order		VSO		SVO	
Paremetric Values	Language	MSA	TA	MSA	TA
V features of T		strong	strong	strong	strong
V features of Agr		weak	strong	strong	strong
N features of T		weak	weak	weak	weak
N features of Agr		weak	weak	strong	strong

This parametric variation of verbal and nominal features conceived in terms of inflection provides both an explanation of the difference between MSA and TA and the asymmetry in agreement in MSA.

Although the above solution is satisfactory, new challenges are brought up by the recent developments of the MP (Chomsky, 1995: Chapter 4) and especially the more recent developments of the theory (Chomsky, 2000) where Agr is excluded.

5. Agr(eement) lost!

Agr is deleted mainly because it has no interpretable features that satisfy the conditions on the interface levels. Unlike T(ense) (with the feature [+-finite], C(omplementiser) (feature of mood or force), and D(eterminer) (with the feature "referentiality") (Chomsky, 1995: 240) that have interpretable features at the interface levels, i.e. PF or LF, Agr(eement) has −interpretable formal features, which makes it superfluous in a theory that seeks to be minimal. The existence of this (and any) uninterpretable feature causes the derivation to crash since only derivations with interpretable features can converge at the interface levels (349) (the

same idea is expressed in the new papers, e.g. Chomsky, 2000: 95). Chomsky (1995: 240) also claims that these functional categories can have phonological features indicated in the lexicon; Agr once more is exceptional.

Chomsky further argues that Agr has actually no role in the checking of features as it has neither Case nor ɸfeatures and the features of the DP are checked on the functional nodes that are headed by Tand V (255).

The omission of the Agr node from the earlier phrase structure (see p. 12) is incorporated in the new more economical bare phrase structure where "minimal and maximal projections are not identified by any special marking, so they must be determined from the structure in which they appear" and that the projections are "relational properties of categories, not properties inherent to them" (242). Intermediate projections that used to be projected beforehand are now omitted otherwise they will be "invisible at the interface for computation" (242-243), very much like Agr. The new structure also permits multiplicity of specifiers (352-4). Chomsky (315) also adopts the notion of the layered VP, with a v-shell.

The raising of the object to erase the uninterpretable structural case feature does not have to be in Agr as it may be to *v* and the choice of the feature is arbitrary depending on whether the language in question has optional, obligatory or object raising (352) and the subject can raise to Spec, T to check off the strong features on T (354) (with the possibility of two specifiers in the case of languages with an expletive like Icelandic (355)).

The basic word order of the two varieties (MSA and TA) can be incorporated in the new phrase structure as shown below. In the trees below, we keep the findings of previous analyses that started within the P&P framework that proposed that the basic word order is the same and that the difference is due to the element that moves. Our explanation in terms of different operations within the latest developments of the theory is discussed in the following section.

(22) TA
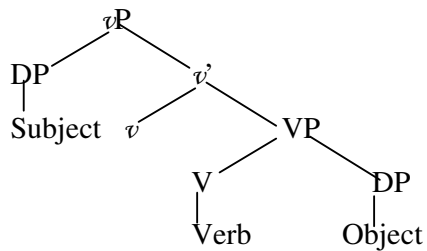
(23) MSA
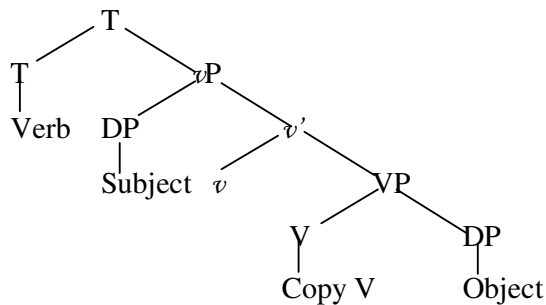
In line with these developments (Chomsky, 1995: Chapter 4), Benmamoun (2000) proposed an explanation in terms of the variation of the checking of the features +V and +D. He suggests that instead of moving to Agr, the verb moves to Tense to check its +V feature and the subject moves to Spec, TP to check its +D features. Assuming that Tense can contain both features or only one, he proposes that this is the case in Arabic and therefore the variation of word order is due to this fact. In Arabic, he proposes, the past and the future T heads are specified for the features +V and +D, but the present is only specified for +D and so are verbless sentences (chapter III). On the basis of this, the alternation of word order is correlated with Tense, the proposal is that while SVO is favored in the present, VSO order is favored in the past, based on evidence from idiomatic expressions in MSA and Moroccan Arabic (chapter IV). Consequently, the verb in the past where the T head is specified for both +V and +D, the verb can check +V and the noun +D but since the verb being accompanied with agreement feature it can also check +D instead of the subject thus the redundancy of the NP movement and thus the preference of the VSO order in this tense. In the present, on the

other hand, it is the subject which has to move to Spec, TP to check the feature +D on the head T. Benmamoun's account for the preference of SVO and not the VSO in the present is not without limitations. He, for instance, proposes that in the latter order the verb moves to check a "superfluous" +V feature (64), which is unjustified (i.e. why does the verb move if the functional head does not have the feature +V since it is functional heads that attract movement). The preference of orders is not general. In fact, in MSA, VSO is very much used in the present and VSO order is not preferred in the past in TA. The proposal, however, is interesting and relatively up-to date with the recent developments of the theory. It is to be conceived, like the one above by Bolotin (1995), as a parametric variation of functional head values.

The analysis we propose below (section 6.2) keeps the same spirit of this proposal in terms of variation in the checking of features proposed by Bolotin (1995) and Benmamoun (2000). It departs from these approaches in the abandonment of the notion of weak features and the checking of interpretable features (e.g. V) and the incorporation of the EPP feature, which has become in the new papers by Chomsky almost the only feature driving movement, as well as the new fundamental notion of Agree.

6. Agree(ment) regained!

6.1 The new framework

In the new papers (Minimalist Inquiries and Derivation by Phase), the notion of weak features and covert movement are abandoned and so is the checking of interpretable features. Only strong/uninterpretable features are checked either by Move or in situ by the operation Agree, the new notion introduced in the last development of the program. This "free of charge" operation will be useful to give a uniform analysis of the checking of features without recourse to the rather theory-costly covert movement that has to be after Spell-out in the LF component.

The operation Agree establishes a relation between the functional category that has uninterpretable features, i.e. the probe and a goal. Such relation results in the erasure of uninterpretable features on both the goal and the probe. This relation is conditioned in three ways. First, the features on both sides of the relation have to match in terms of identity in a rather general sense. Second, the goal has to be in the domain of the probe and obey the locality conditions that refer to the closest c-command (122). The minimal domain of probe includes (i) the complement of D(omain)P and (ii) its complement and specifiers (134-135) (the same ideas are reiterated in Chomsky, 1999). Third, defective intervening elements that share the features of the probe block the relation of Agree with the lower candidate.

Move is the combination of the more general and more preferred operations Merge and Agree. A goal moves only when it is active; that is, when it has uninterpretable features that are not checked by Agree (123). The conditions on Move are summarized as follows: "a. A probe in the label L of α locates the closest matching G in its domain.

b. A feature G' of the label containing G selects a phrase β as a candidate for "pied-piping."

c. β is merged to a category K." (135).

P and G' are uninterpretable features that are erased against each other provided that the goal G is active.

In the remainder of the section, we present Chomsky's (2000) implementation of these notions.[6] The functional category T hosts the [moved] surface subject (in its Spec) and v hosts the object in the case of object shift. The property of T to allow a spec, which Chomsky calls the EPP feature, is optional on the head of the phase v (102). Once its Case feature is checked, the subject has also the option to remain in situ (129-130).

T has two uninterpretable features: the agreement (phi-features) and the EPP feature. Another uninterpretable feature that has to be omitted is structural case (for instance on the subject and the object). For the goals to be manifested, there should be interpretable features:

finite T in the case of structural case and φ features in the case of the φ set (123-124).

Chomsky (224) proposes that only N have interpretable φ features. He further suggests that

only "v and nondefective T, with a full complement of φ-features, delete the uninterpretable

feature that activates the matched goal (raised or not)"(124) but in the case of incomplete

features e.g. non-control infintivals with only the feature person which necessitates the

movement of α to Spec, T_{def} to delete the uninterpreatable feature [person] but cannot delete

the structural case on the noun which needs to move further (124). The following are the

different ways features are deleted:

"a. Long-distance agreement is a T-associate (probe-goal) relation.

b. The EPP can be satisfied by

i. Merge of expletive

ii. Merge of associate

iii.Merge of α closer to T than the associate." (126)

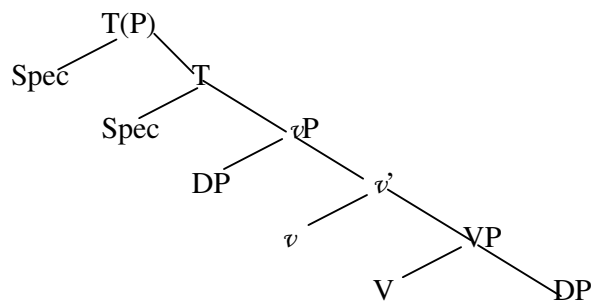In the following section, we will try to apply these notions to word order variation in Arabic.

6.2 Arabic word order variation revisited

The analysis presented below proposes that the difference between the SVO and the VSO

word orders is due to the difference in the choice of the element that moves to satisfy the EPP

feature. In the case of SVO, the NP raises to satisfy the EPP feature but in the VSO, it is the

verb that fulfills this requirement. In this way, the previous findings in the P&P and the MP

are saved. In fact, the analysis is based on a number of assumptions grounded mainly on the

previous results on Arabic. One assumption is that the subject is generated/merged in the

spec, VP. A second assumption is that the verb moves to T. The latter will be slightly

modified, suggesting that the movement is at PF.

In the SVO order (example in 24), the object NP erases the uninterpretable φfeatures

on v through the operation Agree that relates them in the weak phase v (Chomsky, 1999). To

explain the movement of the verb T, a finding reached by most analyses within P&P and early MP in Arabic (and other languages like French), one hypothesis is that the verb moves there in narrow syntax to erase the V feature (a view also proposed by Alexiadou and Anagnostopoulou, 1998). We suggest a different hypothesis, on the basis of the fact that verb movement has no semantic import (Chomsky, 1999: 30-31) and the V feature is an interpretable feature that does not need erasure, that the movement of the verb to T may be only a phonological process at PF. The NP subject in the spec of vP raises to Spec, T(P) to erase its structural case feature and satisfy the EPP feature.

(24) SVO order

```
        T(P)
      /    \
  Spec      T
          /   \
       Spec    vP
        |     /  \
       DP    v'   
            / \
           v   VP
              /  \
             V    DP
```

In VSO order, as in the SVO order, the NP object erases its structural case against the phi-features on v but, unlike in the SVO order, the NP subject checks off its structural case against T and remains in situ, which is a second option available to the NP (Chomsky, 2000: 129-130). The verb then moves to Spec,T(P) to satisfy the EPP feature.[7] I propose, following Alexiadou and Anagnostopoulou (1998), that the verb in pro-drop languages can check the EPP feature because it has very rich morphology, which allows it to have the interpretable feature N. This rich morphology also allows it to stand without the subject in a sentence.

Another possible hypothesis is that the EPP feature is not checked here and that it is therefore optional in Arabic. This hypothesis is rejected because of two reasons. First, there is much evidence that EPP is a universal feature (Chomsky, 2000). Second, the proposal that the verb, by virtue of its rich morphology, is able to check EPP allows us to account for the correlation between the VSO order and the pro-drop characteristic. In both cases, it is the rich

morphology of the verb that does the job of the absent NP subject (Alexiadou and

Anagnostopoulou, 1998).

(25) VSO order

```
        T(P)
    Spec      T
        T      vP
           DP      v'
              v      VP
                 V      DP
```
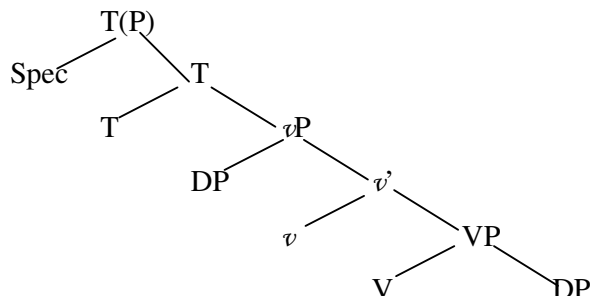
Since both orders (i.e. SVO and VSO) are available in both varieties, we suggest that the EPP

feature in Arabic is optionally satisfied by the movement of either the NP (i.e., Move XP) or

the V(i.e. Move X^o).

The proposed analysis is not without its limitations. The major limitation is allowing

the verb to land in a Spec position (Spec, T) to satisfy the EPP feature. An alternative

hypothesis is that the verb, in the VSO order, moves to T and can check EPP feature there

and hence the projection of the Spec, T is not necessary. The raised V does not intervene to

block the Agree relationship between T and the NP subject to erase the phi-features because

the Move operation occurs once Agree has wiped out all uninterpretable features.

Another limitation of the present analysis is that it does not explain the asymmetry in

agreement that accompanies the variation in word order in MSA, a fact that other analyses

within early MP could account for by use of the functional category Agr. This issue is

addressed in the following section, where we sacrifice some of the previous rather elegant

results in favor of the overall economy of the program. One essential purpose of the MP is to

get rid of all unnecessary artifacts, Agr is one of them.

7. Agreement (partially) lost again: A morpho/phonological explanation of agreement asymmetry in MSA

The present section contends that the asymmetry in agreement, discussed in section 3 above, is a phenomenon related to PF conditions that have nothing to do with the computation/narrow syntax. The claim is based on theoretical and empirical reasons. First, the agreement features, namely number, which gets dropped in our case here, cannot be operative in the narrow syntax because they have no real effect on meaning, which is conveyed by the DPs, and are consequently erased. Besides, these features are erased entirely not in part (Chomsky, 2000). The features erased at the Computation are, however, visible at PF. Second, as will be shown below, there is some related evidence from phonological processes that reduce the number of syllables satisfying what we may call following Boeckx (2000) a general economy principle operating at the interface levels.

The analysis presented here is similar to the one proposed by Boeckx (2000) for quirky agreement in Icelandic. He claims that the verb agrees with the dative subject but this agreement is not shown morpho/phonologically because it is already on the noun phrase.

Logically, there are at least two ways to explain the loss/change of agreement either a loss of certain features or a substitution of certain inflection by another. The case of English (e.g. 26) shows that there is a substitution as there is no relationship between the 'is' and 'are' in morphological or phonological features, a fact that supports the analysis of distributive morphology adopted by Boeckx (2000). The loss hypothesis is also rejected on theory coherence grounds: as we mentioned above, agreement features are all deleted in narrow syntax but are all visible at PF.

We therefore propose that the default morpheme, i.e. the third person and gender (either masculine or feminine), is inserted at PF instead of the full agreeement in compliance

with the economy principle. The plural feature is already on the NP subject and its deletion follows from the avoidance of redundancy (Benmammoun and Aoun, 1999).

This proposal is also supported by phonological data. Though we do not claim that the phonological component dictates the rule but it may be the trigger of change in a diachronic explanation, i.e. why did the change first happen (see e.g. Zwicky and Pullum,1983 on this particular issue).

The inflection of the plural in Arabic (29) and English (26) is deleted when the verb precedes the subject mainly for *heaviness* reasons in a general sense, a notion which we propose to include in the economy principle.

(26)   There's (*are) many people in the room.

One phenomenon of heaviness frequent both in Arabic and English is shown below.

English

(27)   I gave the man the book that I borrowed from you the day before.

MSA

(28)   Jamiilun an naxruja al-yawma
          nice   that leave-2p.p today
          'It's nice that we/to go out today'

In both examples, one element, the direct object in the case of English and the *Mubtada?*/the subject in MSA, is dislocated from its normal/original position because it is heavy and therefore difficult to produce from an articulatory and probably cognitive viewpoint (see discussion of this issue in Arnold, Losongo, Wasow, and Ginstrom, 2000 from a production/processing point of view). This is also true in both MSA and English in agreement asymmetry as will be shown below.

In the English example in (26), it is clear that 'there's' is much lighter than 'there are'. In the first, there is one single syllable :[.ʃɛrz.] that results from the assimilation of the following syllable and therefore dropping the vowel [i] in the second syllable in rapid speech.

The vowel of the second syllable cannot be dropped in [.ʃɛr. rə.] mainly because the two sonorous sounds [r] cannot be grouped together in the coda of the first syllable. The deletion is possible here from the processor's/ hearer's point of view where the lack of agreement between the subject and the verb is not observable and does not lead to misunderstanding as the verb is pronounced first. The meaning of the sentence is recovered when the subject is later pronounced. The noun in fact has the number feature that the verb agreement lacks. Dropping/changing the agreement after uttering the subject will very likely lead to a problem of processing. It is worth studying this hypothesis from an psycho-experimental perspective.

A similar analysis also holds for the data in MSA. Consider the variation in agreement in the examples (29a and b). In (29a) where the verb precedes the subject, assimilation happens in rapid speech. The glottal stop /ʔ/ and the vowel /a/ of definite article 'ʔal' are dispensed with in conjuntural position as follows: [.ʔa.ka.la.<>l.ʔaw.la.du.]. The possibility of assimilation (in the case of partial agreement) is therefore preferred to non-assimilation (in the case of full agreement). If we had the full agreement before the subject (i.e. ʔa.ka.luu.ʔal.ʔaw.la.du.), the deletion of 'ʔa' would not be possible since it would result in a consonant cluster in the coda of the first syllable of the second word, which is prohibited in MSA (Mahfoudhi, 2002). The result is a very undesirable intonational break.

(29)a. ʔakala ʔal-ʔawlad-u tuffaH-an
ate-3f.s the boys-Nom apples-Acc
'The boys ate apples'
b. ʔal-ʔawlad-u ʔakal-uu tuffaH-an
the boys-Nom ate-3fp apples-Acc
'The boys ate apples'

The plural feature is then deleted because it is does not affect interpretation as it is recoverable from the noun because of phonological consideration of heaviness/economy.

Thus the explanation is both semantic and phonological. The economy principle is therefore a general principle that applies on both interface levels.

The proposal does not pretend to provide a final answer to the question but points to some evidence that suggests that the asymmetry in agreement is a necessity of the PF component and has nothing to do with the computation as suggested in the previous analyses (e.g. Bolotin, 1995) in terms of feature checking. It may be rewarding if research is pursued along these lines in other languages where the same agreement asymmetry phenomenon exists.

Conclusion

By examining data from both TA and MSA, it has been shown that they have different unmarked orders in verbal sentences. While, MSA is mainly VSO, TA is SVO. It has also been suggested that both varieties share the same basic order, namely SVO where the subject is generated in Spec, VP/vP. VSO order is obtained by the verb moving to I/T, and SVO is further obtained by the subject moving to Spec, IP/Spec, T to satisfy the EPP feature. The existence of both orders in both varieties is attributed to the optionality available in these varieties to satisfy the EPP feature by either MoveXP or Move X^o. Favoring one order over another may be part of a language change that is interesting to investigate. The agreement variation that correlates with word order variation in MSA is attributed to a PF operation dictated by a general economy principle.

Notes

¹The notion of unmarkedness is defined by Fassi-Fehri (1993:19) as "the order found in so-called pragmatically neutral contexts, i.e. in sentences which require fewer mechanisms of interpretation or derivation."

²The same word order seems to exist in most Arabic spoken varieties, for instance in Palestinian Arabic (Shlonsky, 1997) and Moroccan and Lebanese Arabic (Aoun et al, 1994, Benmammoun, 2000).

³Woolford (1991) proposes that there are certain languages have subjects inside VP generated as a sister to the verb and the object as is shown in the following structure (ibid, 504)

```
          IP
Spec          I'
      Infl        VP

          V    NP   NP
```

This claim is based on evidence from binding in Jacaltec, for instance, where the subject has to c-commanded by the object.

⁴In the present discussion, the pragmatics perspective is not considered. It is, however, important to bear in mind that there are languages whose word order does not depend on their syntactic but pragmatic properties (cf. e.g.Mithun, 1992).

⁵Pollock (1997)proposes a different view of checking where most movements should be before LF .

⁶ We do not discuss the notion Merge because it is relatively simple. It includes the merger of elements selected/inserted from the lexicon.

⁷ Holmberg (2000) claims that any element can satisfy the EPP feature.

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