

GOVERNMENT AND BINDING AND CASE ASSIGNMENT IN MODERN STANDARD ARABIC

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1. Theoretical framework

In this paper we assess the theoretical principle suggested in Chomsky's *Lectures on Government And Binding*, henceforth LGB, that case assignment is dependant on government on data from Modern Standard Arabic, henceforth MSA.

Our definition of MSA coincides with that of Cowan: "... the form of language which, throughout the Arab world from Iraq to Morocco, is found in the prose of books, newspapers, periodicals, and letters. This form is also employed in formal public address, over radio and television, and in religious ceremonial." (Cowan 1976:vii).

Theoretically speaking, it would be a great merit for the syntactic system if case assignment is achieved through government. In fact, this is what Chomsky opted for in LGB. He suggests that case assignment is dependant on government where he defines the notion of government as follows:

- (1) $[\beta \dots \gamma \dots \alpha \dots \gamma \dots]$, where
- (i) $\alpha = X^0$
 - (ii) where ϕ is a maximal projection, if ϕ dominates γ then ϕ dominates α
 - (iii) α c-commands γ

(LGB:165)

The notion of c-command in (1) is defined as follows:

- (2) α c-commands β if and only if
- (i) α does not contain β
 - (ii) Suppose that $\gamma_1, \dots, \gamma_n$ is the maximal sequence such that
 - (a) $\gamma_n = \alpha$
 - (b) $\gamma_i = \alpha^j$
 - (c) γ_i immediately dominates γ_{i+1}

Then if δ dominates α , then either (I) δ dominates β , or
 (II) $\delta = \gamma_i$ and γ_1 dominates β

(LGB:166)

According to (1,2) Chomsky characterizes the fundamental properties of case assignment as follows:

- (3)
- (i) NP is nominative if governed by AGR
 - (ii) NP is objective if governed by V with the subcategorization feature: \bar{NP} (i.e., transitive)
 - (iii) NP is oblique if governed by P
 - (iv) NP is genitive in $[_{NP-X}]$
 - (v) NP is inherently Case-marked as determined by properties of its $[-N]$ governor

(LGB:170)

However, as far as case assignment to the subject position of a tensed clause is concerned, we adopt a slightly different view which is suggested in Bouchard (1984:143):

- (4) "As for the assignment of nominative case to the subject of a tensed clause, there are two possibilities. One can assume that there is a node INFL in the expansion of S and nominative case is assigned by some case assigning feature of INFL to the NP that it governs: this is essentially the position taken in Chomsky (1981, 82). Another possibility is to assume that INFL is not a syntactic node but is attached to the V in the lexicon, following an axiom of lexical phonology that all affixation is done in the lexicon (cf. Kiparsky 1982, Pesetsky 1981). Then percolation of the INFL features can take place, the features climbing to VP, so that the case-assigning features of INFL can govern the NP in subject position and assign nominative case to it. We will adopt the latter proposal and assume that nominative case is assigned by the INFL features when they percolate to VP, hence govern the subject position.

This analysis of nominative case assignment preserves the parallelism that often holds between case assignment and θ -role assignment. Thus the object of a verb is assigned case and θ -role by the verb that governs it. Similarly, the subject of a tensed clause will be assigned case and a θ -role by the VP that governs it in our analysis, this VP node being a complex node where the INFL features have percolated."

Some other vital concepts in our argument are:

- (5)
- (i) Case assignment takes place at S-structure.
"We assume that case assignment takes place at S-structure." (LGB:94)
 - (ii) Adjacency is a condition for case assignment at the syntactic level only.
"We assume that case marking takes place at S-structure. ...
Therefore, the notion of adjacency is that of S-structure." (LGB:94)

2. Sentence Main Types In MSA

Arab classical linguists recognize two main types of sentences in MSA as well as classical Arabic:

"There are two types of Arabic sentence and no third: A NOMINAL sentence and a VERBAL one. ... If a sentence starts with an original noun, then, it is a Nominal sentence. But if it starts with a complete verb, it is a Verbal one".

(Al-Rajihii 1985:77)

We shall discuss case assignment in each type briefly in what follows.

3. Case assignment in the verbal sentence in MSA

The linguistic tradition of Arabic defines the verbal sentence as follows:

"(it)...starts with a complete verb and it has two indispensable components: the verb and the subject."

(Al-Rajihii 1985:179)

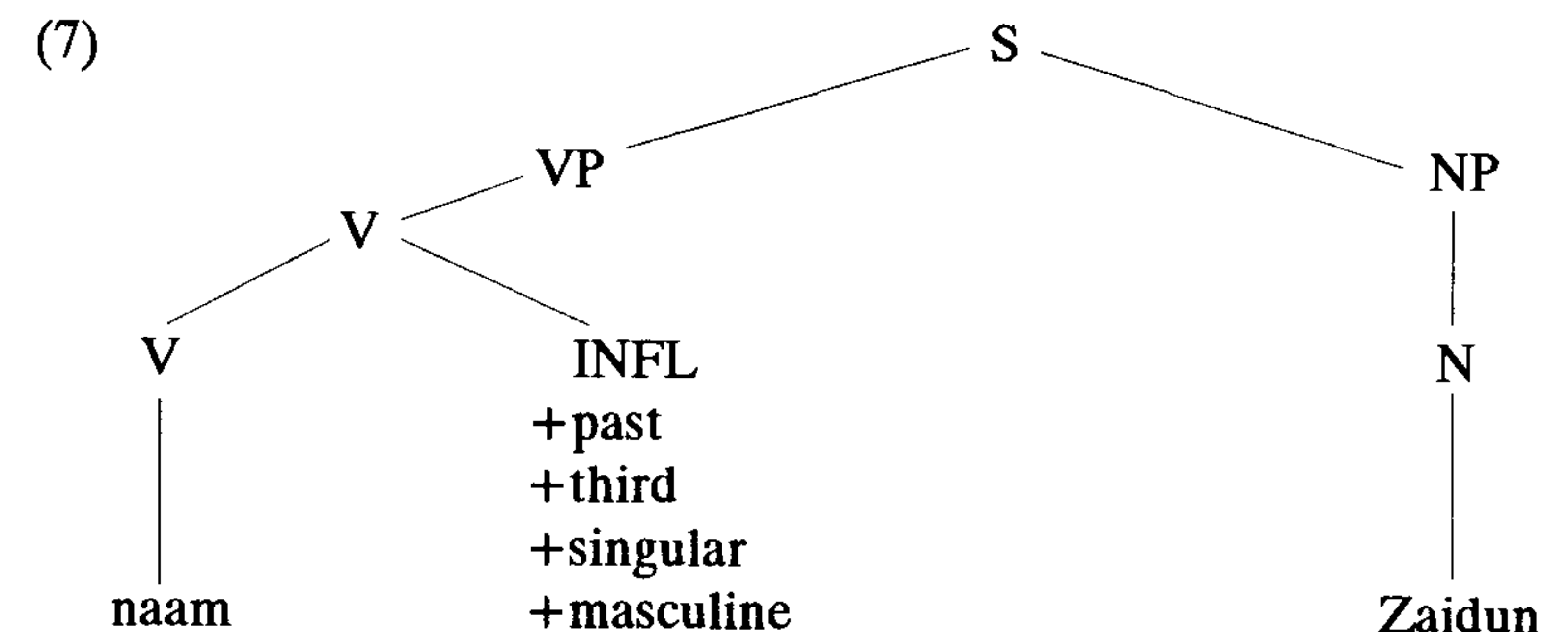
However, two sub-types can be distinguished here: the first, is the sentence with an intransitive verb, and the second is the sentence with a transitive one.

3.1. Intransitive structures

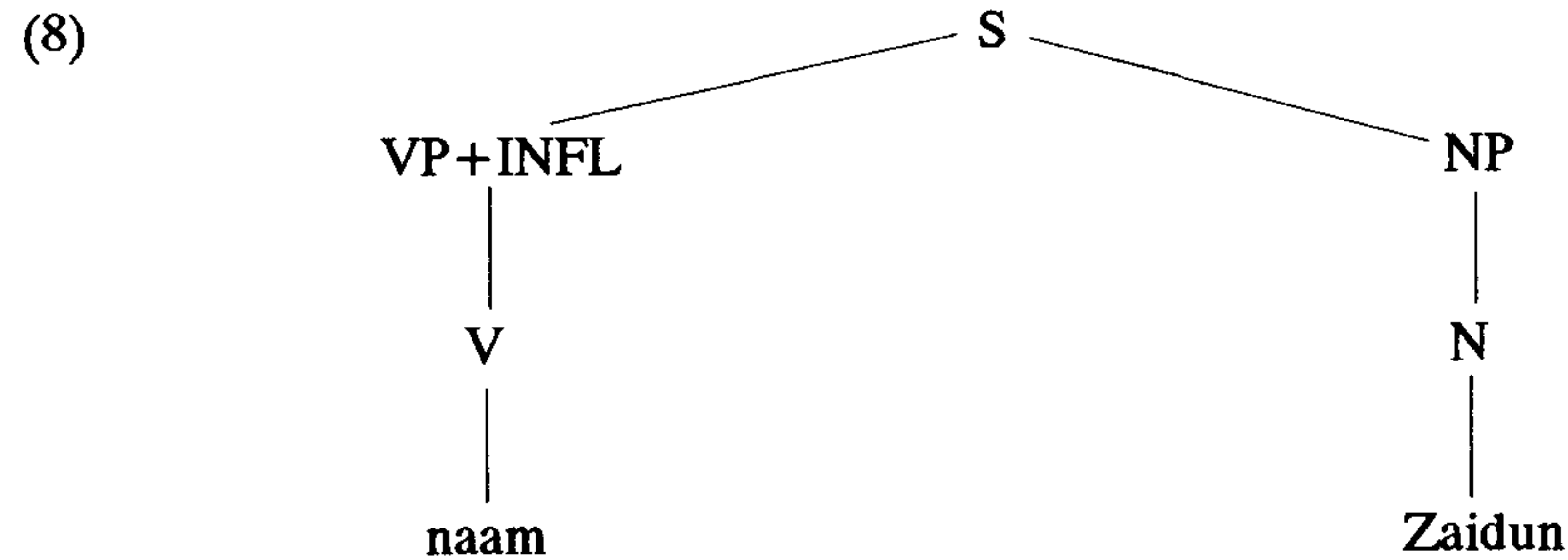
In this type of sentence we have a subject and an intransitive verb only e.g.:

- (6)
- (i) Naam-a Zaid-un
sleep-past Zaiyd-nom
Zaiyd slept
 - (ii) Taar-a ?al-?usfuur-u
fly-past the sparrow-nom
the sparrow flew
 - (iii) ?inqaḍ-aa ?al-waqt-u
elapse-past the- time-nom
the time elapsed

We will analyse (6:i) syntactically to see how cases are assigned. (6:i) is assigned the following D-structure:



However, after percolation of INFL elements to VP in the syntax (7) will be:



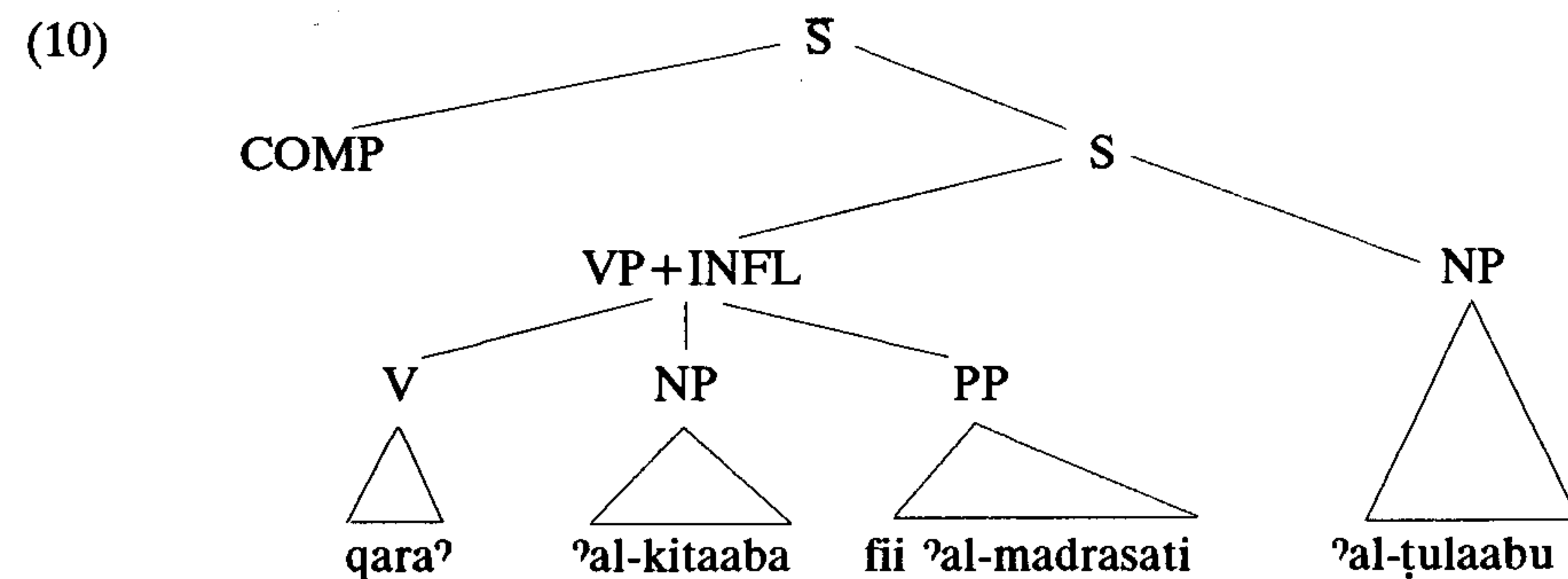
According to our framework, the VP+INFL complex governs and c-commands the NP subject and assigns it a nominative case and a θ -role as agent. Notice the word-order in (8) is the opposite of the English one. For a full discussion of word-order in MSA see amongst others Homeidi (1986) and forthcoming. The explanation in (8) applies to all sentences in (6) and, in fact, to all intransitive verbs in Arabic.

3.2. Transitive structures

Let us test our hypothesis on some transitive structures in MSA:

- (9)
- (i) qara[?]-a [?]al- \dot{t} ulaab-u [?]al-kitaab-a fii [?]al-madrasati
 read-past the pupils-nom the book-acc in the school-obl
 the pupils read the book at school
- (ii) [?]akal-a [?]al-walad-u [?]al-tufaaḥa-a
 eat-past the boy-nom the apple-acc
 the boy ate the apple
- (iii) kataba-a [?]al-walad-u [?]al-risaalat-a
 write-past the boy-nom the letter-acc
 the boy wrote the letter

The sentences in (9) represent typical verbal sentences in MSA. (9:i) is assigned the following S-structure:

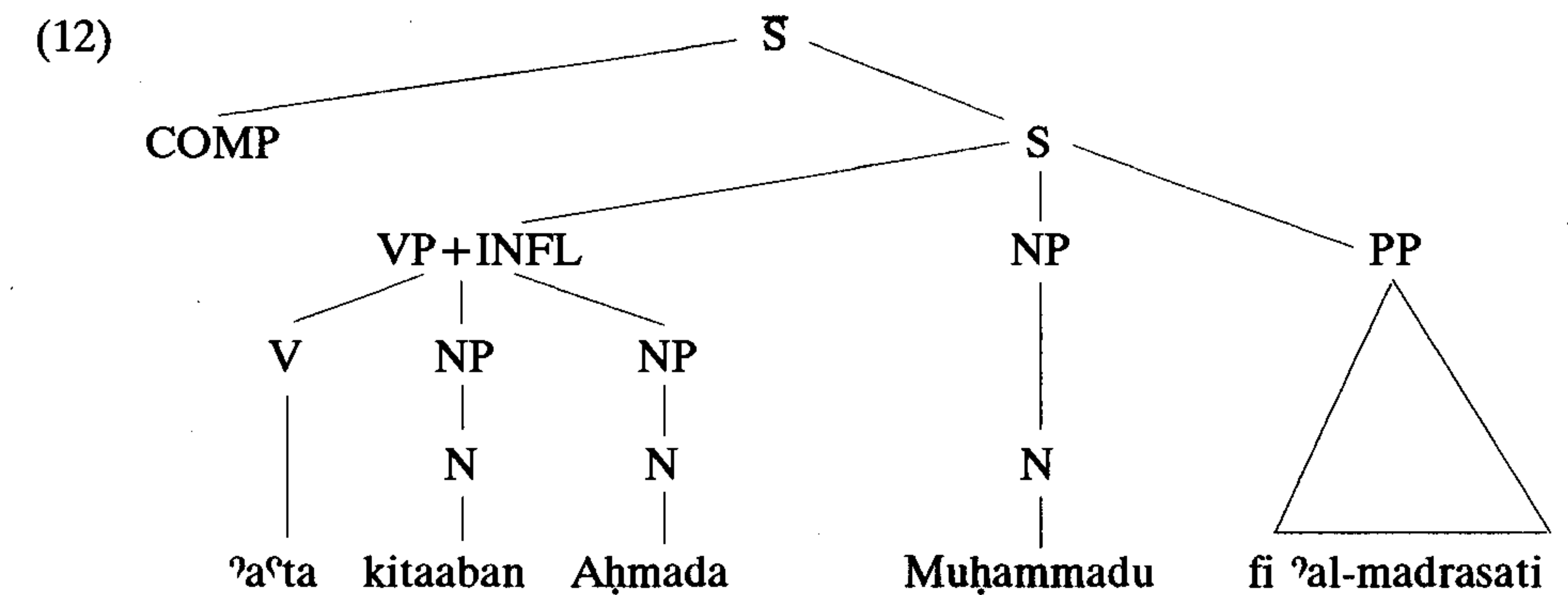


In (10) cases are assigned as usual through government without any exception. The verb *qara[?]* will assign the NP object *al-kitaaba* an accusative case and a θ -role as patient. The preposition *fii* will assign the NP *al-madrasati* an oblique case. On the other hand, the VP+INFL complex will assign the NP subject *al-tulaabu* a nominative case and a θ -role as agent. Notice the PP structure could be a daughter of S directly.

Let us have a slightly more complicated example:

- (11) [?]a^t-aa Muḥammad-u Aḥmad-a kitaab-an fii [?]al-madrasat-i
 give-past Mohammad-nom Aḥmad-acc a book-acc in the school-obl
 Mohammad gave Ahmad a book at school

(11) is assigned the following S-structure:



The only point which needs explanation in (12) is how the NP *Aḥmada* receives an accusative case, and how it occurs before the direct object in surface structure. The NP *Aḥmada* receives an inherited accusative case to satisfy the lexical properties of its [-N] governor according to (3.v) which is the verb *a^taa*. The NP *Aḥmada* occurs before the direct object through the Dative transformation which is widely discussed in the literature.

From the discussion so far a simple conclusion can be drawn as follows:

- (13)
- (i) NP is marked nominative if it is governed by VP+INFL in the syntax.
 - (ii) NP is marked accusative if it is governed by a transitive verb.
 - (iii) NP is marked oblique if it is governed by a preposition.
 - (iv) NP is inheritly case-marked as determined by properties of its [-N] governor

However, MSA allows many movements to be carried out in (9:i). To take just one example, we can say:

- (14) [?]al- \dot{t} ulaab-u qara[?]-uu [?]al-kitaab-a fii [?]al-madrasat-i
 the pupils-nom read-past-they the book-acc in the school-obl
 the pupils read the book at school

Discussing (14) in the framework of Verbal sentence in MSA will bring us into direct conflict with Arab traditional linguists because (14) is considered a Nominal sentence. Although we will conclude that (14) is a Verbal sentence, we will discuss it in the following section for the time being.

4. Case assignment in nominal sentence in MSA

Nominal sentence in MSA is defined traditionally as follows:
 "A Nominal sentence is a sentence that starts with an original noun"
 (Al-Rajihii 1985:77)

An original noun means an indispensable noun in the sentence before any transformation is done. Mainly, two sub-types of Nominal sentences are recognized:

- (15) (i) The nominal sentence that consists of two NPs only in the nominative.
 (ii) The nominal sentence that starts with a nominative NP but contains a verb in the complement clause.

4.1. The nominal sentence that consists of two nominative NPs

Let us have some examples:

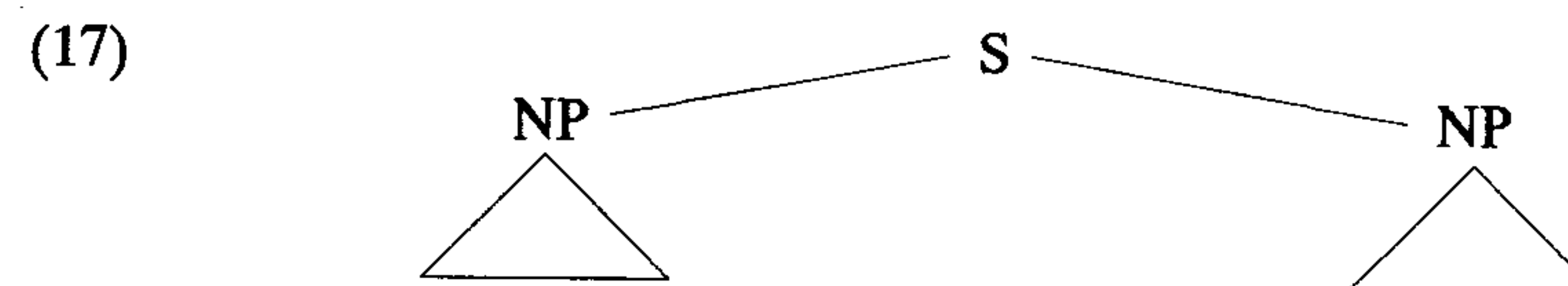
- (16) (i) *ʔal-shams-u mushriqat-un*
 the sun-nom shining-nom
 the sun is shining
 (ii) *ʔal-bint-u jamiilat-un*
 the girl-nom beautiful-nom
 the girl is beautiful
 (iii) *ʔal-samaaʔ-u saafiiyat-un*
 the sky-nom clear-nom
 the sky is clear

Traditionally, nominative case assignment in (16) is done as follows:

The first NP is assigned a nominative case because it starts the sentence; then it assigns the second NP a nominative case also. For more details about this argument, see (Al-Rajihii 1985:79) and, in fact, all traditional books on Arabic syntax.

However, any careful and critical look at the traditional argument will find it unacceptable syntactically in modern syntactic theory. First: the governor and case marking element must be [-N] always, and it is not the case in (16). Second: Starting a sentence is not a syntactic reason to assign the NP a nominative case. Third: We can not accept the idea that a nominative NP will assign a following NP a nominative case. Without any further details the traditional argument for nominative case assignment in (16) is rejected.

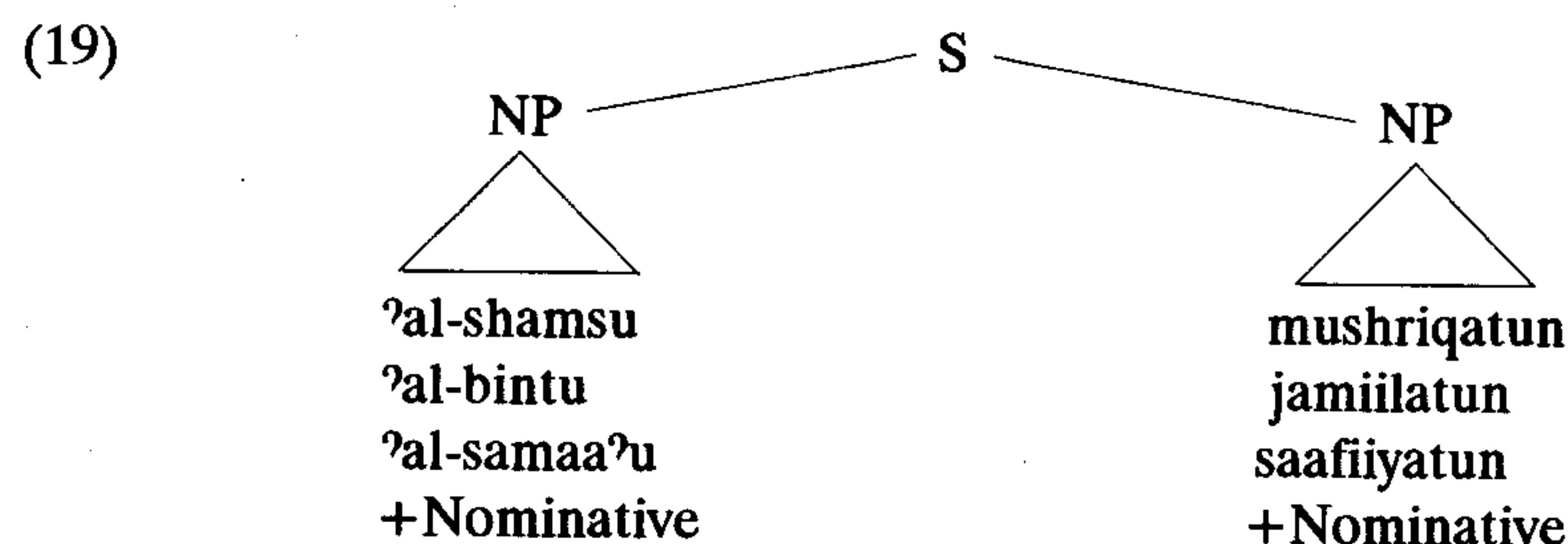
Our suggestion is to take the D-S and LF structure of all the sentences in (16) to be the following:



With the following condition:

- (18) THE UNMARKED CASE IN MSA IS NOMINATIVE.

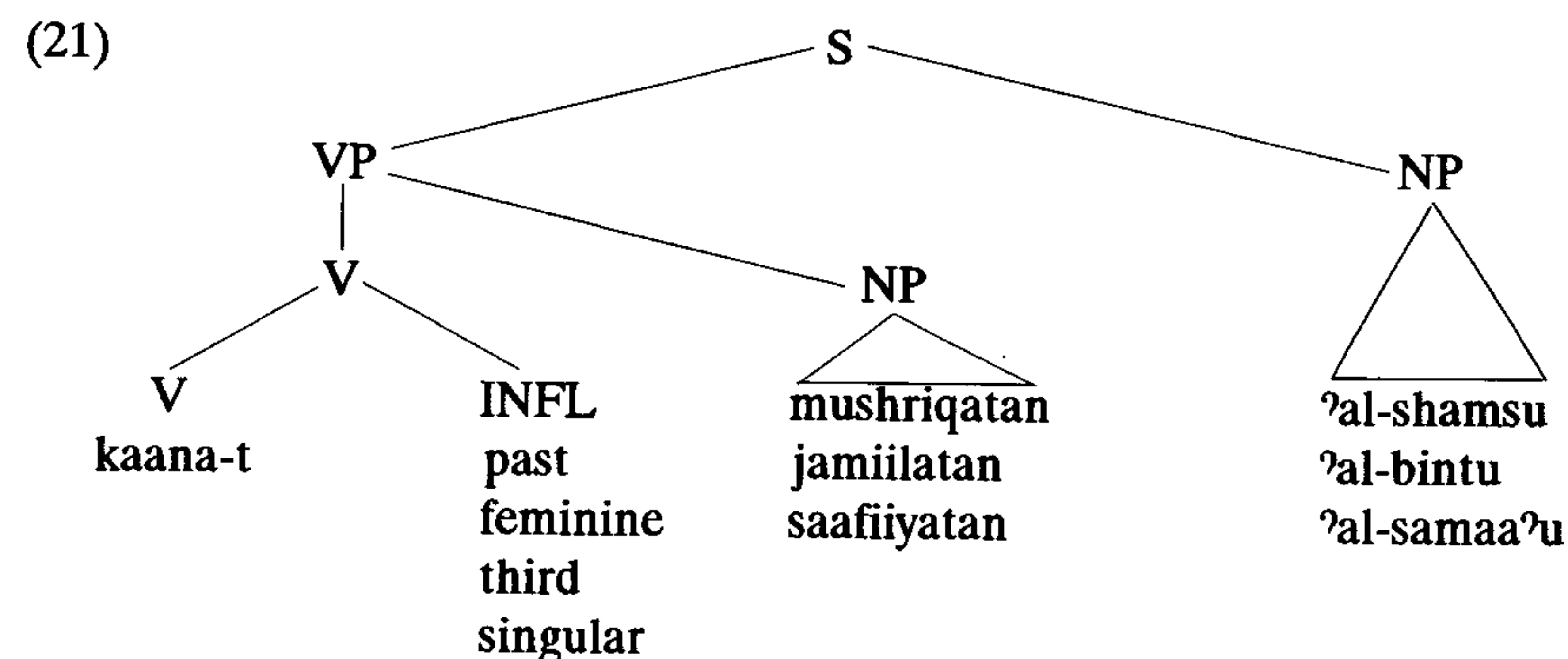
(17, 18) will give the required result. Accordingly, the sentences in (16) will be assigned the following D-S and LF structure:



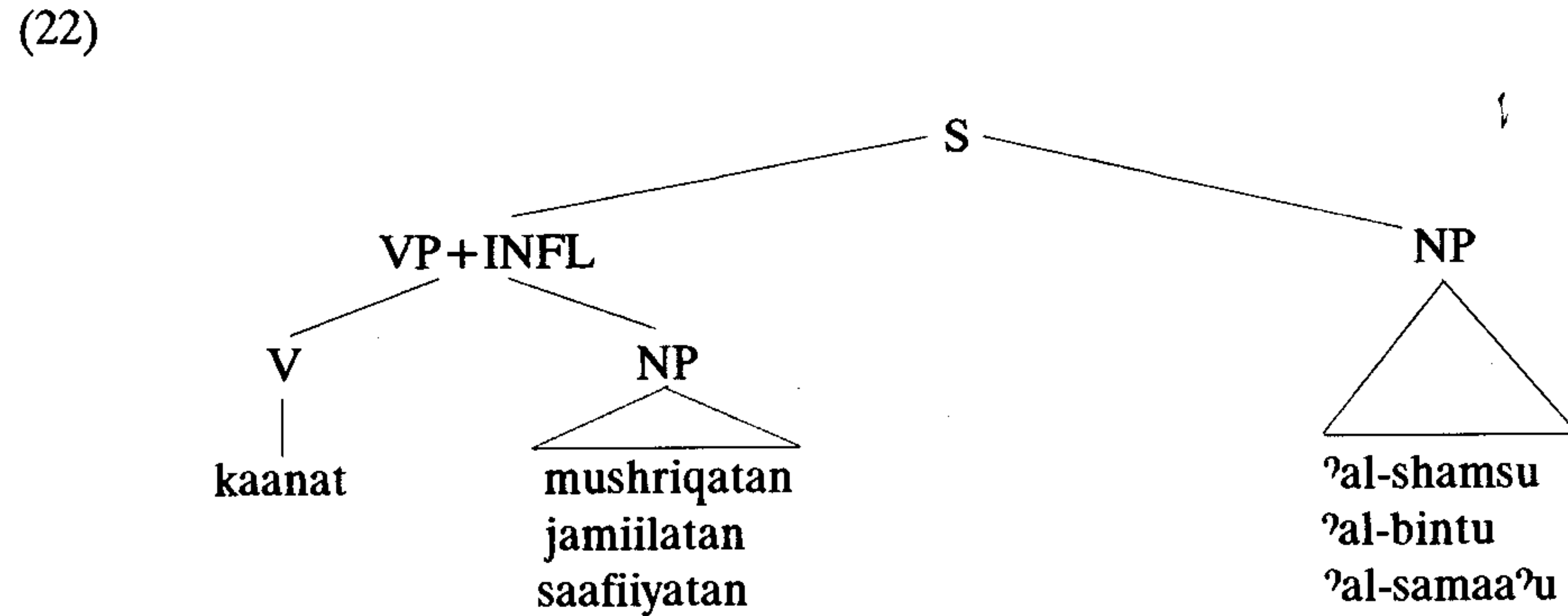
To test our argument, let us put the sentences in (16) in the past tense using the verb "kaana". (16) will be:

- (20) (i) *kaana-t ʔal-shams-u mushriqat-an*
 was-f the sun-nom shining-acc
 the sun was shining
 (ii) *kaana-t ʔal-bint-u jamiilat-an*
 was-f the girl-nom beautiful-acc
 the girl was beautiful
 (iii) *kaana-t ʔal-samaaʔ-u saafiiyat-an*
 was-f the sky-nom clear-acc
 the sky was clear

The D-structure of (20) will be:



After percolation of INFL elements to VP in the syntax, the D-structure in (21) will be as follows:



In (22) the NP object of the verb is accusative, while the NP subject is nominative. This result is in complete harmony with our theoretical framework. To have the surface structure in (20), we need an INVERSION movement between the subject and the object in the PF. See Homeidi (1986) for a full explanation. Notice (20) is considered a Nominal sentence in the traditional Arabic syntax, while it is a verbal sentence in our framework. This will break-down the line of demarcation between the nominal sentence and the verbal one in favour of one type of sentence in Arabic.

Another evidence to our argument is the following: Suppose we insert the complementizer *ʔinna* which is, according to its lexical properties, an accusative case assigner at the start of the sentences in (16), then we will have the following:

- (23)
- (i) *ʔinna ʔal-shams-a mushriqat-un*
the sun-acc shining-nom
the sun is shining
 - (ii) *ʔinna ʔal-bint-a jamiilat-un*
the girl-acc beautiful-nom
the girl is beautiful
 - (iii) *ʔinna ʔal-samaaʔ-a saafiiyat-un*
the sky-acc clear-nom
the sky is clear

The lexical properties of *ʔinna* which should be observed at D-S and LF levels according to the projection principle which is formulated as follows:

- (24) Representations at each syntactic level (i.e. LF, and D- and S- structure) are projected from the lexicon, in that they observe the subcategorization properties of lexical items.

(LGB:29)

will ensure that it will assign the first NP an accusative case while the second NP will surface with the unmarked nominative case.

A simple conclusion from this section can be formulated as follows:

- (25)
- (i) The unmarked case in MSA is NOMINATIVE.
 - (ii) An NP in a nominal sentence that consists of two NPs only satisfies the lexical properties of its [-N] governor if there is any.

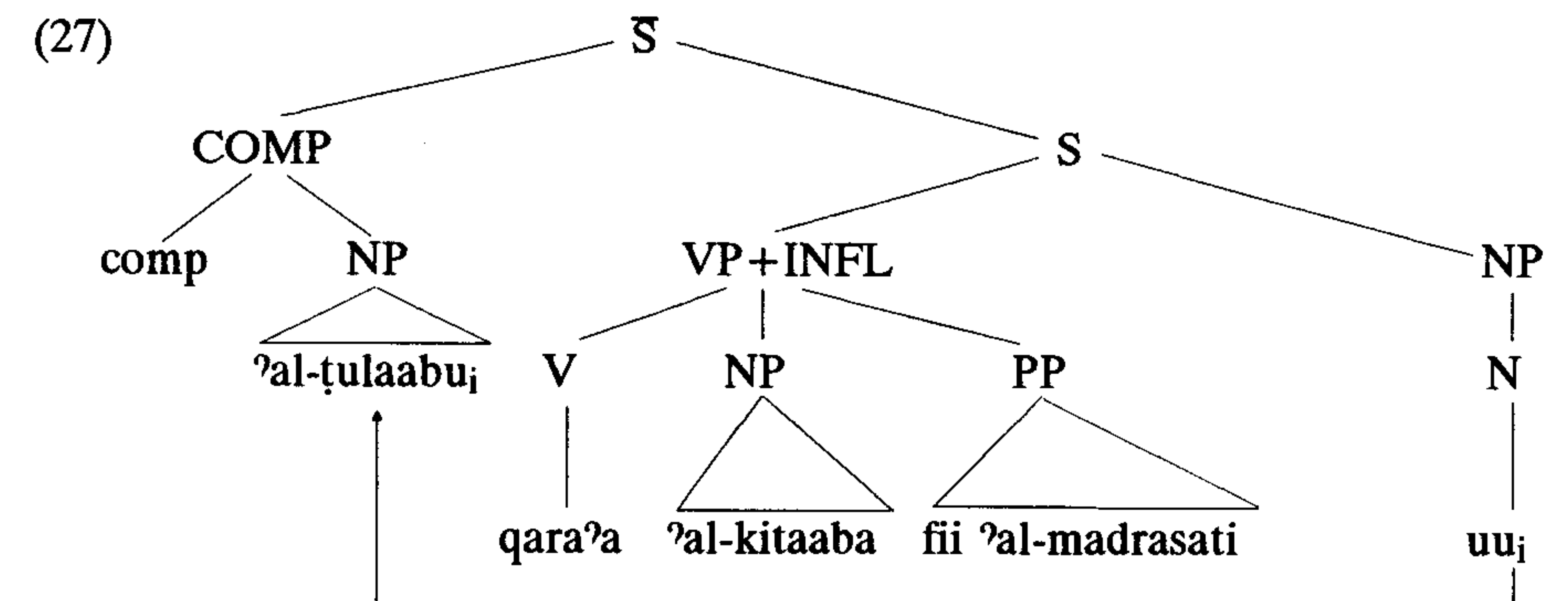
4.2. The nominal sentence that consists of an NP in the nominative and a complement clause

We repeat (14) for convenience:

- (26) *ʔal-ṭulaab-u qaraʔ-uu ʔal-kitaab-a fii ʔal-madrasat-i*
the pupils-nom read-past-they the book-acc in the school-obl
the pupils read the book at school

Traditionally, (26) is considered a Nominal sentence simply because it starts with a nominative NP. The reason of why this NP is in the nominative is “because it starts the sentence. We argued that such an argument is invalid in terms of modern syntactic theory.

In our framework, the D-structure of (26) is that of (10). However, its S-structure is as follows:



In (27) we have an NP into COMP. Furthermore, we have the same mechanism of case-assignment and θ -role marking as those in (10) with the addition of the NP *ʔal-ṭulaabu* in COMP. This NP receives the unmarked nominative case because it is not governed by a case-assigning governor. Its θ -role is guaranteed through co-indexation with the clitic it left behind in its original position i.e. the subject of the embedded clause. For more details about this movement see Homeidi (1986, Ch:4).

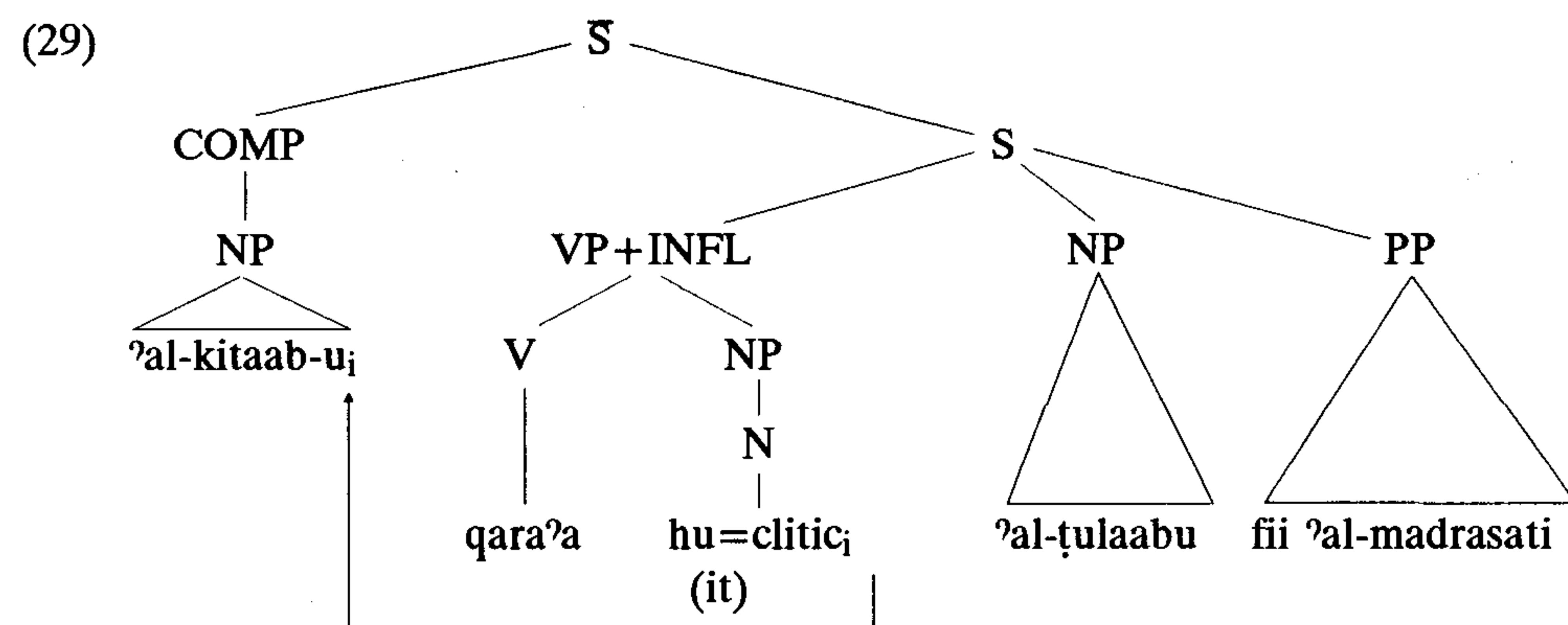
However, one might argue for a different analysis, e.g. the NP *ʔal-ṭulaab-u* in COMP is assigned a nominative case and the clitic in its original position is also assigned the same case by the governing complex VP+INFL in the syntax; this

may lead to the conclusion that the NP *ʔal-ṭulaab-u*, in fact, inherits its case from the clitic it triggered behind in the embedded clause rather than receiving the unmarked nominative case in COMP. The co-indexation with the clitic for θ -role gives a further evidence to this conclusion.

On the face of it, the counter argument sounds convincing; but if we stop at this point in our argument and conclude that the cases of the NPs in COMPs are done through a movement (probably like WH-movement in English) and that the moved element inherits its case and θ -role from the clitic it triggers in its original position, we would have come to the wrong conclusion because in (10) we can move the NP object *ʔal-kitaab-a*, which is assigned an accusative case, into COMP to be nominative:

- (28) *ʔal-kitaab-u qaraʔa-hu ʔal-ṭulaab-u fii ʔal-madrasat-i*
 the book-nom read-past-it-acc the student-nom at the school-obl
 the book the student read at school

(28) is assigned the following S-structure:



So then, although in (28) the NP in COMP is there through a movement and this is evident from the co-indexation with the clitic in its original position for θ -role, it can not be a movement in which the moved element can inherit its original case (the one on the clitic) because in (29), the moved NP is assigned a nominative case while its clitic is assigned an accusative because it is governed by the transitive verb *qaraʔa*.

In our framework, this type of a sentence is accounted for by the fact that the moved NP object into COMP in (29) will be assigned the unmarked nominative case.

Surely, this type of sentences in MSA will pose a problem for Bouchard (1984), because there is no VP+INFL that governs the NP in COMP to assign it a nominative case. Also, this kind of a sentence will be problematic for Chomsky (1981) because there is no AGR that governs the NP in COMP to assign it a nominative case. However, on the top of that, the nominative case assignment in COMP cannot be done through a WH-movement as we have shown because in both (27, 28) the

moved NP in COMP is assigned a nominative case whereas the clitic in (27) is assigned a nominative case while in (29) it is assigned an accusative one.

More evidence to the conclusion that the NP in COMP receives an independent case and not through a movement can be drawn from the following:

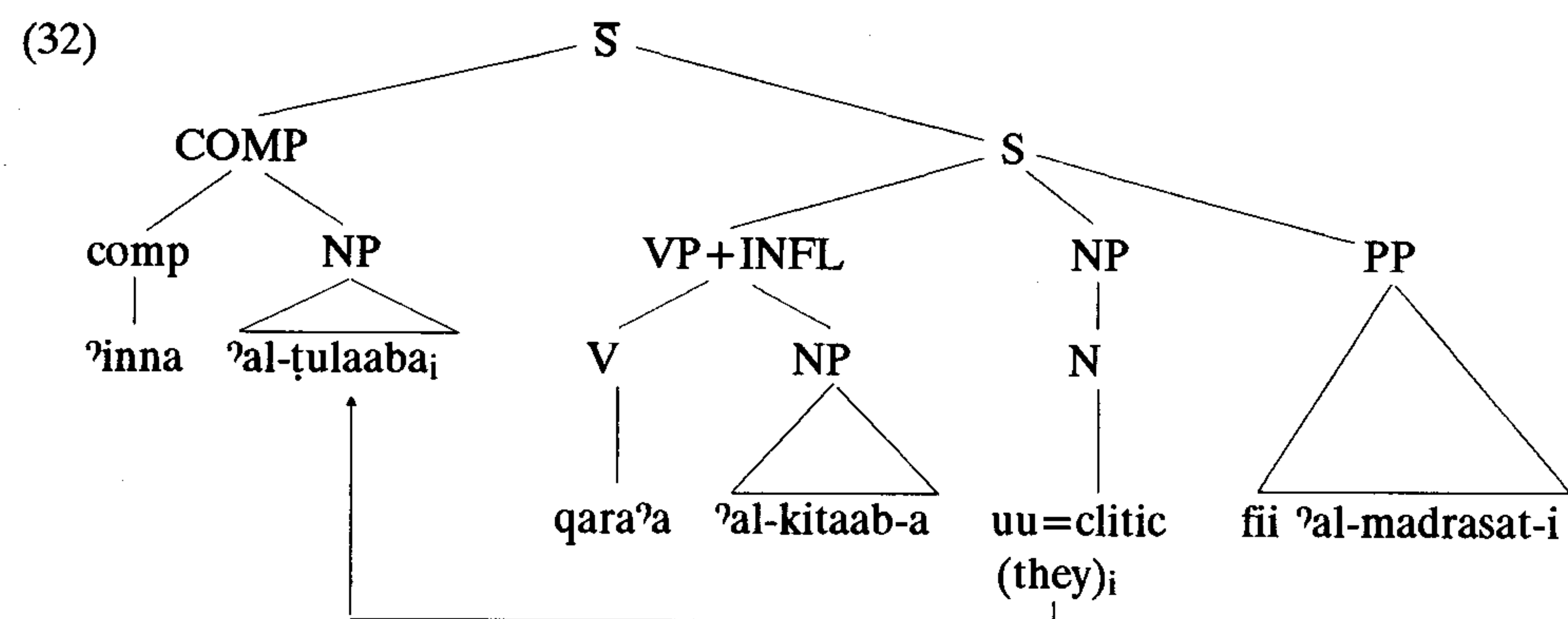
Suppose we insert in both (27) and (28) the complementizer *ʔinna*, which is an accusative case-assigner, then, according to our framework, the moved NP into COMP will be assigned an accusative case to satisfy the lexical properties of *ʔinna*.

(27) will be (30) while (28) will be (31):

- (30) *ʔinna ʔal-ṭulaab-a qaraʔ-uu ʔal-kitaab-a fii ʔal-madrasat-i*
 the pupils-acc read-past-they the book-acc in the school-obl
 the pupils read the book at school
- (31) *ʔinna ʔal-kitaab-a qaraʔa-hu ʔal-tullab-u fii ʔal-madrasat-i*
 the book-acc read-past-it-acc the pupils-nom in the school-obl
 the book the pupils read it at school

Let us draw the underlying S-structure for both (30, 31) to see how cases are assigned.

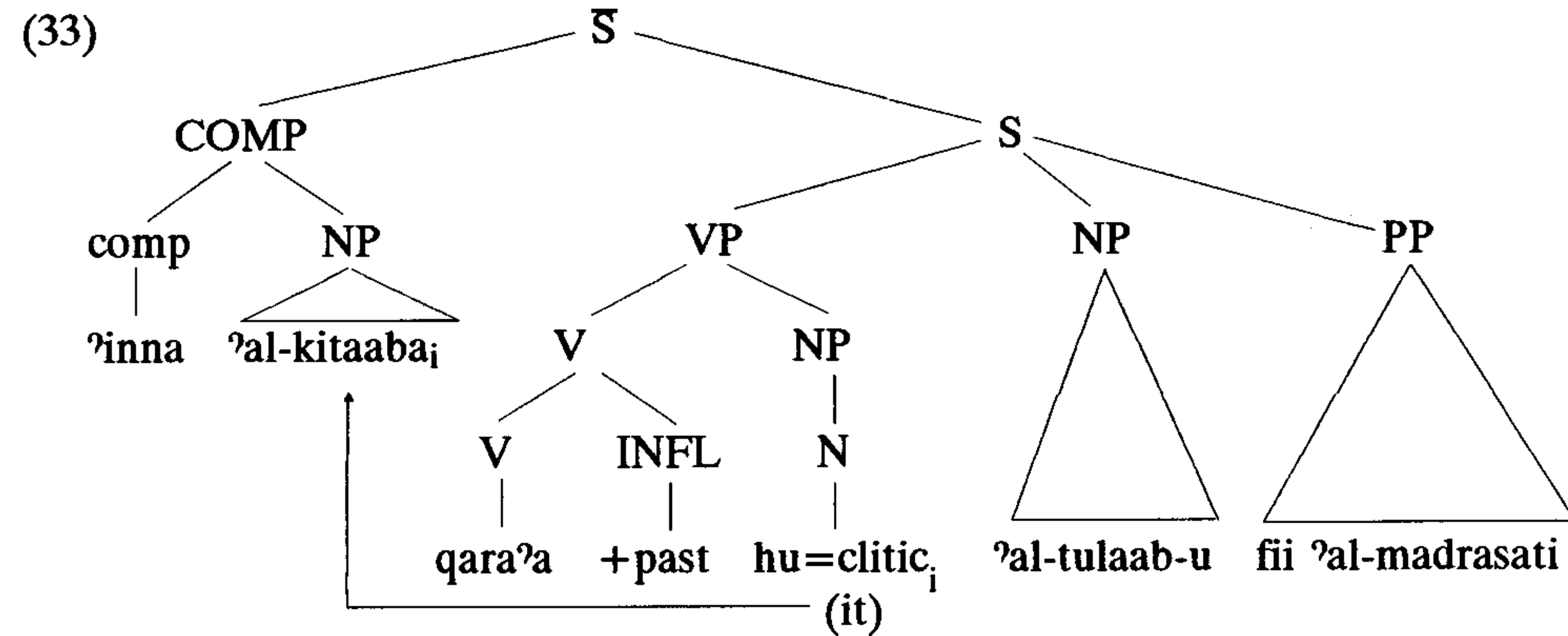
(30) will take (32) as its S-structure while (31) will be assigned (33):



In (32) cases are assigned as usual in our framework: The NP object *ʔal-kitaba* will receive an accusative case because it is governed by the transitive verb *qaraʔa*. The NP *ʔal-madrasati* will be assigned an oblique case because it is governed by the preposition *fii* in PP, while the NP subject will be assigned a nominative case by the VP+INFL complex.

However, if we move up in the structure, we find that the COMP node is filled with two elements: the complementizer *ʔinna* and the NP *ʔal-ṭulaaba*. In our framework, the moved NP *ʔal-ṭulaaba* will be assigned an accusative case because it is governed by the accusative case-assigner complementizer *ʔinna*. In fact, it is the case, the NP *ʔal-ṭulaaba* is assigned an accusative case although its clitic is assigned a nominative one by the governing complex VP+INFL. This supports the point that the movement which is carried out in (29) can not be like WH-

movement in which the moved element inherits its case from the clitic it triggers behind in its original position. Let us see whether the same conclusion can be reached in (33):



In (33) case and θ -role assignment are done as usual through government of the case assigning elements to their governees. In COMP, however, the NP *'al-kitaaba* is assigned an accusative case to satisfy the lexical properties of the complementizer *'inna*. So we get the same conclusion as that in (31). This leads to the conclusion that MSA assigns case in COMP.

However, before we finish this paper, let us see how the concept of chain will be defined in MSA in the light of the structures and movements we suggested so far. It is well-known that syntactic chains are the product of 'Move α ':

"These links which are created by move α are called chains. Chains allow all interpretation to be done at S-structure, since the thematic and subcategorization information provided by the D-structure configuration are preserved at S-structure by means of the links to the traces left by move α in the D-structure."

(Bouchard 1984:2)

From the examples discussed in (26-32) it seems to us that in such structures which involve an NP movement into COMP in the syntax, the chain created by such a movement is marked for θ -role only and not for case. In other words the moved NP into COMP, whether it is the subject or the object of the embedded clause, keeps its θ -role (the one on the clitic in the embedded clause) through coindexation with its original position in D-structure. However, the moved element does not keep its original case (the one on the clitic) because as we have seen in (31,32) the moved element is assigned an accusative case in COMP to satisfy the lexical properties of the *'inna* complementizer regardless of the cases of the clitics with which it is co-indexed for θ -role.

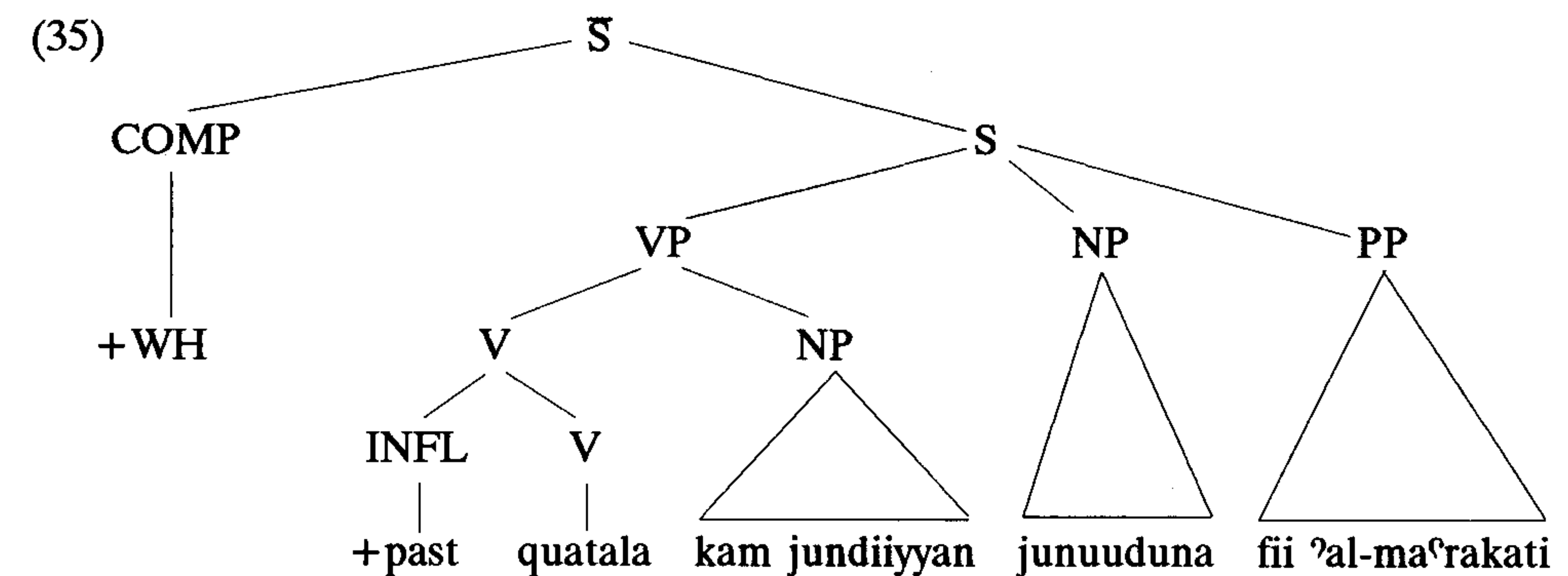
We can conclude that the structures which involve an NP movement into COMP to create some types of nominal sentences in MSA, the chain is *marked for θ -role and not for case*. The moved NP is assigned a new case according to the

new position it occupies in the structure. The original case of the moved NP is spelt out as a clitic-like-pronoun on the inflectional ending of the verb in the embedded clause.

Let us see whether the chain created by a WH-movement in MSA is also marked for θ -role only or for θ -role and case:

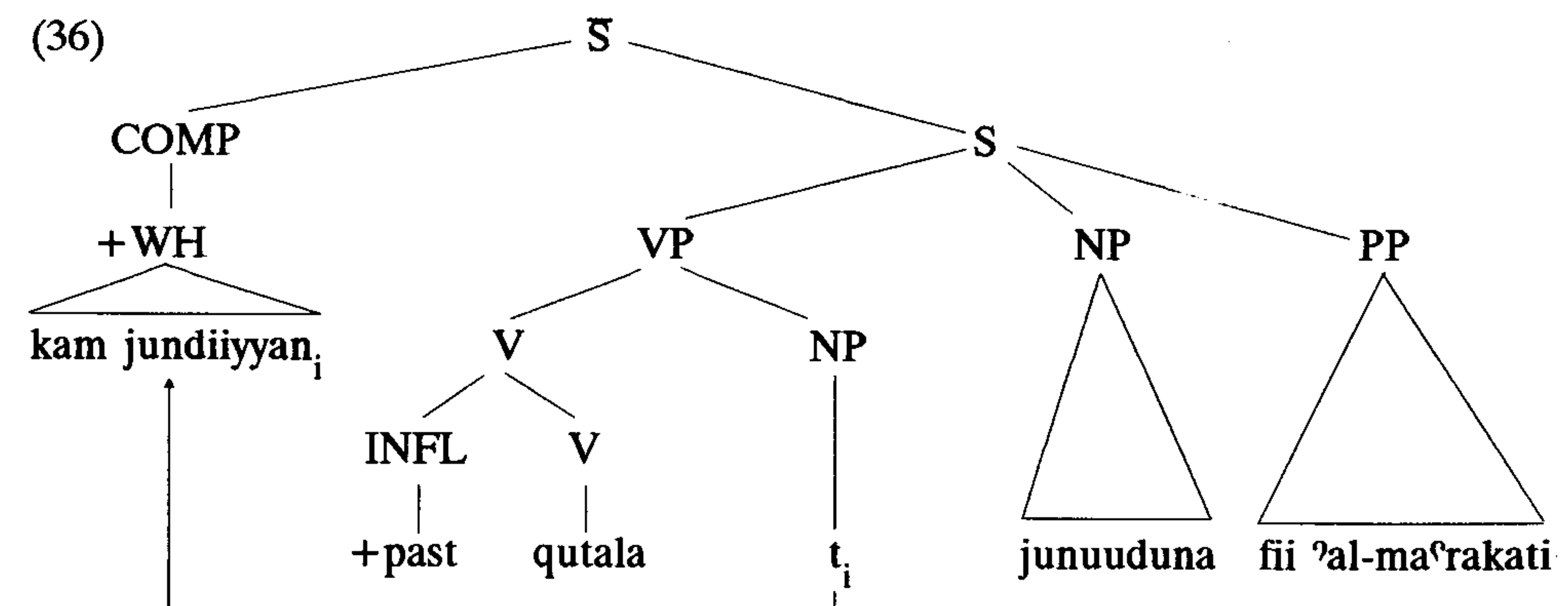
- (34) kam jundiyy-an qatala junuudu-na fii 'al-ma'arakati
 how many soldiers-acc killed soldiers-nom-our in the battle
 how many soldiers did our soldiers kill in the battle

(34) is assigned the following D-structure:



In (35) the verb *qatala* will assign the NP *kam jundiyyan* an accusative case and θ -role as a patient. The NP *'al-ma'arakati* is assigned an oblique case by the governing preposition *fii*. On the other hand, the NP subject *junuuduna* will be assigned a nominative case and θ -role as an agent when percolation of the INFL elements to VP will take place in the syntax.

Now if we move the WH-phrase into COMP (35) will be (36):



Two syntactic properties distinguish this movement in (36) from the movement in (32,33):

- (37) (i) The moved WH-phrase does not trigger a clitic like pronoun in its original position that spells out its original case and F-features. On the contrary, there is only a trace which is co-indexed with the WH-phrase for θ -role.
 (ii) The moved WH-phrase does not change its case, i.e. it keeps its original case as an accusative being the object of the transitive verb *qatala* in D-structure.

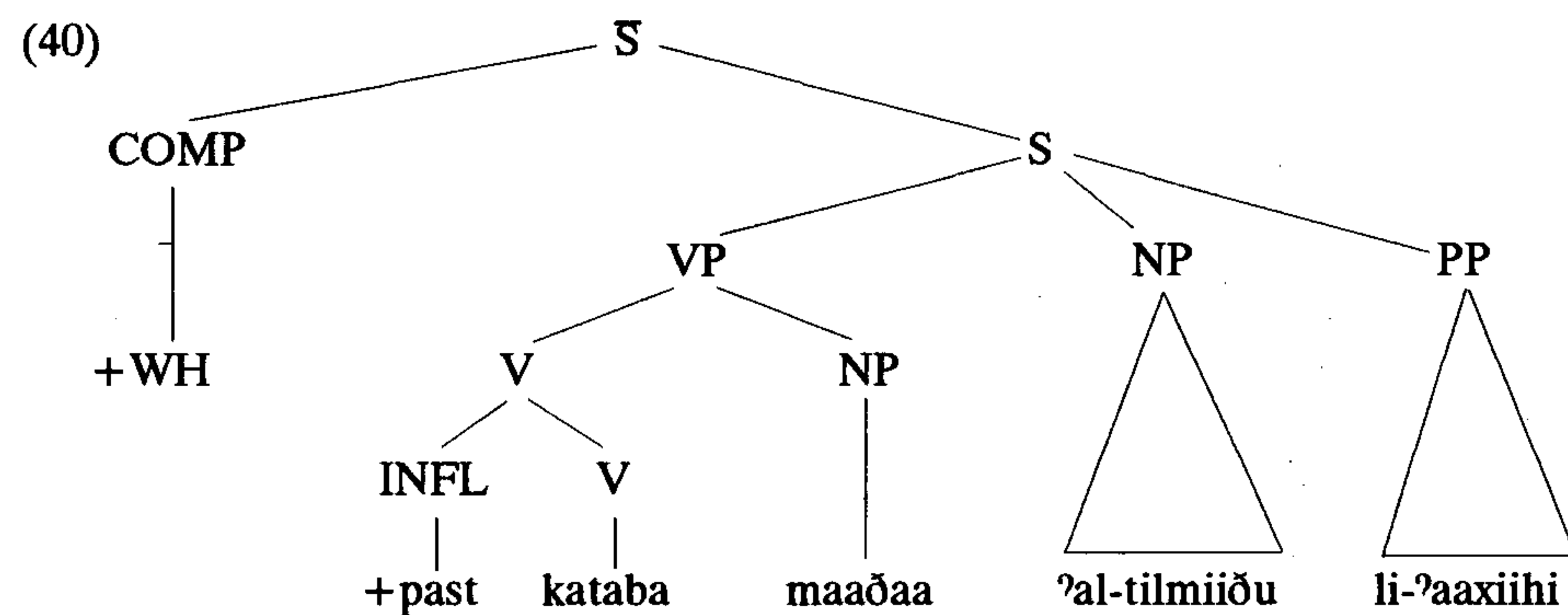
So, the conclusion might be formulated as follows:

- (38) *The chain of a WH-movement in MSA is marked for θ -role as well as for case.*

Let us see whether we can provide some further examples:

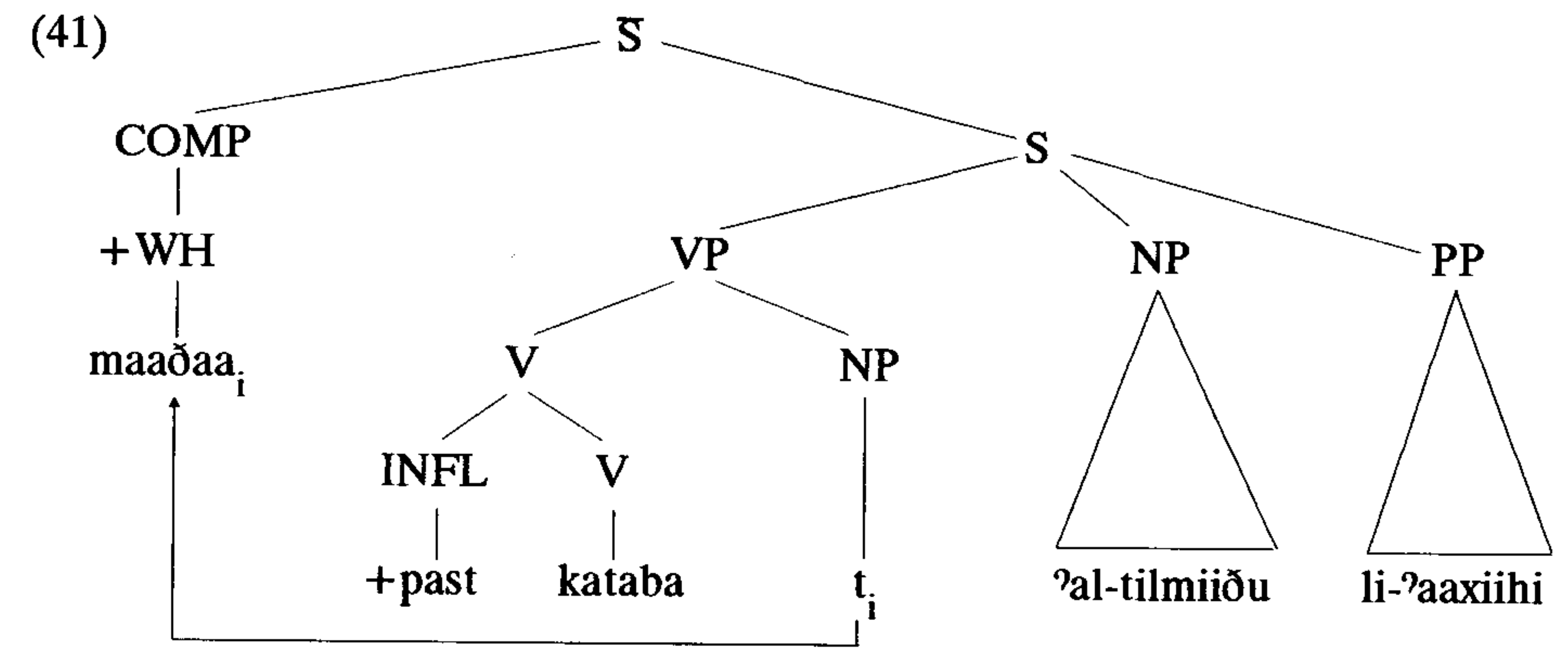
- (39) *maaḏaa katab-a ʔal-tilmiiḏ-u li-ʔaaxi-hi*
 what wrote the pupil-nom to brother-obl-his
 what did the pupil write to his brother

(39) is assigned the following D-structure:



In (40) the cases and the θ -roles are assigned as usual:

The NP *maaḏaa* will be assigned an accusative case and θ -role as a patient by the governing verb *kataba*; on the other hand, the NP *ʔaaxihi* will be assigned an oblique case by the governing preposition *li*. The NP subject *ʔal-tilmiiḏu* will be assigned a nominative case and θ -role as an agent when percolation of the INFL element to VP takes place in the syntax. If we move the WH-phrase in (40) we will get the following:



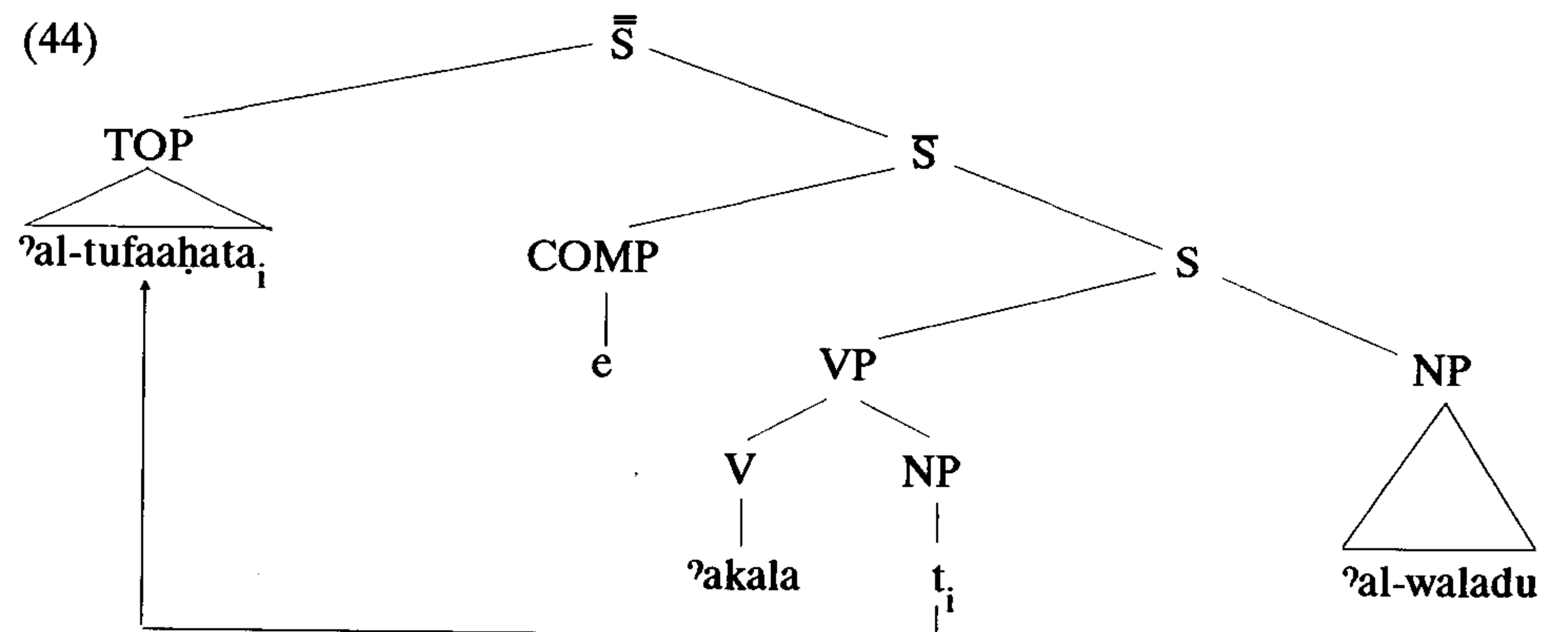
In (41), we notice that the conclusion expressed in (38) holds, i.e. the moved WH-phrase does not trigger a clitic-like pronoun in its original position. Also, it leaves a trace instead of a clitic with which it is co-indexed for θ -role. Secondly, the WH-phrase does not change its case, i.e. it keeps its original case as an accusative. So then, (38) can be reformulated more formally as follows:

- (42) *The chain created by a WH-movement in MSA is a chain marked for θ -role as well as for case; the moved WH-phrase inherits the case of the trace it leaves in its original position in the embedded clause and it is co-indexed with it for θ -role.*

Another movement in MSA which creates a chain marked for θ -role as well as case in TOPICALISATION, e.g.:

- (43) *ʔal-tufaaḥat-a ʔakal-a ʔal-walad-u*
 the apple-acc ate the boy-nom
 the apple, the boy ate

(43) will be assigned (44) as its S-structure assuming topicalization to have already occurred:



In (44) the NP *ʔal-tufaahata* is topicalized, the movement did not leave a clitic, but it left a trace which is co-indexed with the moved NP for θ -role. To decide the grammatical function of the topicalized category in (44), we find that it is the grammatical object of the transitive verb *ʔakala* in the embedded clause. The topicalized NP does not change its case, on the contrary it inherits the case of the trace it left behind.

5. Summary and conclusion

From the discussion so far a conclusion can be drawn as follows:

- (45)
- (i) Case assignment in MSA can be marked through government as suggested in (3) with the exception of (3.i).
 - (ii) The UNMARKED case in MSA is NOMINATIVE.
 - (iii) MSA can assign nominative as well as accusative in COMP. (c.f. the examples 26-32).
 - (iv) There are two types of chains in MSA:
 - (a) The one created by the movement of an NP object or a subject into COMP in the syntax to create one type of what is known traditionally as nominal sentences in MSA. In this type of movement, the syntactic chain is marked for θ -role only, and there is a clitic-like-pronoun on the inflectional ending of the verb.
 - (b) The chain created by a WH-movement or Topicalization. In these structures, the chain is marked for θ -role as well as case, and there is no clitic left behind on the inflectional ending of the verb.

One major result of this paper is that the classic classification of Arabic sentences into Nominal and Verbal is not standing any more. Instead we have just one type of sentence with a base rule of the form:

- (46) S \rightarrow VP NP

and all the other types of sentences are derived through movements within the government and binding theory. Other important points in the paper include the suggestion that NOMINATIVE is the unmarked case in MSA; and taking all governors, which are case assigning elements, to be [-N] only.

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