

## THE MINIMALIST PROGRAM AND THE STRUCTURE OF ARABIC CLAUSES IN AN AGR-BASED MODEL<sup>1</sup>

MOHAMMED ODEH AL-SHORAFAT

*Yarmouk University, Irbid-Jordan*

### 1. The Minimalist Program (MP)

The MP is a very recent development of the syntactic theory. It has been proposed by Chomsky (1992). It is still research in progress and for sure it will be the object of future modification and refinement. However, before we apply some of its basic assumptions to the structure of Arabic clauses, it is worthwhile to present a brief sketch of its main aspects.

One of the basic assumptions which underlies Chomsky's (1992) MP is the principle of the economy of the derivation and representation of syntactic structures. The structure of sentences should include no "superfluous elements". Each element in the sentence must play some role whether syntactic, semantic or phonological and must be interpreted accordingly. For Chomsky, the underlying assumption is that language structures must be as economical as possible. According to the principle of economy not only language structures must be economical but the processes that produce them as well. Hence, the defining characteristic of the MP is that only the minimal number of structures and processes should be used in order to account for language phenomena.

A second basic assumption of the MP is that the only necessary levels for the derivation and representation of linguistic expressions are the "articulatory-perceptual and conceptual-intentional". In simple terms, the only necessary linguistic levels are the phonetic form (PF) and the logical form (LF). These two levels are called "interface" levels because they interact with other non-linguistic systems such as speech production and perception, semantic processing (drawing inferences, memorizing meanings of sentences, etc.).

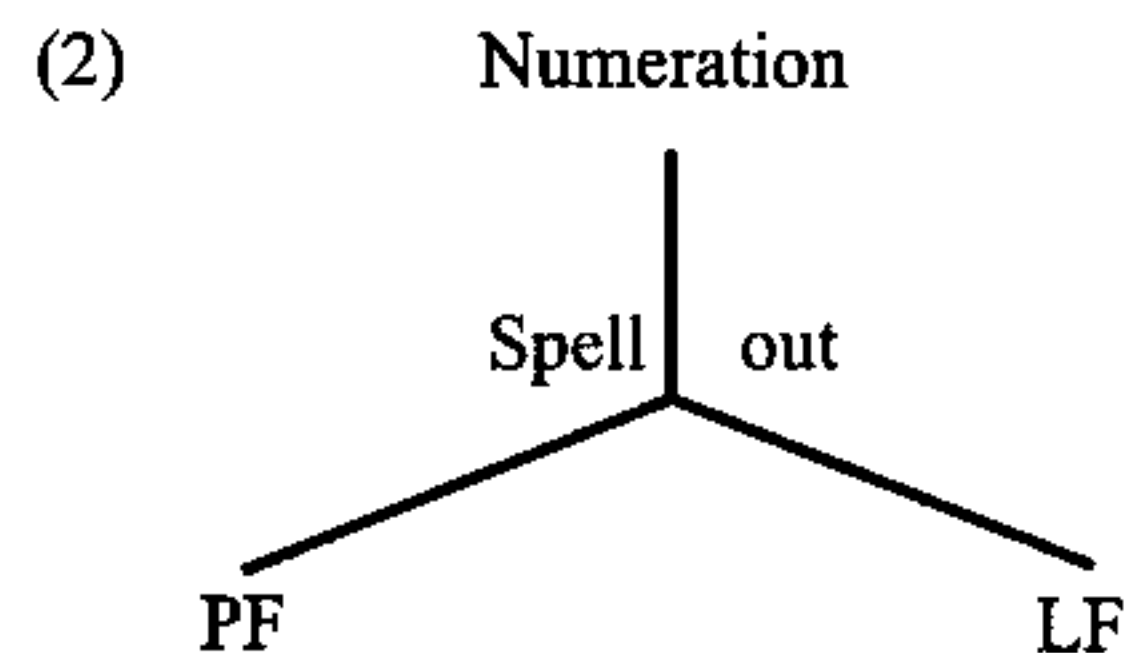
---

<sup>1</sup> An earlier version of this paper was presented at the First International Conference On Arabic-English Contrastive and Comparative Studies, University of Jordan, 1997. I am greatly indebted to an anonymous referee whose insightful comments and remarks help improve the structure of some arguments in this paper considerably.

Furthermore, the MP is built around a number of basic notions. One of these is that a grammar of language is made up of two components: a lexicon and a computation system. The lexicon determines the items that enter into the computation system with their idiosyncratic properties. The computation system uses these elements to generate derivations and structural descriptions (SD's). In order to show how the MP functions, we will take the following example:

(1) Jack loves Jill.

According to Chomsky (1995)<sup>2</sup>, the set of lexical items (*Jack, loves, Jill*) is chosen from the lexicon from which the SD is to be built. This set is called "Numeration". In order for the computational system to build structures, it selects lexical elements from the numeration and combines them in the appropriate ways. This process is carried out in conformity with the X-bar principles. The operation of combining lexical items into phrase markers (trees) is called "Merge". The computations will result in an SD which contains all the phonetic and semantic information from the lexicon. In order to have two fully formed structural representations, one at PF and one at LF, the computations must split or branch at a certain point. This point is called "Spell-Out". This can be represented in the following diagram:

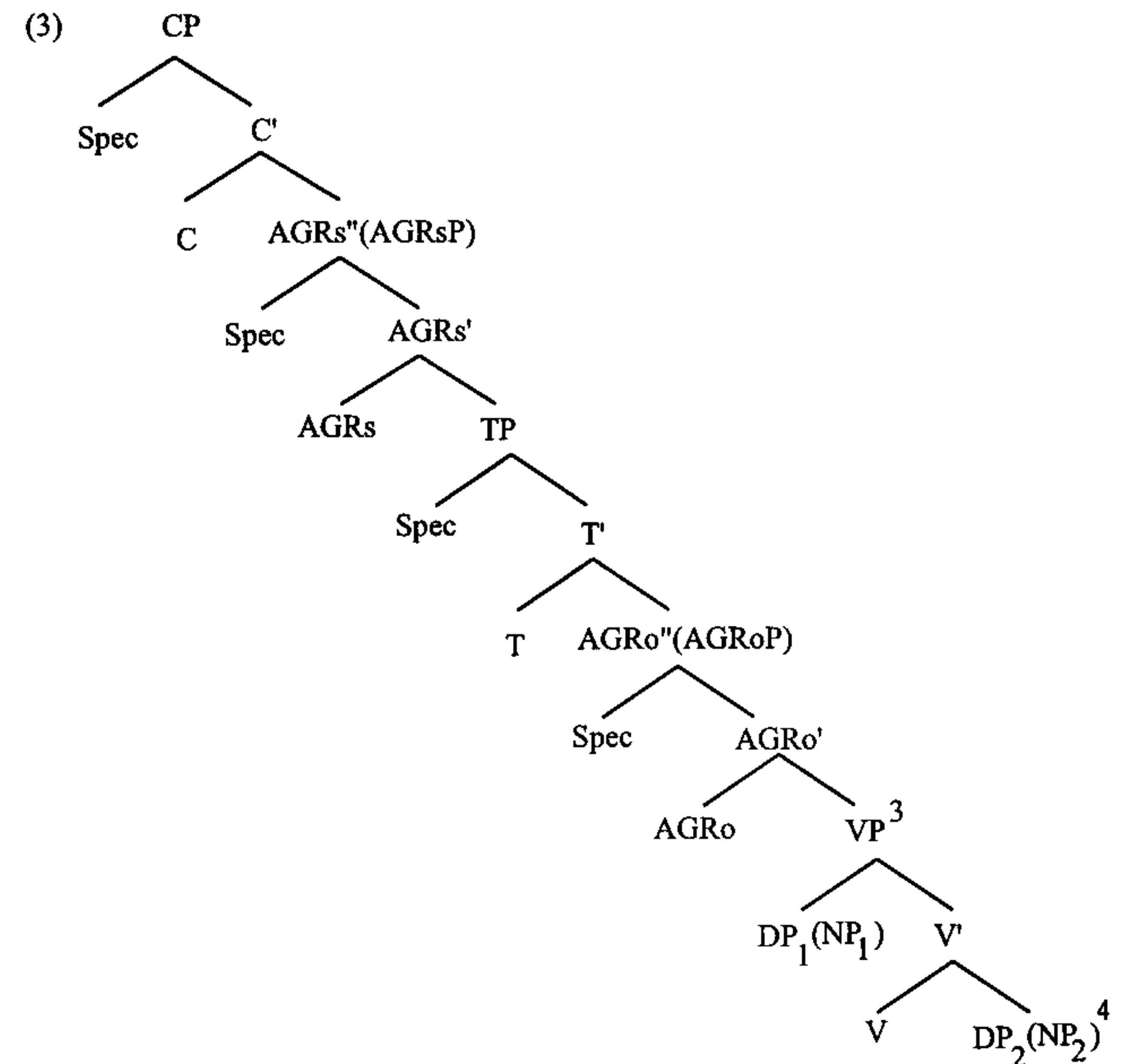


As can be seen, this diagram differs markedly from the T-model assumed for the base component in early Government-Binding Theory (GB). Here, there is no D-structure or S-structure. If those structures are to be eliminated then it is legitimate to ask: how are the empirical considerations which originally motivated them to be captured? Chomsky (1992) envisages interesting ways in which some of these problems might be solved, as will be shown later on. Another important feature of the diagram in (2) is that movement can take place before and/or after spell-out. This means that movement can take place at LF, after spell-out, without being seen by the PF component. Being invisible means that it has no effect on the phonetics/phonology. The process of moving elements in the tree by the computational system is called "Move". However, movement has to be constrained. Chomsky (1995), following a basic observation of Relativized Minimality as originally formulated by Rizzi (1990), proposes that movement should be constrained by a Minimal Link Condition, i.e., movement is only allowed into the nearest relevant position: "α must make the short-

<sup>2</sup> Quoted in Cook and Newson (1996: 319).

est move." Chomsky also proposes two more major constraints on movement operations; one which delays movement as long as possible, "Procrastinate" and one which allows immediate movement of an element in order to satisfy some morphological property of its own and it is termed "Greed". If those constraints are violated, then the derivation will "crash" and the end result will be ungrammatical.

Due to developments within the GB theory, the MP has also extended and modified the basic structure of the clause. Chomsky (1992), elaborating on ideas in Pollock (1989) and Chomsky (1991), presents the basic structure of a clause as in (3) below<sup>3</sup>:



<sup>3</sup> It should be indicated that the structure presented in (3) is somewhat simplified. Chomsky himself omits the Spec of TP. A Neg(ative) projection is not included either. As a matter of fact, the exact number of functional categories is still disputed. For more on this, see Cook and Newson (1996:180ff).

<sup>4</sup> Chomsky (1992: 10) has not expanded the VP into DP1=(NP1) and V. This has been added to present a clearer picture of clause structure.

(3) demonstrates a number of recent developments within the GB theory. One of these developments is what has come to be known as the subject-inside-VP Hypothesis (Koopman and Sportiche 1991, among others). As is clear from the clause structure in (3), DP<sub>1</sub> (NP<sub>1</sub>), the subject is inside the VP. Another development is what has been termed the split-INFL Hypothesis. In the GB model, the INFL node carries two features AGR and Tense; INFL “has the strange property of being double-headed”, (Chomsky and Lasnik, 1993: 530)<sup>5</sup>. Pollock (1989) argues that AGR and Tense should be separated into two different phrases: an Agreement phrase (AGRP) and a Tense Phrase (TP). However, it should be pointed out that in Pollock (1989) TP dominates AGRP while in Chomsky (1992), as in (3) above, AGRP dominates TP. A third development is that AGRP has also been divided into an Agreement phrase for the subject (AGR<sub>S</sub>P) and an Agreement phrase for the object (AGR<sub>O</sub>P) As a matter of fact, a major characteristic of the clause structure in (3) is these agreement projections.

Having presented the basic clause structure within the MP, we will go back now to our example in (1) to see how the computational process takes place. The verb “loves” is inserted into the VP in (3) as a present third person singular under the V node. The noun phrases (DP’s), “Jack and Jill” are also inserted into the VP fully inflected<sup>6</sup>, Jack under DP<sub>1</sub> and Jill under DP<sub>2</sub>. It should be pointed out at this point that Chomsky (1992) assumes that each functional head (T, Agrs, Agro, etc.) has two sets of features : verbal features (V-features) and nominal features (N-features). The verbal features check the verb and the nominal features check the NP. He also assumes that those features could be either strong or weak across languages. If they are strong, then movement is overt in the syntax. Because strong features are visible at PF, but uninterpretable, movement has to take place, if not, they will not be checked and the derivation will crash. If they are weak, then movement is covert. In the case of the object in English, Chomsky suggests that the nominal features are weak. Hence, no overt movement in the syntax. The driving theoretical force behind this covert movement is the Economy Principle. According to Chomsky covert movements are cheaper than overt movements. It should also be mentioned that some authors (Johnson 1991 and Koizumi 1993, among others) argue that object raising in English is overt. However, Bobaljik and Jonas (1996: fn5) cast some doubt on such an alternative.

Now we turn back to our previous example. The verb first moves to T(ense) via AGRO (if it is present) to check that it has the right tense and then to AGRs to check that it has the right agreement features. The subject (DP<sub>1</sub>) also moves to the specifier of AGR<sub>S</sub>P to check its features and the object (DP<sub>2</sub>) moves to the specifier of AGR<sub>O</sub>P for the same reason. If the checking procedure is satisfied, the structure

<sup>5</sup> Quoted in Cook and Newson (1996: 180).

<sup>6</sup> It should be noted that inflections in English are not morphologically realized, especially on proper nouns. However, it is well known that while *Jack* carries a nominative case, *Jill* carries an Accusative case.

“converges” and a grammatical sentence will result. If, however, a wrong verb is inserted (e.g. *love* instead of *loves*), the checking will not be satisfied and the structure “crashes” and an ungrammatical sentence will result. It should also be added that according to the MP the inflectional nodes do not add inflections to a bare verb; rather they perform the function of checking that the inserted verb has the appropriate features when it moves into them.

Since the verb has all its inflections in the lexicon, then its movement to check its features can take place either overtly in the syntax, or covertly at LF. For example according to the MP, there are languages like French where the movement of the verb is overt; other languages like English,<sup>7</sup> the movement of the verb is covert. When the movement of the verb is covert, the form of the verb is not affected at all. To illustrate, let us take the following examples involving adverb position<sup>8</sup>:

- (4) English: a. John often takes the train. (Adv-V)  
 French: b.\* Jean souvent prend le train. (Adv-V)
- (5) English: a.\* John takes often the train. (V-Adv)  
 French: b. Jean prend souvent le train. (V-Adv)

If we assume that the adverb in both English and French is inserted (adjoined) before the verb, then if the verb moves (raises) overtly in English, the result will be ungrammatical as in (5a). However, in French the verb has to raise overtly because if it does not, we will get ungrammatical sentences as in (4b). In order to explain the different verb movement properties in French-type languages and English-type languages, the MP proposes that all movement operations should be delayed as much as possible. This delay is regulated by the principle “Procrastinate”. Since the verb movement in English does not take place until LF, then it is in line with the procrastinate principle. In French-type languages, however, the verb, because of morphological necessity, has to move immediately, not observing the procrastinate principle. This MP analysis has a very interesting consequence: delaying certain movements until LF completely eliminates the role of S-structure. The reason is that spell-out can (in principle) apply at any point in the derivation and to any constituent (not necessarily to the whole sentence at the same time).

The concept of government in the GB theory has also led to the adoption of the MP. It is well known in the early GB writings that case assignment holds under gov-

<sup>7</sup> The referee of this paper has pointed out that overt and covert verb movement is a GB idea and the MP simply recast it in the Checking Theory terms.

<sup>8</sup> The referee has indicated that Chomsky (1994) rejects the use of adverbs as verb movement diagnostics and considers the structure in (i) as being O. K. :

(i) John probably has left.

where the auxiliary verb ‘has’ is said to be in the head of AgrsP and the adverb is still to its left separating it from the subject in [Spec-Agrs]. The question raised by the referee is: how do we know that the verb in (4) is not in Agrs with the adverb splitting AgrsP as is the case with ‘probably’? As I am not familiar with much more recent work of Chomsky, I will leave this question open.



ernment. It has been assumed that a V governs its complement (object), but does not govern its subject. Adopting the subject-inside-VP hypothesis, the subject has to move all the way up to the I(NFL) position, (AGRsP position, in minimalist terms) to be governed by and receive its nominative case. There is no satisfactory explanation, however, of why the subject has to move to the specifier of I' in order to receive its case instead of staying in the specifier position of VP. Moreover, in late GB writings the notion government has been split up, i.e., while the relation between the verb and its complement is a government relation, that of the subject and AGR is an agreement relation. This means that the government notion is not a unified concept because in one case it is government proper, in another it is agreement. Furthermore, under the GB version where government is dependent on C-command, the V is allowed to govern the specifier of its CP complement allowing the V to deal case to a wh-element in this position. This would mean that the chain formed by the moved wh-element would wrongly receive two cases, as its trace is case marked too.<sup>9</sup> This has caused the government theory to lose much of its motivation.

The MP has abandoned the government theory altogether and reduced its effects to more fundamental relations. Within the MP, V moves to Tense and AGR to check its morphological properties, and for the subject and object to check their features, they move to the specifier positions of AGRsP and AGRoP, respectively. The relation that holds between the V and the noun phrases is a specifier-head agreement relation rather than government. Thus, it can be concluded that the concept of government plays no role in the MP framework.

Having presented the main relevant aspects of the MP, we now turn to some of the previous analyses of Arabic clauses.

## 2. Previous Analyses of Arabic Clauses

Since the time of the Basrians and the Kufis<sup>10</sup>, there has been a long standing debate among traditional grammarians as well as modern linguists concerning the basic word order in Arabic clauses. The debate mainly lies in determining whether preverbal NP's in clauses are to be treated as topics or subjects. While the Basrians insist that preverbal NP's are topics, the Kufis admit the existence of preverbal subjects (Fassi Fehri 1993: 91). As a matter of fact even in recent times, some writers following the footsteps of the Basrians deny the existence of preverbal subjects and consider preverbal NP's as topics (Bakir 1980; Fassi Fehri 1981; and Ayoub 1982; among others). Others like (Abdo 1983; Mohammad 1990; and Al-Shorafat, to appear) have adopted the Kufis' position in recognizing certain preverbal NP's as subjects. Nonetheless, there has been a general consensus that Arabic is a VSO underlyingly.

<sup>9</sup> For more on this, see Cook and Newson (1996: 240 ff).

<sup>10</sup> The Basrah and Kufah (Iraq) were the two dominant schools of the traditional Arabic linguistic thinking in the eighth century.

Furthermore, there have been a number of recent syntactic analyses (Fassi Fehri 1988, 1993<sup>11</sup>; Abd El-Moneim 1989; Mohammad 1990; Demirdache 1991; Ouhalla 1994; and Bolotin 1995) that have primarily dealt with the agreement phenomenon in Arabic clauses.

The fact that these analyses (except for Bolotin 1995) are pre-Minimalist does not invalidate the insights they provide. Presumably some of the issues they raise can be recast in the MP, others perhaps can not. In comparison to the GB framework, it would be interesting to see the extent (as will be shown later on) to which the MP constrains the range of possible analyses in this respect.

Fassi Fehri (1988), adopting an incorporation analysis (see Baker 1988), proposes that the V raises to I in IP in both VSO and SVO orders.<sup>12</sup> However, while the agreement in VSO is between the V and the subject NP, that in SVO and null subject sentences occurs between the pronominal subject in [Spec-VP] and the V. In SVO order he considers the full NP in [Spec-IP] as a topicalized element with a nominative case assigned by default. As for the gender agreement that occurs in VSO structures, he assumes that it comes from an affix specified only for gender and it is attached to the verb whenever it occurs with a full NP subject. It can be readily seen that agreement is not a unified process in his analysis. As a matter of fact his position on agreement and word order shifts considerably in his (1993) work. In the latter he explicitly differentiates between subjects and topics.

Demirdache (1991) adopts a similar approach to that of Fassi Fehri (1988). In order to account for agreement facts in VSO and SVO orders, she assumes that there are two different agreement affixes in Arabic, one for number and another for person and gender. The number affix is attached to the NP subject. If there is no lexical NP, the number affix is incorporated onto the verb. For her, the person and gender affix originates under AGR where the verb attaches to it when it raises to this position. In sum, she posits different affixes and attaches them to different categories. Her analysis can not be recast in any possible way in the MP framework.

As for Mohammed's (1990) analysis, he assumes that in VSO order the verb raises to I in order to agree with an expletive pronoun in [Spec-IP]. Fassi Fehri (1993: 38) convincingly argues against the expletive pronoun hypothesis. For SVO order, according to Mohammed, I lowers to the verb which fully agrees with the subject in [Spec-VP]. The lowering option, however, has been abandoned in recent syntactic analyses (see Chomsky 1992). As for gender agreement Mohammed assumes that it results from a non-syntactic rule.

Abd El-Moneim (1989) proposes different verb movements to account for VSO and SVO orders. VSO order is derived by V raising and adjoining to I. Then V+I raise to C. Fassi Fehri (1993: 26) argues against V raising to C and states that V-To-C raising has been proposed essentially for V-second phenomenon in Ger-

<sup>11</sup> It should be noted that the most detailed study of Arabic clauses is that of Fassi Fehri (1993).

<sup>12</sup> In discussing these syntactic analyses I draw heavily on ideas and arguments in both Fassi Fehri (1993) and Bolotin (1995).

manic languages. Moreover, in her analysis gender agreement in VSO is viewed as a lexical property base-generated on the verb. For SVO order, she assumes that there is no syntactic movement involved because the subject is generated under [Spec-IP] and I copies the agreement features of the subject resulting in full subject-verb agreement. As a matter of fact she herself admits that her analysis is not a unified process (see Bolotin 1995: 15).

Ouhalla (1994) presents a solution to the agreement facts in Arabic by assuming that the ordering of functional categories such as Tense and AGR vary cross-linguistically. For Arabic he posits Tense higher than AGR which is contrary to the MP formulation. In the MP, AGR is posited higher than Tense.<sup>13</sup> In his analysis, the verb raises to AGR to get its agreement features in both VSO and SVO orders. The V+AGR raise to Tense to get the Tense features. In VSO, however, the NP subject remains in situ, i.e. [Spec-VP] and receives a default nominative case. As for SVO, he assumes that the pre-verbal NP is a topic, base-generated in [Spec-TP] and coindexed with a resumptive pronoun in the [Spec-VP] position. The pronoun raises to [Spec-AGRP] to be licensed. The topic agrees with AGR by virtue of being coindexed with this pronoun and is assigned a default nominative case. He also treats null subject sentences as being identical to SVO order, i.e., exhibiting full agreement. One is entitled to ask at this point if a default nominative case is assigned to the subject and the topic in both orders then what is the point of having functional categories and syntactic movement. Just for the verb to get its agreement features!<sup>14</sup>

From the previous discussion, it can be concluded that a host of syntactic analyses with different mechanisms have been conducted to account for subject-verb agreement and word order alternations. One common aspect of those analyses is that a bare verb (and sometimes an NP) moves (raises) to inflectional nodes to get its agreement features. In other words, inflectional nodes add inflections to the verb or noun phrases. However, as mentioned earlier this is not allowed in the MP.

As far as I know, Bolotin (1995) is the only study that has been conducted within the MP framework. However, her application of the MP to the structure of Arabic is very brief and sketchy. The point of focus in her paper is completely different from mine. She is mainly interested in parametric agreement in a number of languages; Arabic is one of them. Her analysis of Arabic structure is partial in the sense that her study centers on subject-verb agreement only.

However, even in this area she wrongly observes that the subject will remain in situ until LF then it raises to [Spec-AGRsP] to check its features.<sup>15</sup> She ignores object-verb agreement altogether and states in a footnote "object agreement and the

AGRo projection are ignored throughout since they do not bear directly on the data at hand" (Bolotin 1995: 21). In addition, she does not show in any detail how movement takes place in an Arabic clause. So much for previous analyses of Arabic structures and now we turn to the application of some of the hypotheses of the MP to the structure of Arabic clauses.

### 3. Arabic clauses and the MP

Fassi Fehri (1993: 27ff) argues for the existence of preverbal subjects and cites the following examples to prove his point:

- (6) baqarat-un takallam-at.  
cow-Nom spoke-3sgF  
'A cow has spoken.'
- (7) jaasuus-un ?aqbal-a 'alay-naa.  
spy-Nom came-3sgM on us  
'A spy has appeared to us.'

He views *baqarat-un* and *jaasuus-un* as internal to the structure of IP (=S) and that they function as subjects. He adds that those subjects are probably located in the Spec of IP or the Spec of AGR. In order to differentiate between a subject and a topic, he cites the following as an example of a topic.

- (8) al-?awlaad-u darab-tu-hum  
the children beat-I-them  
'The children, I beat them.'

To him, *al-?awlaad-u*, the preverbal NP in the above example is a topic, or a left dislocated element occupying a position external to IP.

Part of the controversy (i.e. whether certain preverbal NP's are topics or subjects) stems from internal theoretic models as well. Traditional as well as recent syntactic theories recognize the existence of D-structure and S-structure. So, in analyzing certain structural representations it was very important to determine whether a given string represents D-structure or S-structure. However, within the MP neither a D-structure, nor an S-structure plays any role in the derivation or representation of linguistic expressions. Under the rubric of the MP there is no longer any problem in deciding which order is the "canonical" word order in clauses. Nowadays, Arabic can be considered as a mixed-type language because it exhibits both orders: VSO and SVO (see Fassi Fehri 1993: 16; Al-Shorafat to appear).

To sum up, it has been shown that there are preverbal subjects in Arabic and that the MP offers the best analysis that fits the facts of Arabic clause structure and subject-verb agreement. Furthermore, Arabic can be safely characterized as a mixed-type language. Now, I will show in a step-by-step manner how the MP can be applied to the structure of Arabic clauses. Let us take the following example:

<sup>13</sup> The ordering of functional projections raised in Ouhalla (1994) can be settled, as indicated by the referee, in a theory where the Infl node is not split.

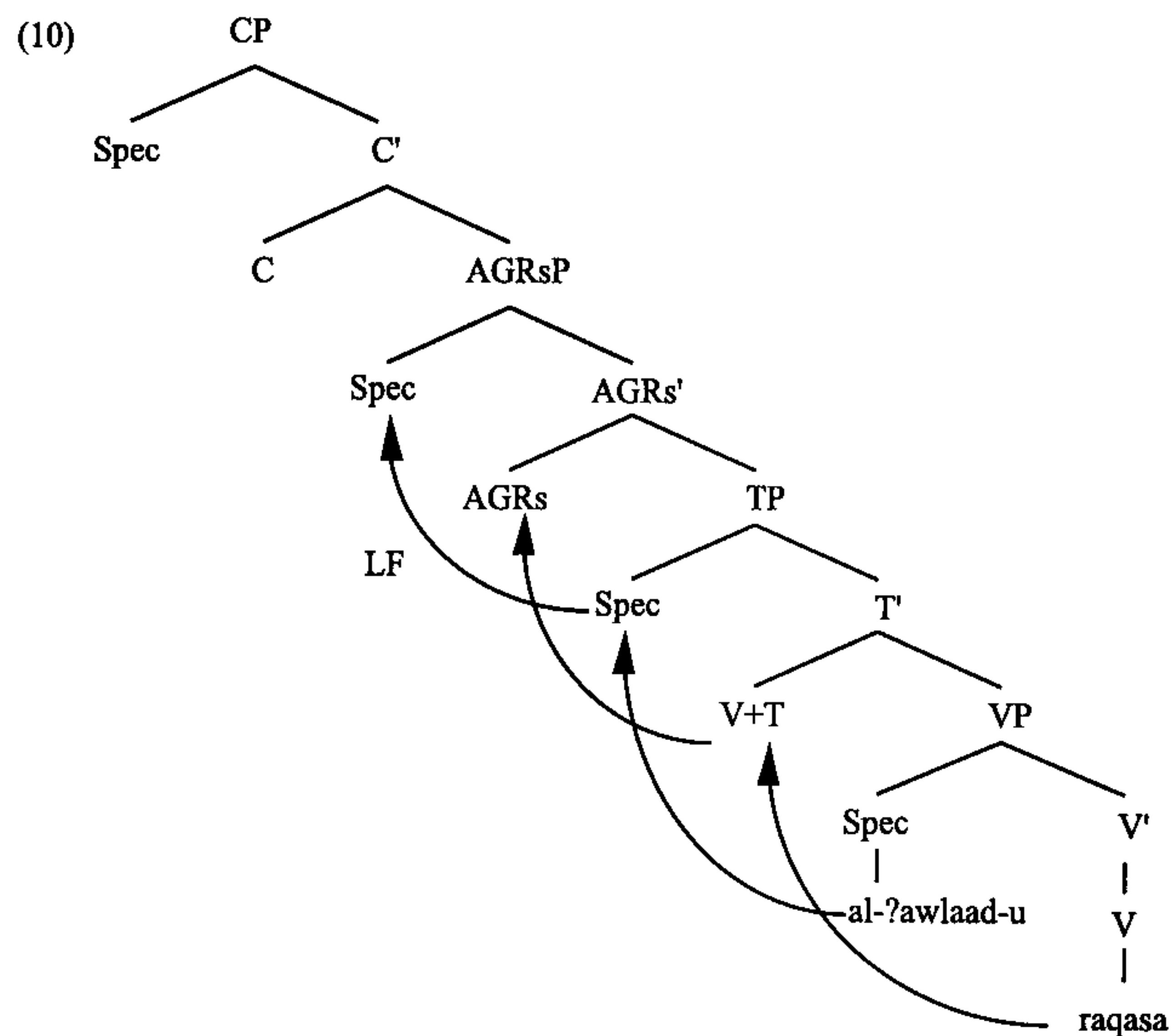
<sup>14</sup> The referee has brought it to my attention that Ouhalla's idea that Nominative is the default morphological case in Arabic has been criticised by Coopmans (1994).

<sup>15</sup> It will be shown later on that the subject has to move overtly to the T(ense) node to check its case and then it will raise at LF from T to [Spec-AGRsP] to check its agreement features.

- (9) raqasa                    al-ʔawlaad-u  
 danced-3sgM            the children-Nom (3plM)  
 'The children danced.'

It should be noted that the agreement between the verb and the subject in (9) is not complete. While there is agreement in person and gender, there is no agreement in number. That is why the agreement is said to be poor (or weak).

The MP treats such an example in the following manner. The verb and the NP are chosen from the lexicon (by the process of numeration) fully inflected. The computational system (especially the process of Merge) in conformity with the X-bar principles inserts the verb and the NP under the appropriate headings in the basic structure of the clause. The linguistic representation of (9) will be the following:



Adopting the subject-inside-VP hypothesis, it can be seen that the NP subject, *al-ʔawlaad-u* is inserted under the specifier of the VP. The verb is inserted under the V node. Moreover, the clause in (9) contains no object, hence the AGRoP is not projected in (10). It is assumed in the MP theory that specifier positions are freely generated; that is, "a potential specifier position is present in the derivation only by vir-

tue of its being filled or targeted for movement" (Bobaljik and Jonas 1996: 200). To put in simple terms, if a specifier position is not filled or targeted for movement, then it is not present. This explains why the AGRoP projection is not present in (10).

First, the verb raises and adjoins to the T(ense) node to check its verbal features off.<sup>16</sup> Since the verbal features of tense in this example are strong, the movement of the verb is overt and immediate (cf. Bolotin 1995: 24).

Then, the NP subject raises to [Spec-TP] to check its nominative case. It is important to note that in Chomsky (1992), T independently raises and adjoins to AGRs. In Bolotin (1995), the [T+V] raise to AGRs before the movement of the NP subject. This means that the subject does not raise to [Spec-TP], as is assumed in this paper.<sup>17</sup> Bobaljik and Jonas (1996: 226), on the other hand, argue that [Spec-TP] is a necessary position for the subject if the object raises overtly. As will be shown later, the object in Arabic clauses raises overtly which strongly supports Bobaljik and Jonas' position. If the subject in Arabic does not raise to [Spec-TP], then the object will appear in a higher position than the subject in the structure of the clause, contrary to fact.<sup>18</sup>

However, contrary to Bolotin's contention (i.e., the verbal features of AGRs are weak), I assume that the verbal features of AGRs are strong which necessitates the overt movement of [T+V] to the AGRs node to check the agreement features. Since the nominal features of AGRs are weak, the NP stays in [Spec-TP] until LF. At LF it raises to [Spec-AGRsP] to check its agreement features. This LF movement is in accordance with the procrastinate principle which delays all movements, if possible until LF (Chomsky 1992). The movement of the NP subject from [Spec-TP] to [Spec-AGRsP] is not visible to the PF component and thus we get the VS(O) order.

What about SV(O) order? Let us take the following example:

- (11) al-ʔawladd-u                    jaaʔ-uu  
 the children-Nom (3plM) came (3plM)  
 "The children came."

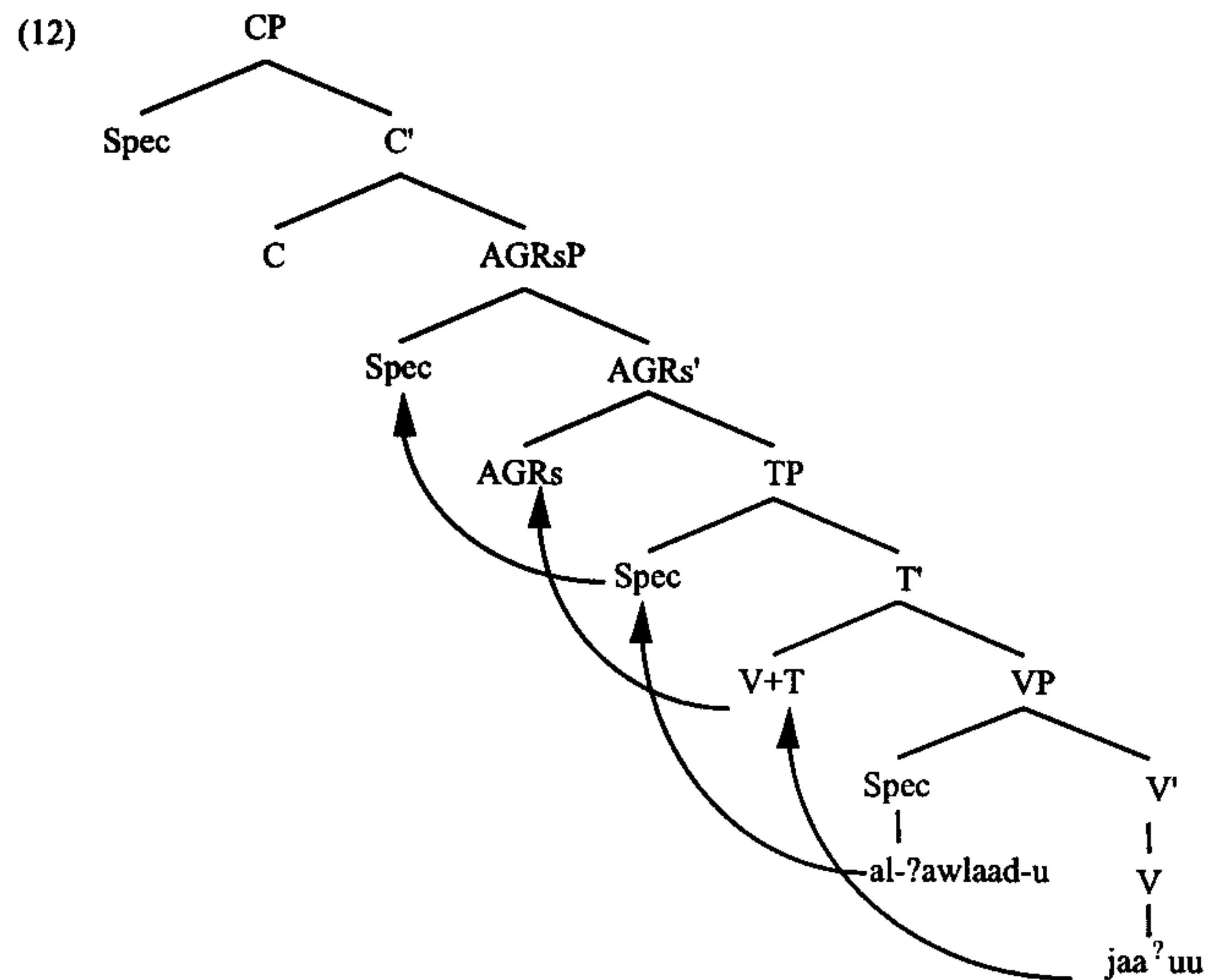
It can be seen that the agreement in (11) between the subject and the verb is complete. There is full agreement in person, number and gender. The basic clause structure for (11) is (12).

<sup>16</sup> It should be noted that the verb can skip the subject on its way to T(ense) without violating Relativized Minimality because distance is defined over chains and movement is strictly cyclic. For more on this, see Chomsky (1992) and Bobaljik and Jonas (1996).

<sup>17</sup> It should be mentioned that Chomsky (1992) in footnote (39) suggests the possibility that in VSO languages the subject raises overtly to [Spec-TP].

<sup>18</sup> In an answer to a note by the referee concerning expletives, chains and equidistance, I want to stress the fact that my position on these matters follows that of Chomsky (1992) and Bobaljik and Jonas (1996). Nowhere in the paper have I assumed that the movement of the subject from its thematic position is blocked. I simply assume that if there is overt movement of the object and if [Spec-TP] is an available position (as is the case in Arabic) the subject must raise to this position because if it does not, the object after overt raising will appear in a higher position than the subject, contrary to fact. As for expletives in Arabic, their status and function are not very well established (see Fassi Fehri 1993: 38, 120 and Mohammad 1990).



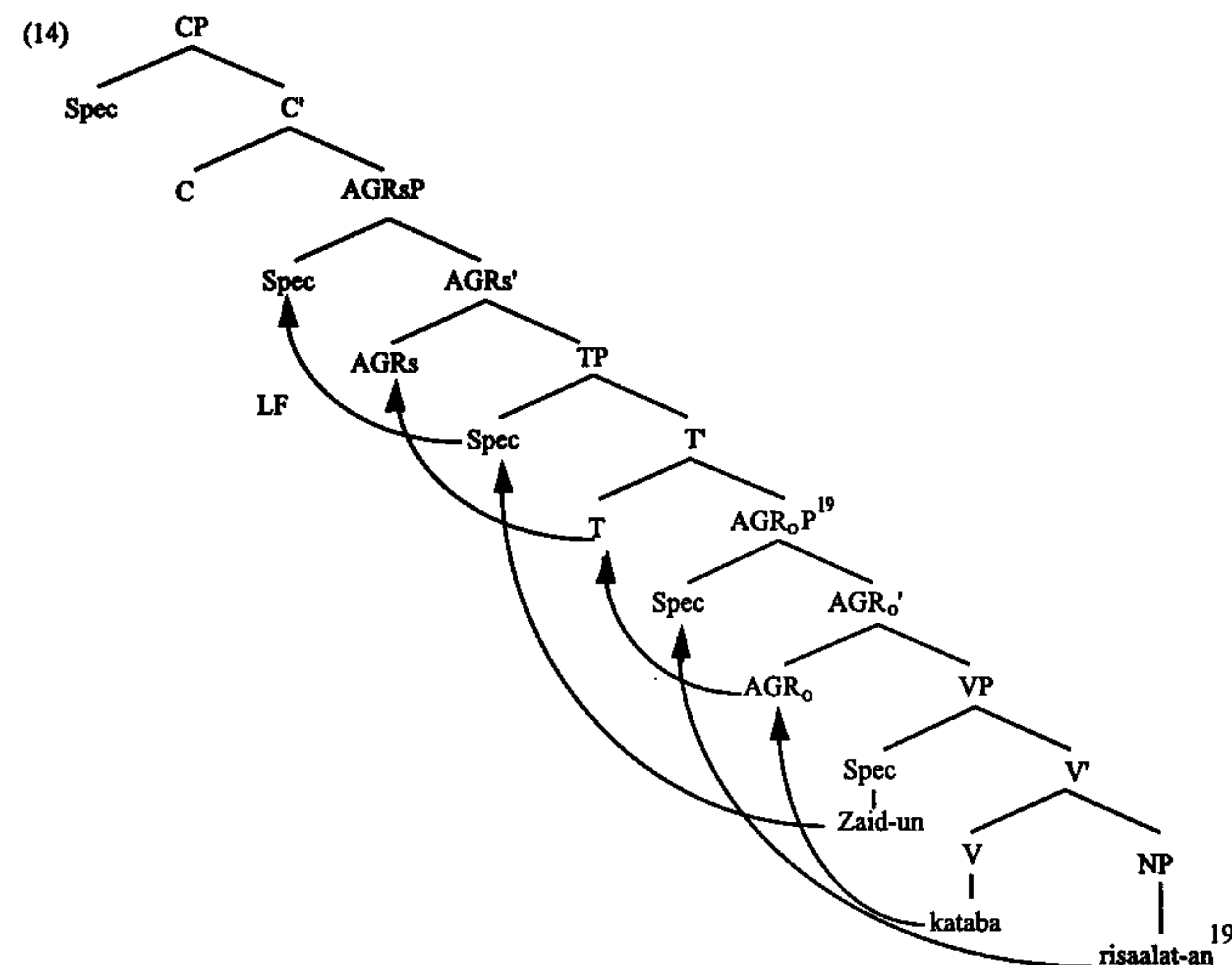


As in (10) the verb first moves to the T(ense) node to check its features off. Then the NP will move to the [Spec-TP] to check its case features off. The complex [T+V] will raise and adjoin to the head AGRs to check the agreement features. Now since the nominal features of AGRs are also strong the NP will raise to the [Spec-AGRsP] to check its features off through specifier-head agreement. It should be emphasized that the movement of the verb and NP should be overt in the syntax because of the strength of the verbal and nominal features of AGRs. Hence, the movement of the verb and the subject is visible to the PF and this is exactly how we get SV(O) order.

In order to complete the picture, we will take a transitive structure as in (13) below:

- (13) kataba Zaid-un risaalat-an.  
 wrote Zaid-Nom letter-Acc  
 'Zaid wrote a letter'.

The basic structure of this clause is that in (14):



First, the verb raises overtly and adjoins to AGRo. Second, the object raises overtly to [Spec-AGRoP] to check its Accusative case through specifier-head agreement. One might legitimately ask at this point: if there is no object-verb agreement in Arabic clauses, how could the object raise overtly in the syntax? If there is going to be object movement (or object shift as termed in the literature), it should be in the LF. The answer to this question is provided by Bobaljik and Jonas (1996: 226). They state, "Overt raising of both subject and object is restricted to those languages that license [Spec, TP]... and have overt verb raising". However, this does not necessarily mean that such languages must have overt raising.

If the object does not raise in the overt syntax (before spell-out) to check its features through a specifier-head relationship with the moved verb to AGRo, then the object may not be able to check its features because the verb has to move all the way up in the overt syntax to AGRs to check its agreement features. Another possibility is that the trace of V in AGRo might be able to license the feature checking of the object, which means that the object does not have to raise overtly, but remains in situ

<sup>19</sup> Arabic exhibits no object-verb agreement. The same is true in the case of English. Nevertheless, for the purposes of symmetry within the same language and cross-linguistically, AGRoP is projected even though in overt syntax such a projection is not discernible.

until LF. Since it is hard to tell (in the absence of empirical evidence) whether the object has raised overtly or covertly, it might be safer to leave this question open because it does not bear on the central issue of the paper.

It can be noticed from our previous examples that Arabic licenses [Spec-TP] and that the verb raises overtly in the syntax. Now, we go back to complete the derivation in (14). The verb moves from AGR<sub>o</sub> to T to check its tense features. Then the subject raises to [Spec-TP] to check its case features. Since the verbal features of AGRs are strong, the complex [T+V] raises to AGRs to check the agreement features. However, because the nominal features of AGRs are weak, the subject remains in [Spec-TP] until LF where it raises to [Spec-AGR<sub>s</sub>P] to check its agreement features and this is how we get VSO order. It can be safely concluded that because of the strength or weakness of morphological features, the difference between VSO and SVO orders of Arabic clauses can be accounted for in a principled manner. At this point one might ask what about null subject structures of the following type:

(15) *jaa?-uu*  
 came-3plM  
 'They-M came.'

(16) *ji?-na*  
 came-3plF  
 "They-F came."

I will assume, following Fassi Fehri (1993: Chap. 3), that *-uu* and *-na* in these examples are bound pronominals incorporated onto the verb functioning as subjects. They are not inflectional agreement markers in these contexts. As observed by Fassi Fehri, if they are inflectional agreement markers, there is no obvious reason of why they cannot co-occur with syntactic NPs in the same argument position as the following examples demonstrate:

(17a) \**ji?-na*      *l-banaat-u*  
 came-3plF    the-girls-Nom  
 Literally: '\*They-F came the girls.'

(17b) \**ji?-na*      *hunna*  
 came- 3plF    they-F  
 Literally: '\*They they-F came.'

(18a) \**jaa?-uu*      *al- ?awlaad-u*  
 came- 3plM    the -children-Nom  
 Literally: '\*they came the children.'

(18b) \**jaa?-uu*      *hum*  
 came- 3plM    they  
 Literally: '\*they they-M came.'

The ungrammaticality of the above examples can only be explained if the bound forms on the verbs are treated as pronouns, rather than agreement inflections. In other words, the ungrammaticality stems from the fact that two subjects (the bound pronoun and the syntactic NP) occupy the same argument position. There is no theoretical or empirical motivation to treat them as inflectional agreement markers in these contexts. Examples of inflectional agreement markers are the following:

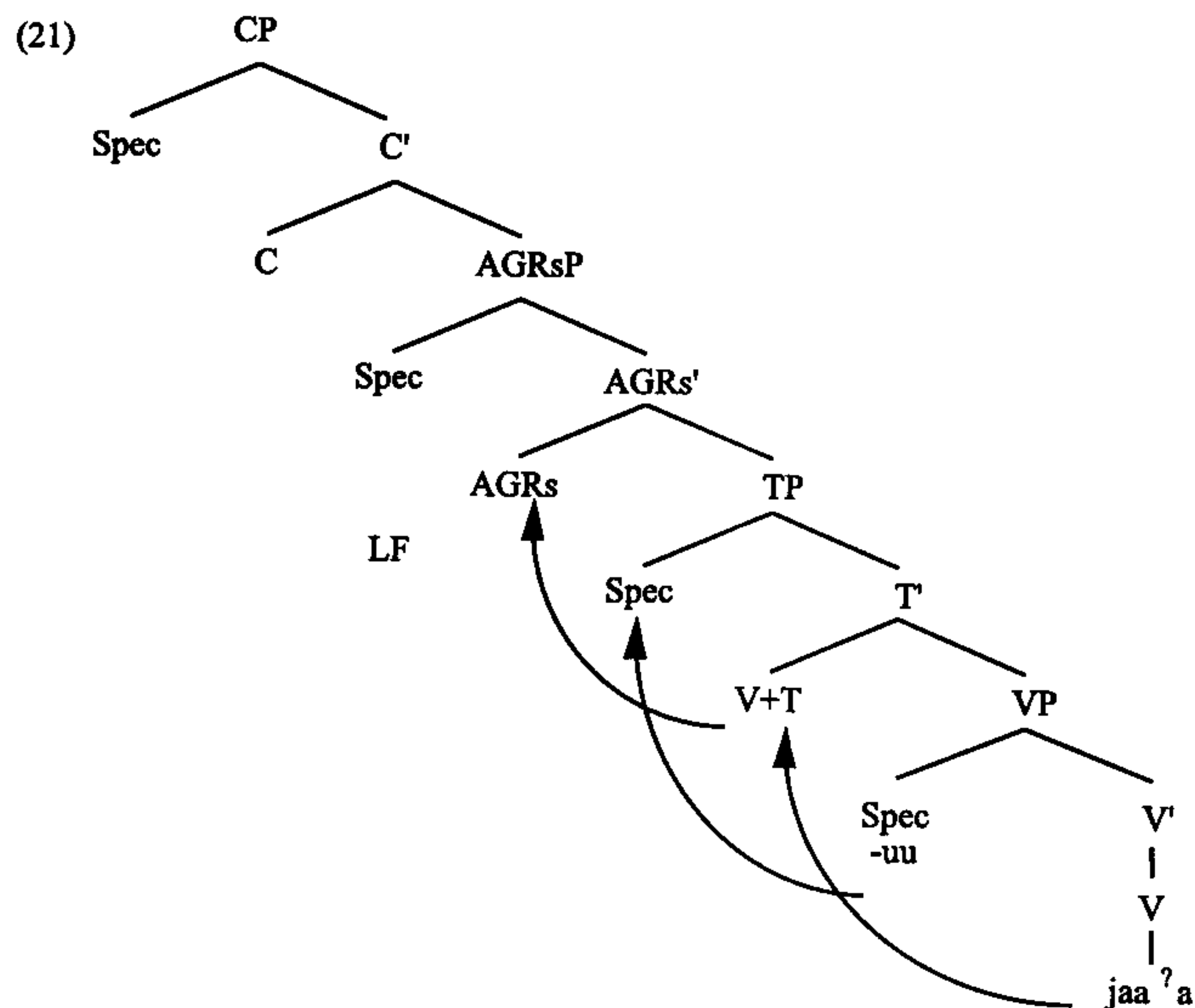
(19) *al-?awlaad-u*      *jaa?-uu*  
 the children-Nom    came-3plM  
 'The children came.'

(20) *al-banaat-u*      *ji?-na*  
 the girls-Nom      came-3 plF  
 'The girls came.'

Both *-uu* and *-na* in these examples are viewed by Fassi Fehri as inflectional agreement markers. According to him (19) and (20) have at least one reading in which the preverbal NPs are interpreted as subjects and the bound forms on the verbs as rich inflectional agreement markers. The differentiating factor in their characterization as subjects or agreement markers is their syntactic context, i.e., whether they are bound to nouns, adjectives, prepositions or verbs. They are interpreted as bound pronouns only if they are incorporated on finite verbs and no syntactic NPs are present. Concerning the derivation of (15) and (16), they are derived in a somewhat similar fashion to VS(O) order as in (10) above. If we take (15), its basic clause structure will be that in (21).

First the verb raises overtly to the T node, then the subject *-uu* raises overtly to the specifier of TP to check its nominative case features. Then V+T will raise to AGRs to check agreement features. However, because *-uu* is a bound pronominal it needs support, thus it has to merge or incorporate with/onto the verb before PF. It has to incorporate onto the verb after it raises to T to get its tense features checked because only then, as indicated by Fassi Fehri (1993: 109), the merger of tense/aspect and phi feature specification generates appropriate phonological forms.





#### 4. Conclusion

It has been shown that an Agr-Based Model of the MP can be successfully applied to the structure of Arabic clauses. By doing so, the structure of Arabic clauses has been freed from traditional concepts such as Government, Case assignment, D-structure and S-structure. This strongly points to the universality of basic structures among human languages. The application of the MP to the structure of Arabic clauses has also indicated a possible solution to a long standing dispute among Arabic syntacticians concerning the canonical word order, i.e., whether it is a VS(O) or an SV(O). It has been established that the canonical clause order depends on the strength or weakness of the morphological features of the elements involved in a certain derivation.

It is important to mention in this conclusion that the form of the verb in Arabic exhibits a number of functional projections such as Aspect, Voice and Mood, in addition to Tense. Also, in a simple clause we have Modality, and Negation. This may necessitate expanding the basic clause structure proposed by Chomsky. Moreover, more complex structures such as CPs (clauses introduced by complementizers) and double object constructions have not been addressed in this paper. All those issues and similar ones will be the topic of fruitful future research.

#### REFERENCES

- Abd El-Moneim, A. A. 1989. The role of INFL. Ph.D. thesis. University of Connecticut: Storrs.
- Abdo, D. 1983. "L-binya d-daaxiliyya li l-jumla l-fi 'l:yya fii l-carabiyya". *al-?abbaath* 31. 37-54.
- Al-Shorafat, M. In press. "Clause structure in Arabic".
- Ayoub, G. 1982. Structure de la phrase verbale en arabe standard. Third Cycle Thesis. Paris: VIII-Vincennes.
- Baker, M. 1988. *Incorporation: A theory of grammatical function change*. Chicago: University of Chicago Press.
- Bakir, M. 1980. *Aspects of clause structure in Arabic*. Bloomington: Indiana University Linguistics Club.
- Barlow, M. and Ferguson, C. (eds.). 1988. *Agreement in natural language*. Stanford: Center for the Study of Language and Information.
- Bobaljik, J.D. and Jonas, D. 1996. "Subject positions and the role of TP". *Linguistic Inquiry* 27/2. 195-23.
- Bolotin, N. 1995. "Arabic and parametric VSO agreement". In Mushira, E. (ed.). 7-27.
- Chomsky, N. 1991. "Some notes on economy of derivation and representation". In Freidin, R. (ed.). 417-454.
- Chomsky, N. 1992. "A minimalist program for linguistic theory". *MIT Occasional Papers in Linguistics*. I.
- Cook, V. and Newson, M. 1996. *Chomsky's universal grammar: An introduction*. Oxford: Blackwell.
- Demiradache, H. 1991. "Nominative Subjects in Arabic". Ms.
- Fassi Fehri, A. 1981. "Linguistique arabe: forme et interpretation". Rabat: Publications of the Faculty of letters.
- Fassi Fehri, A. 1988. "Agreement in Arabic, binding and coherence". In Barlow, M. and C. Ferguson, (eds.). 107-158.
- Fassi, Fehri, A. 1993. *Issues in the structure of Arabic clauses and words. Studies in natural language and linguistic theory*. Dordrecht: Kluwer.
- Freidin, R. (ed.). 1991. *Principles and parameters in comparative grammar*. Cambridge, Mass.: MIT Press.
- Johnson, K. 1991. "Object Positions." *Natural Language and Linguistic Theory* 9. 577-636.
- Koizumi, M. 1993. "Object agreement phrases and the split VP hypothesis". *MIT Working Papers in Linguistics*. 18. 99-148.
- Koopman, H. and Sportiche, D. 1991. "The Position of Subjects". *Lingua* 85. 211-258.
- Lightfoot, D. and Hornstein, N. (eds.). 1994. *Verb Movement*. Cambridge: CUP.
- Mohammad, M. "Subject-Verb Agreement in Arabic: Towards a solution". In Mushria, E. (ed.). 95-125.
- Mushira E. (ed.). 1995. *Perspective on Arabic linguistics VII*. Amsterdam: John Benjamins.
- Ouhalla, J. 1994. "Verb movement and word order in Arabic". In Lightfoot, D. and N. Hornstein, (eds.). 41-72.
- Pollock, J. Y. 1989. "Verb movement, universal grammar and the structure of IP". *Linguistic Inquiry* 20/3. 365-424.
- Rizzi, L. 1990. *Relativized Minimality*. Cambridge, Mass.: MIT Press.