Word Order in the Arabic Basic Structures[*]
An Informatic Approach

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Introduction

Before explaining the word order mechanism in basic structures in the Arabic language, I would draw the theoretical framework by which the Arabic word order will be analyzed.

The structure of the Arabic sentence consists of three constituents. The first essential constituent is called **Musnad (M)** i.e., M-predicate of the sentence. The second essential constituent is called **Musnad ?ilayhi (MI)**, i.e., MI-subject or topic. The third constituent is called **faḍlah (F)**, i.e.., adjunct or constituents which are neither M nor MI. The relation which holds among these structural constituents is called **?isnād (IS)**,i.e., configuration predication. I shall introduce here another constituent which can transform, the basic structure to a new structure. The new constituent is called **?adāt AD**, i.e., particle . The IS - node and AD-node are dominated by the highest **Kalām - node (K)**, or sentence.

The analysis will be based also on the three case markers of Arabic, i.e., (Nom)inative, (Acc)-usative, and (Gen)itive.

I shall describe the underlying structure of the Arabic word order by using the five case roles proposed by Cook (1979) in the matrix model, i.e., (A) gent, (E) xperiencer, (B) enefactive, (L) ocative, and (O) bject.

Finally, the theoretical framework will be based on the basic transformational generative grammar proposed by Chomsky (1957-1981).

1. Word Order in Verbal Structure

The word of the basic verbal sentence in Arabic might be in (1):

(1) [M (V) ... MI (NP)... (F$_1$ (NP)...(F$_2$ (X)))]

The constituents in (1) can seen, for example, in sentence(2):

	M	MI.	F$_1$	Fx	
(2)	ḍaraba	zaydun	?axā-hu	ḍarban	šadīdan
	hit	Zayd	brother his	hitting	strongly

Fx		Fx		Fx	
yawma	l-jum^{c}ati	?amāma	rifāqi-hi	ta?dīban	la-hu
day	Friday	in front	friends his	punishing	to him

Zayd his brother a very strong hit on Friday in front of his friends as a punishment.

The constituents (M-MI-F$_1$) in (2) represent the basic elements; all other constituents can be collapsed under the category F(x). The structure in (2) allows certain elements to move to the left or to the right of the verb, transformationally. Let us consider the following examples:

(3) <u>ḍaraba</u> <u>zaydun</u> <u>ʔaxā-hu</u>
     hit   zayd   brother his

Zayd hit his brother.

(4) <u>ḍaraba</u> <u>ʔaxā-hu</u> <u>zaydun</u>
     hit   brother his   Zayd

(5) <u>ʔaxā -hu</u> <u>ḍaraba</u> <u>zaydun</u>
     brother his   hit   Zayd

The movement in such structures can be seen as in (4), where the F(NP -object) is preposed to the right of the verb, and as in (5), where the F(NP -object) is preposed to the left of the verb. I shall propose here that the movement of this kind will leave a (t)race behind.

The structure in (3) and its transformations as in (4) and (5) will account for the transformational F(NP-object).This is possible because the governor, i.e, the M (V), is a control verb which must assign case roles of agent and object to its constituents and case markers of nominative and accusative for both MI (NP) and F (NP), respectively. Thus, any transformational movement to the right or to the left of the verb is permissible only within the domain of the IS-node.The justification for such movement is that the verb controls the constituents and assigns them case roles and case markers, and then when the constituents move, they will move with these syntactic and semantic case roles and case markers. This means that no transformational movement is possible unless the constituents are first generated. The movement, however, is permissible in the case of F (NP-object), but not in the case of MI (NP-subject or agent). The non-permissible extraction of the MI (NP-agent) comes from the fact that the M(V) and MI (NP-subject) are one linguistic unit, which cannot separate and move in the structure. All other constituents can move within the structure. In the case of (4) and (5), the F(NP-object) is a meaningful extra constituent which can move freely, leaving a trace behind. The process of movement within the structural domain can be seen in (6), where the movement of the F(NP-object) must be to a sister-adjoined position within the domain of the IS-node but not the K - node:

(6)
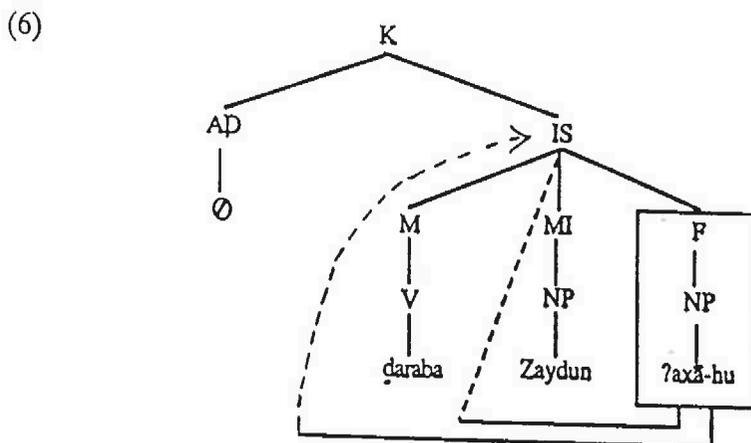
The F(NP-object) in (6) can move to either the left or right of the verb within the domination of the IS-node.

We have discussed so far the movement of the F(NP-object) in the verbal structure. The movement rule, however, can apply to any constituent which can appear under the category F(x). Let us consider the following examples:

(7)

jā?a	rajulun	min	al -madīnati
came	man	from	the city

A man came from the city.

(8)

jā?a	min	al-madīnati	rajulun
came	from	the city	man

(9)

min	al-madīnati	jā?a	rajulun
from	the city	came	man

As seen in (8) and (9), the category F (PP) can move either to the left of the M(V) or to the right of it. Once again, the constraint in such movement is that it must be within the domain of the IS-node.

1.1 Constraints on Word Order in Verbal Structure

In certain syntactic and semantic cases, the constituents within the verbal structure cannot move freely from one position to another, for reasons which have to do with syntactic and semantic ambiguities. The movement in the ambiguous structures will cause ungrammaticality. Let us consider the following examples:

(1) a.

darada	mūsā	Cīsā
hit	Moses	Cīsā

Moses hit Cīsā

b.

daraba	hāðā	hāðā
hit	this	this

This (man) hit this (man)

c.

darabat	il-ḥublā	s-sakrā
hit	the pregnant	the drunk

The pregnant (woman) hit the drunk (woman)

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The above examples do not tell us who is the order of the action, and who was acted upon because it is not clear whether the first constituent to the right of the verb has the case role of agent and case marker of nominative, or the case role of object and the case marker of accusative. This means that the control verb **daraba** assigns the case roles and the case markers covertly but not overtly, since the subject and object are non-inflected nouns. But since the case marking is covert, movement of the constituents is not allowed lest there be ambiguity. The movement has to have some constraints which can capture this ambiguity and clarify it. There are some constraints which concern such structures. These constraints can be stated as follows:

(2)　　a. In structures such as in (1), the first constituent must be assigned an agent case role and a nominative case marker. The second constituent must be assigned an object case role and an accusative case marker.

　　　　b. Movement cannot be applied in such structures, i.e., we cannot move any constituent to prepose or postpose the verb.

The constraint (2a) and (2b) can be relaxed only if the structure has a syntactic or semantic clue which indicates the subject and the object, and thus it will allow constituents to move freely.
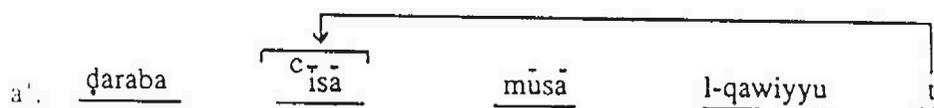
This means that sentences which have no semantic or syntactic clue which enables the consituents to move have a strict and fixed word order.

Applying the constraints above to the structure in (1), we can conclude that the constituent which is found on the right of the verb must be MI (NP-subject) which is marked as a nominative, and the constituent which is to the right of the MI (NP-subject) must be F (NP-object) which is marked as an accusative.

When structure, however, has a certain syntactic or semantic clue, the movement rule can apply freely without any restrictions. These syntactic and semantic clues can be seen in the following examples:

(3) a.　　daraba　　　mūsā　　　l-qawiyyu　　　^{c}īsā

　　　　　hit　　　　　mūsā　　　the strong　　　^{c}īsā

　　　　The strong Moses hit ^{c}Īsā.

a'.　　daraba　　^{c}īsā　　　mūsā　　　l-qawiyyu　　　t

b.　　daraba-t　　　hāδi-hi　　　hāδā

　　　　hit　　　　　this (f)　　　this (M)

　　　　This (woman) hit this (man).

b'.　　daraba-t　　hāδā　　hāδi-hi　　　t

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c.

daraba	l-mūsayūna	l-^{c}īsayīna
hit	the moseses	the ^{c}īsas

The Moseses hit ^{c}īsas.

c'.

daraba	l-^{c}īsayīna	l-mūsayūna	t

(4) a.

?akalat	il-ḥublā	l-ḥalwā
ate	the pregnant	the candy

The pregnant woman ate the candy.

a'.

?akalat	il-ḥalwā	l-ḥublā	t

b.

?akala	^{c}īsā	l-kummaθrā
ate	^{c}īsā	the pears

^{c}īsā ate the pears.

b'.

?akala	l-kummaθrā	^{c}īsā	t

c.

?asarrat	laylā	n-najwā
kept	laylā	the secret

Laylā kept the secret.

c'.

? asarrat	in-najwā	laylā	t

In the above examples of (3) and (4), constituents can move freely, since there are syntactic and semantic clues which indicate who is the MI (NP-subject) and the F(NP-object). In the examples in (3), the clue is syntactic. In (3a), the MI (NP-subject) is modified by an adjective whose case marker is a nominative; thus the MI (NP-subject) must have a nominative case marker and consequently would be an MI (NP-subject). In (3b), the clue is the gender. The Arabic verb must agree with the subject which is postposed to the right of it with gender, number, and person, thus the constituent which agrees with the

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verb in gender must be the MI (NP-subject). In (3c), the clue is that the constituents are marked morphologically with the subject and object as dual markers, thus one can tell the subject from the object.

The semantic clues in structures of (4) vary. In (4a) and (4b), the semantic clue depends on the lexical verb whose semantic features must be universal, i.e., the person who is the eater must be MI (NP-agent) and the thing which is being eaten must be F(NP-object). We can see that the same semantic relations hold for (4c), because the secret must be kept by a human being who is MI (NP-experiencer), and the talk or secret which is being kept must be F(NP-object).

The constraints on the word order can be applied on different kinds of structures. In some structures, we find some verbs which govern three constituents in the structure: the first is MI(NP-subject), and the second and third are F(NP-objects). The constraint in such structures would be on the order of the two F(NP-objects). It is supposed that the F_1 (NP-object) which is the theme and which is talked about must precede the other F_2 (NP-object).In other words, the F_1 (NP-object) which causes the other F_2 (NP-object) must come first in the structure from a semantic point of view. The violation of such constraints will result in ill-formed structures, which might be acceptable. But to achieve a high degree of grammaticality in Chomsky's (1957) sense, one has to apply the previous constraint. This semantic can be seen in (5).

(5)

| ḥasib-tu	š-šamsa	ṭāli ᶜatan
thought I	the sun	rising

I thought I that the sun was rising.

In (5), the structures include two F(NP-objects) which express the logical event; thus the sun is the factor which causes the rising. The logical sequence is that the sun, as an F_1 (NP-object), must precede the other F_2 (NP-object).

The semantic constraint can be exhibited more clearly in another example where a movement rule is involved. In some structures, any movement can change the entire meaning of the sentence. This means that a transformational rule would change the semantic structure of the sentence if it moved a certain constituent from one position to another. These semantic changes can be exhibited in the following examples:

(6)

marar -tu	bi - zaydin	rākiban
passed I	by Zayd	riding

I passed by Zayd while he was riding.

(7)

| marar-tu	rākiban	bi-zaydin
passed I	riding	by Zayd

While I was riding, I passed by Zayd.
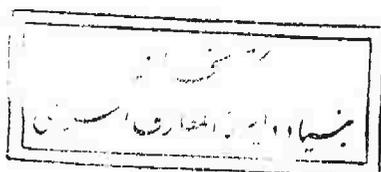
In (6), the F_2 (NP-manner) must refer to PP and modify it, but in (7), it must refer to the MI (Pro-agent) and modify it. Therefore, movement of this kind must be blocked.

The constraints on movement rule can be exhibited in the complex and conditional clauses of the Arabic sentence, which consist of subordinate and main clauses. The constraint in such structures is that the F (NP-object) in the subordinate clause cannot move to the left of its control verb, otherwise it will result in an ungrammatical sentence as in (8b), whose original structure is in (8a).

(8) a.

man	ya ʿmal	sāliḥan	fa-linafsi-hi
who	do	righteous	then for self his

He who does righteous, it would be for himself.

b.*

sāliḥan	man	ya ʿmal	t	fa-linafsi-hi
righteous	who	do		then for self his
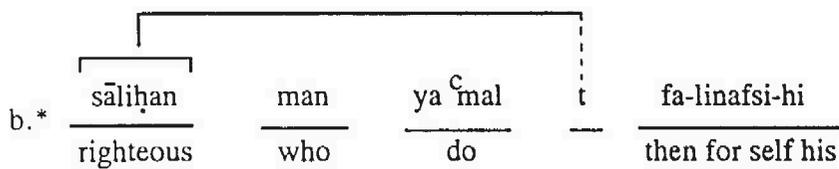
Similar to the conditional structure is the complex structure where the F(NP-object) cannot move because of the constraint on movement rule. This restriction can be seen in (9).

(9) a.

| ?arāda	zaydun	?an	yaḍriba	ʿamran
wanted	Zayd	to	hit	ʿamr

Zayd wanted to hit ʿamr.

The blockage of the F (NP-object) from moving to the left of the verb is the complementizer ?an, which governs the verb and assigns it subjunctive mood. The other reason is that the complementizer ?an is weak enough that it cannot allow any constituent to intervene between it as a governor and its governee. The constraint on movement rule within the complex structure can be applied to the complex sentence whose governor is a verbal noun VN, which functions as if it were a verb. In this structure, the F(NP-object) which is controlled and governed by VN cannot move to the left of its governor. The restriction on such movement is exemplified in the following examples:

(10) a.

sā?a-nī	ḍarbu	zaydin	ʿamran
bothered me	hitting	zayd	ʿamr

Zayd's hitting of ʿamr bothered me.

b.*

sā?a-nī	ʿamran	ḍarbu	zaydin	t
bothered me	ʿamr	hitting	zayd	

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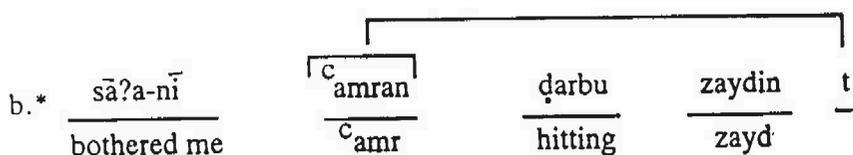
In some structures of the Arabic language, it is obligatory that the F (NP-object) is always to the right of the verb. This structural process, however, results in a word order different from (M-MI-F). Thus the word order of (M-MI-F) in certain structures will violate the grammaticality of the sentence. Instead, the word order must be (M-F-MI). This can be seen in the following examples:

(11) a.

M	F		MI	
?intaqada-hu			l-waziru	l-la?imu
criticized him			the minister	the sordid

The sordid minister criticized him.

(11) b.* ?intaqada   l-waziru   l-la?imu   hu

(12) a.

M	F	MI			
?a^cjaba-ni		?an	daraba	zaydan	?axu-hu
surprised me		that	hit	zayd	brother his

It surprised me that Zayd's brother hit him (Zayd).

(12) b.* ?a^cjaba   ?an   daraba   ?axa-hu   zaydan   ni

(13) a.

	M	F		MI	
ma	daraba	zaydan	?illa	^camrun	
Neg	hit	zayd	except	^camr	

Nobody hit Zayd except ^camr.
(^camr might ... other people besides Zayd.)

(13) b.* ma   daraba   ^camrun   ?illa   zaydan

(14) a.

		M	F	MI	
wa	?iđa	btala	?ibrahima	rabbu-hu	bi-kalimat
and	then	tested	Abraham	God his	by words

And then God tested Abraham by words. (Holy Qur?an)

(14) b.* wa   ?iđa   btala   rabbu-hu   ?ibrahima   bi-kalimat

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As seen in, (2c), (3c/d), and (4c), when a lower constituent is moved to prepose the verb to its left, it will violate the « unified category » principle. Thus the conditions which might be imposed on (2c), (3c/d), and (4c) can be explained in the following way:

(5) a. X is all constituents governed within the verbal structure.
   b. If X is both a governor and a governee at the same time Movement rule must move the governee and its governor together.
   c. Structures which do not meet these two conditions will violate the « unified category » principle.

The most crucial condition about the « unified category » principle is that it must be applied within a verbal structure. The violation of such principle in certain cases will result in a nominal structure which might be subject to certain constraints which state the following:

(6) a. A constituent can be in sentence-initial position as MI (Topic), but it must have a pronominal copy in the sentential comment.
   b. The (Pro) nominal copy must be coreferential with its antecedent MI (Topic).
   c. The antecedent MI (Topic) is not governed by the verbal structure, but it is governed by the nominal governor.
   d. It follows that the nominal governor must assign a case role and a case marker to, antecedent MI (Topic).

The process of nominal complex structures under these five constraints can be seen in the following examples:

(7) a.   <u>marar-tu</u>   <u>bi-zaydin</u>

        passed I   by Zayd

        I passed by Zayd.

   b.   IS

              M   MI   F

              | | |
              V   Pro   PP

              | | |
            marar   tu   bi-zaydin

                          $\begin{bmatrix} +Nom \\ +A/0 \end{bmatrix}$ $\begin{bmatrix} -Gen \\ +L \end{bmatrix}$
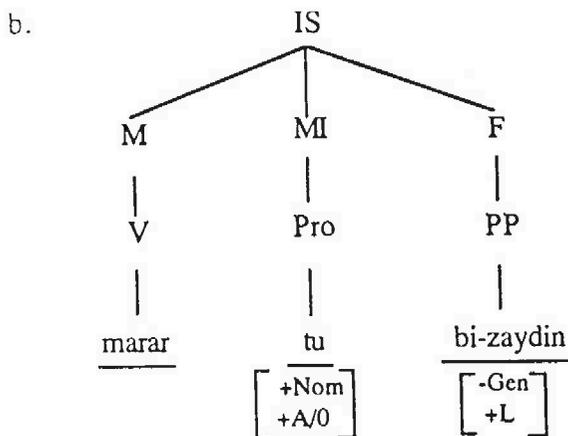
   c.   <u>zaydun</u>   <u>marar-tu</u>   <u>bi-hī</u>

        Zayd   passed I   by him

        As for Zayd, I passed by him.

(18) a.

M	MI	F		
kariha	ᶜamrun	mā	?aḥabba	zaydun
disliked	ᶜamr	what	liked	zayd

ᶜAmr disliked what Zayd liked.

b.* kariha   mā   ?aḥabba   zaydun   ᶜamrun

The constraint in moving constituents in (16), (17), and (18) is that the subject in (16a) is an MI(Pro) which must be attached to its governing verb. The MI(NP-subject) in (17a) is ᶜamr to whom the action of hitting is restricted; thus it must be to the right of the verb, otherwise, the structure would be grammatical **but** with a different semantic reading. In (18a), the F(NP-object) is a complex structure which cannot move to the right of the verb.

It seems that structures which have no syntactic or semantic constraint allow Movement. The rule which can capture the freer and more restricted movement of the constituents might be represented in the following rules:

(19) a. $\left[\text{y...M(V)... MI(NP)... F(X)...Z} \right]$

   1   2   3   4   5

b. $\left[1...\ 4+2\ ...\ 3...\ t...\ 5 \right]$

c. $\left[1...\left[2+4 \right]...\ 3...\ t...\ 5 \right]$

X = must be free from any syntactic restrictions.

1.2. Constraints on Unified Category and ?al-?istigǎl Principles in verbal Structure

The constraint on Movement rule might come from a general principle, the « unified category », that is one syntactic unit which is inseparable. According to this principle. If two constituents are dominated by a higher category, Movement rule must move the whole higher category and not its lower constituent. In other words, the transformation must move a major category, but not a minor category under a certain domination.?As-Suyūṭi (d.1518) mentioned that the grammarian Ibn ?Ar-Rabiᶜexplained this syntactic phenomenon of the « unified category » and clarified it [3].

According to grammarians, Arabic has five syntactic categories, each of which forms one higher category which dominates two lower constituents: one of them must be a governor, the other a governee. The governor and the governee are considered one higher category. The process of Movement within a particular category must move both the governor and the governee, but not one of them; otherwise the structure of the sentence would be ungrammatical.

Let us consider the following examples:

(1) a.

?iᶜtamada	zaydun	ᶜalā	ta?abbaṭašárran
depended	zayd	on	ta?abbaṭašárran

Zayd depended on ta?abbaṭašárran.

b.

ᶜalā	ta?abbaṭašárran	?iᶜtamada	zaydun	t
on	ta?abbaṭašárran	depended	Zayd	X

On Ta?abbaṭašárran Zayd depended.

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(2) a.
jalasa	zaydun	^{c}alā	l-kursiyyi
sat	zayd	on	the chair

Zayd sat on the chair.

b.
^{c}alā	l-kursiyyi	jalasa	zaydun	t
on	the chair	sat	zayd	X

On the chair Zayd sat.
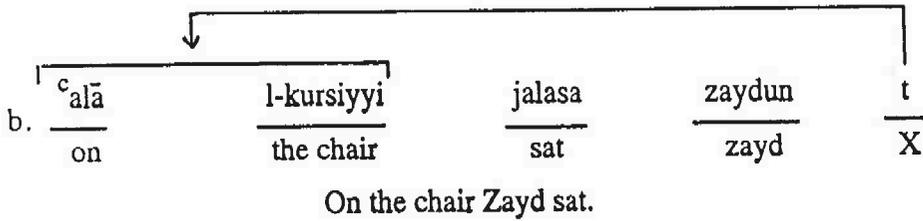
c.*
l-kursiyyi	jalasa	zaydun	^{c}alā	Ø

(3) a.
qatala	sayfubnuðiyazana	malika	l-fursi
killed	sayfubnuðiyazana	king	Persia

Sayfubnuðiyazana killed the king of Persia.

b.
malika	l-fursi	qatala	sayfubnuðiyazana	t
king	Persia	killed	sayfubnuðiyazana	X

The king of Persia Sayfubnuðiyazana killed.
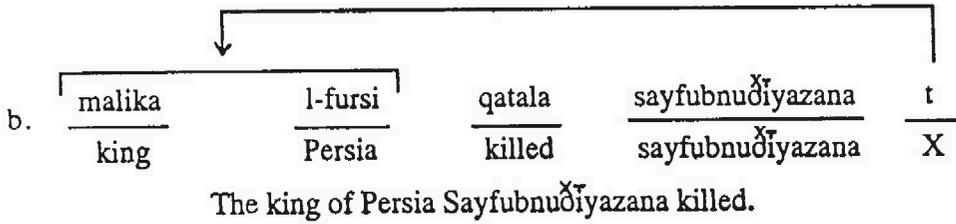
c.*
l-fursi	qatala	sayfubnuðiyazana	malika	Ø

d.*
malika	qatala	sayfubnuðiyazana	Ø	l-fursi

(4) a.
ǧalaba	zaydun	ta?abbaṭaxayran	wa	ta?abbaṭašarran
defeated	zayd	ta?abbaṭaxayran	and	ta?abbaṭašarran

Zayd defeated Ta?abbaṭaxayran and Ta?abbaṭašarran.
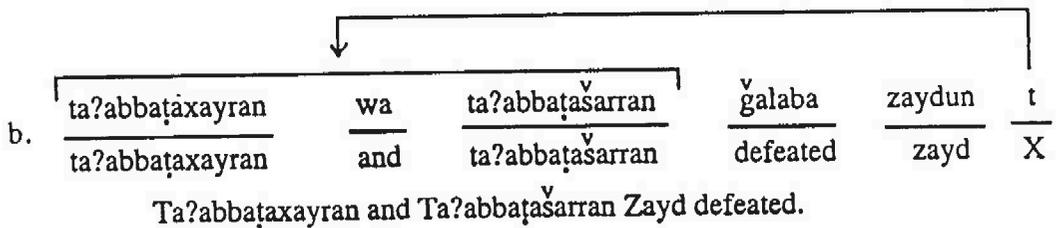
b.
ta?abbaṭaxayran	wa	ta?abbaṭašarran	ǧalaba	zaydun	t
ta?abbaṭaxayran	and	ta?abbaṭašarran	defeated	zayd	X

Ta?abbaṭaxayran and Ta?abbaṭašarran Zayd defeated.

c.*
ta?abbaṭašarran	ǧalaba	zaydun	ta?abbaṭaxayran	wa	Ø

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(15) a.

M	F	MI		
?a^{c}jaba	zaydan	mā	kariha	^{c}amrun
pleased	zayd	what	disliked	^{c}amr

What ^{c}amr desliked pleased Zayd.

b.* ?a^{c}jaba   mā   kariha ^{c}amrun   zaydan

In examples (11) through (15), the F(NP-object) is located to the right of its governing verb obligatorily. This means that no movement is involved here, because these structures have a fixed word order. When the MI (NP-subject) is moved to its expected position, i.e., to the immediate right of the verb, the result is ungrammatical. The structural constraint which is imposed on these sentences varies from one sentence to another. In (11a), the verb is attached to a F(Pro). In (12a), the MI(NP-subject) is a complex clause which begins with the complementizer **?an**. In (13a), the MI (subject) is restricted by the particle.**?illā**, which narrows down the action done by ^{c}**amr**. The movement of the MI(NP-subject) to its expected position in (13b), however, will result in a grammatical structure, but with a different semantic structure. In (14a) a pronoun which is coreferential with the F(NP-object) is attached to the MI (subject), i.e., **rabbu**. In (15a), the MI (NP-subject) is a relativized clause which cannot precede the F(NP-object).

The constraint on Movement rule can be shown in different structures in Arabic, where the constituents cannot move, even though these structures are not ambiguous. The constraints on Movement rule come from other factors, which can be illustrated in the following examples:

(16) a.

M	MI	F
darab-tu		zaydan
hit	I	zayd

I hit Zayd.

b.* darab   zaydan   tu

(17) a.

	M	MI		F
mā	daraba	^{c}amrun	?illā	zaydan
Neg	hit	^{c}amr	except	zayd

^{c}amr hit nobody except Zayd.

(Zayd might be hit by other people, too.)

b.* mā   daraba   zaydan   ?illā ^{c}amrun

(Nobody hit Zayd except ^{c}amr.)

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d.

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                          ‾‾IS
                 _____/    _____
                /                      \
              MI                        M
               |                         |
              NP                        IS
               |              _____|_____
            Zaydun           /           |           \
            _____          M           MI            F
          ⎡+Nom⎤            |            |             |
          ⎣+L  ⎦            V           Pro           PP
                            |            |             |
                          marar         tu          bi-hī
                          _____        ____         _____
                                     ⎡+Nom ⎤       ⎡+Gen⎤
                                     ⎣+A / 0⎦       ⎣+L  ⎦
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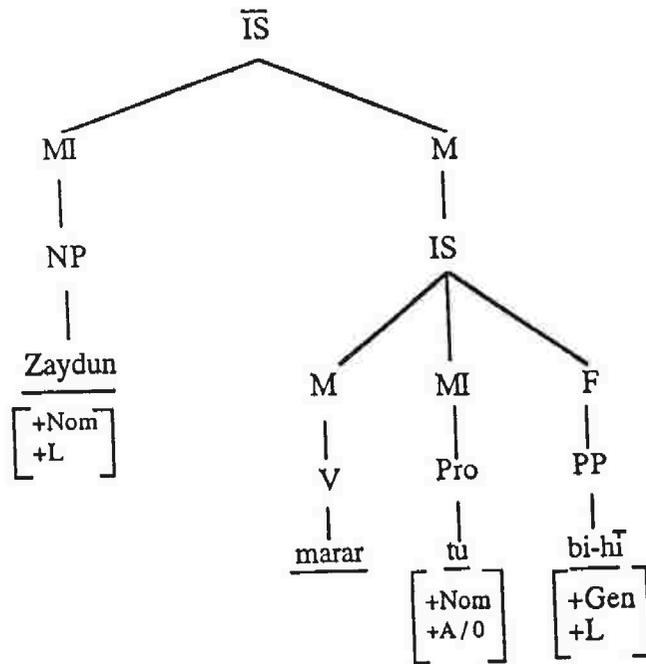
(8) a.   q̲a̲t̲a̲l̲a̲   s̲a̲y̲f̲u̲b̲n̲u̲ð̄i̲y̲a̲z̲a̲n̲   m̲a̲l̲i̲k̲a̲   l̲-̲ f̲u̲r̲s̲i̲
          killed   Sayfubnuð̄iyazan   king   Persia

          Sayfbnuð̄iyazan killed the king of Persia.

b.
```
                          IS
              _____/|_____
             /            |            \
            M            MI             F
            |             |             |
            V            NP            NP
            |             |          __/\__
         qatala    Sayfubnuð̄iyazana  malika   l-fursi
         _____    _____  _____   _____
                        ⎡+Nom⎤       ⎡+Acc⎤   [-Gen]
                        ⎣+A  ⎦       ⎣+O  ⎦
```
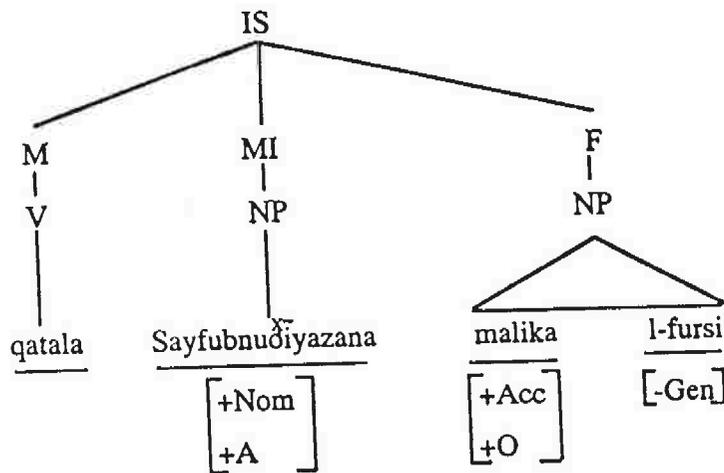
c.   ?̲a̲l̲-̲f̲u̲r̲s̲u̲   q̲a̲t̲a̲l̲a̲   s̲a̲y̲f̲u̲b̲n̲u̲ð̄i̲y̲a̲z̲a̲n̲   m̲a̲l̲i̲k̲a̲-̲h̲u̲m̲
     the Persians   killed   Sayfubnuð̄iyazan   king their

     As for the Persians, Sayfubnuð̄iyazan killed their king.

15

d.

```
                          IS
              _____/‾‾‾_____
             MI                    M
             |                     IS
             NP          _____|_____
          ?al-fursu     M        MI         F
          ┌─────┐       |        |          |
          │+Nom │       V        NP         NP
          │+O   │     qatala  Sayfubnuðiyazana  malika-hum
          └─────┘            ┌─────┐       ┌─────┐
                             │+Nom │       │+Acc │
                             │+A   │       │+O   │
                             └─────┘       └─────┘
```
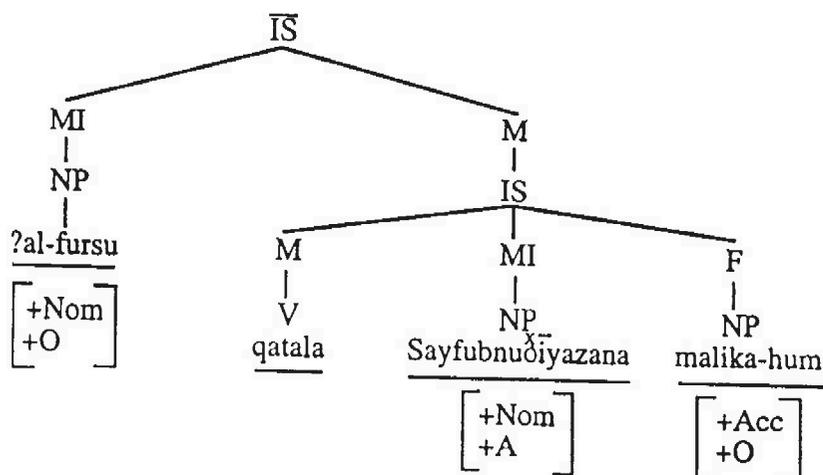
The constraints on the "unified category" principle lead us to discuss similar phenomena within the verbal structure. As seen before, Movement rules can move constituents freely or restrictively, leaving traces behind. There is another process in the Arabic language where the F(NP-object) is generated in an initial position in the verbal structure with a pronominal copy attached to the verb. The pronominal copy must be coreferential with its antecedent F(NP-object) which is at the beginning of the structure governed by a deleted verb. This syntactic process was called in the Arabic theory ?al-?ištiḡāl [4].The strict translation is 'business', i.e.; the governing verb will be so busy governing the pronominal copy or the resumptive pronoun that it cannot govern the initial F(NP-object).

This means that when an F(NP-object) is no longer governed by its verb, i.e., the verb which is governing the resumptive pronouns, the F(NP-object) which is fronted at the beginning of the structure, is governed by a hidden verb which must be of the s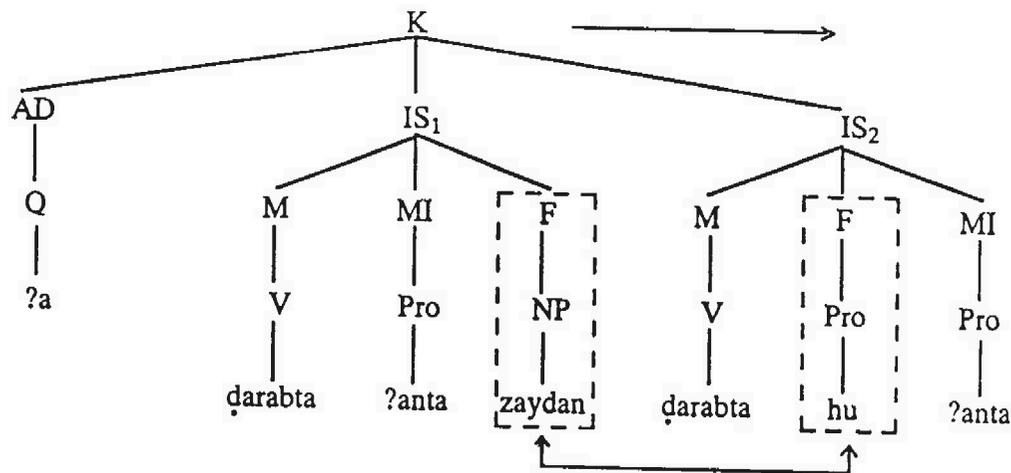ame nature as the verb presented in the S-structure. The hidden verb will assign the F(NP-object) a case marker of accusative. This is possible in question formation, question-like formation, imperative, negative, and conditional clauses. The syntactic operation of ?al-?ištiḡāl in the underlying structure of the verbal sentence in the configurations presented in (9):

(9) a.

?a	zaydan	darabta-hu	∅-Pro
Q	zayd	hit him	you

As for Zayd, did you hit him?

b.

```
                          K  ─────────────────────►
          _____/|_____
         AD             IS₁                       IS₂
         |        _____/|_____         _____/|_____
         Q        M   MI   ┌ F ┐          M    ┌ F ┐    MI
         |        |    |   ¦   ¦           |    ¦   ¦     |
         ?a       V   Pro  ¦NP ¦           V    ¦Pro¦    Pro
                  |    |   ¦ | ¦           |    ¦ | ¦     |
               darabta ?anta ¦zaydan¦   darabta ¦hu ¦   ?anta
                        └────↑──┘           └────↑┘
```

16

c.
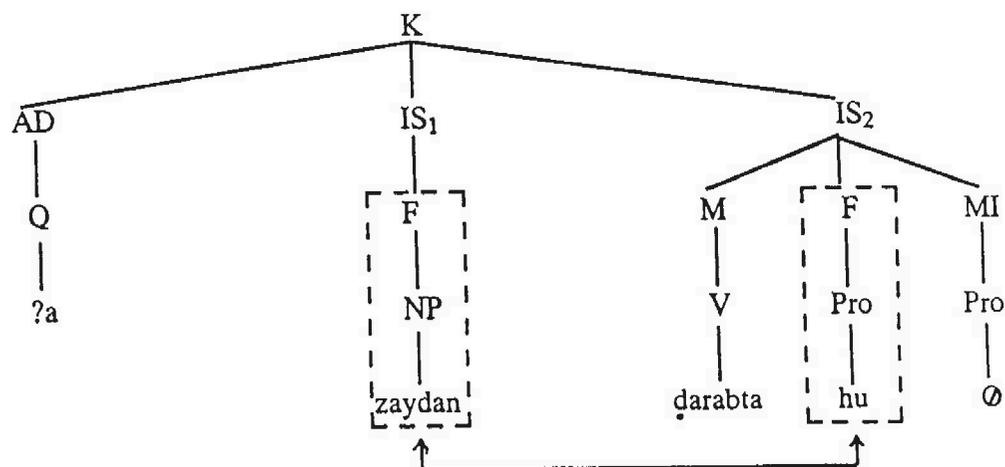
As we have seen in the Arabic language, every constituent in the structure must be governed by a governor. Putting the initial F(NP-object) within this framework, Arab grammarians proposed a deleted verb which governs this F(NP-object). This is different, however, from the MI(NP-object) which can be in a nominal structure and will be governed by a nominal governor. In the new process, the F(NP-object) will be governed by what Arab grammarians had called **bi-fiᶜlin muqaddarin yufassiru-hu mā baᶜda-hu**, i.e., a hidden verb interpreted by a verb that comes after it. This hidden verb will govern the F(NP-object) and assign it a case marker. The crucial constraint on such a syntactic process is that it must occur in question formation, question-like formation, imperative, negative, and conditional clauses:

(10) $\dfrac{?a}{Q}$ $\dfrac{zaydan}{Zayd}$ $\dfrac{darabta\text{-}hu}{hit \quad him}$ ⟶ Q-formation

As for Zayd, did you hit him?

(11) $\dfrac{hallā}{A\text{-like}}$ $\dfrac{zaydan}{Zayd}$ $\dfrac{tukrim\text{-}hu}{honor\ him}$ ⟶ Q-like formation

As for Zayd, would you please honor him.

(12) $\dfrac{ta?abbaṭaxayran}{Ta?abbaṭaxayran}$ $\dfrac{?akrim\text{-}hu}{honor\ him}$ ⟶ Imperative

As for Ta?abbaṭaxayran, honor him.

(13) $\dfrac{ta\ ?abbaṭašarran}{Ta?abbaṭašarran}$ $\dfrac{lā}{Neg}$ $\dfrac{tukrim\text{-}hu}{honor\ him}$ ⟶ Negation

As for Ta?abbaṭašarran, dont honor him.

(14) $\dfrac{ta?abbaṭašarran}{Ta?abbaṭašarran}$ $\dfrac{?in}{if}$ $\dfrac{tukrim\text{-}hu}{you\ honor\ him}$ $\dfrac{yatamarradu}{rebel}$ ⟶ Condition

As for Ta?abbaṭašarran, if you honor him, he will rebel.

17

2. Word Order in Nominal Structures

The nominal structure has two types in Arabic. The first type is called "complex nominal structure". The second type is called "equational nominal structure".

2.1 The Complex Nominal Structure

The complex nominal sentence is a sentence which is generated in the base. The base is able to generate two types of complex nominal structure : The first consists of MI (Topic) followed by a nominal sentential comment. The second consists of MI (Topic) followed by a verbal sentential comment. The two types can be represented in (1) and (2):

(1)

```
                        ‾‾
                        IS
              ┌─────────┴─────────┐
             MI                    M
              |                    |
             NP                    IS
                          ┌────────┼────────┐
                          M        MI        F
                          |        |         |
                          V        Pro       NP
```

(2)

```
        ‾‾
        IS
   ┌────┴────┐
  MI          M
   |          |
  NP          ‾‾
              IS
         ┌────┴────┐
        MI          M
         |          |
        NP          ‾‾
                    IS
              ┌─────┼─────┐
              Ø     Ø      M
                           |
                        ┌─ NP ─┐
                        |  PP  |
                        |  AdjP |
                        └─ AdvP ┘
```
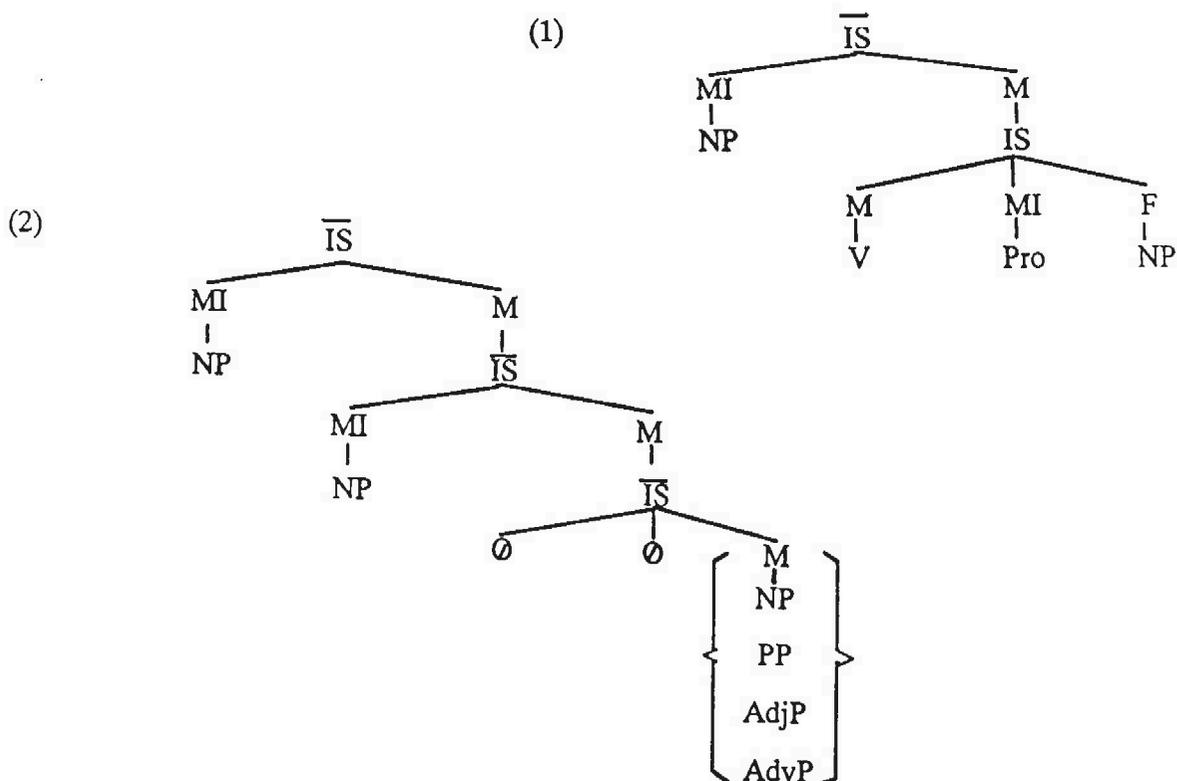
In structures (1) and (2), we have an MI (Topic) or (Theme) followed by either a verbal sentential clause as in (1) or a nominal sentential clause as in (2). The following sentential clause in both structures functions as a theme or comment. The complex nominal structures in (1) and (2) are subject to transformation, but in a different manner from what we have seen in the verbal structure. Let us consider some examples which can indicate clearly the basic structures and the derived structures.

(3)

zaydun	daraba	Ø -Pro	^{c}amran
Zayd	hit	he	^{c}Amr

As for Zayd, he hit ^{c}Amr.

(4)

zaydun	^{c}amran	daraba	Ø-Pro
Zayd	^{c}Amr	hit	he

18

(5) a.

zaydun	?abū-hu	sắ ᶜirun
Zayd	father his	poet

As for Zayd, his father is a poet.

b.

zaydun	sắ ᶜirun	?abū-hu
Zayd	poet	father his

In the above examples, the constituent **Zayd** is always an MI (NP-Topic) which is coreferential with its resumptive covert pronoun which is in the verbal sentential comment as in (3) and (4), with its resumptive overt pronoun which is in the nominal sentential comment as in (5). The MI (NP-Topic) is base-generated constituent, whereas the other constituent such as ᶜ**Amr** F(NP-object) in the verbal structure and **sắᶜirun** M (NP) in the nominal structure are moved either to the left or to the right. The movement of such a constituent must leave a trace behind, as seen in the previous structures.

Thus the most important aspect in the complex structure is that the sentential comment must contain a resumptive pronoun whether it is covert (i.e., an empty or hidden pronoun) or an overt full lexical pronoun.

The comparison between the MI (NP-Topic) and the F(NP-object) leads us to the following syntactic and semantic properties for each.

(6) MI (NP-Topic)

a. It is basically a base-generated constituent.

b. It is assigned a case marker of nominative.

c. It has a resumptive pronoun in the sentential comment.

d. It is followed by a sentential comment either verbal or nominal.

e. It is coreferential with the resumptive pronoun even though the comment is free anaphorically.

f. Movement can take place in the sentential comment and move some constituents trans-formationally.

(7) F(NP-Object)

a. It is transformationally moved.

b. It is assigned a case marker of accusative by the governing verb.

c. It occurs in a verbal sentential structure.

d. It does not have a resumptive pronoun except in **?al-?istigắl** phenomenon.

e. When it has a resumptive pronoun, it is coreferential with it.

f. It moves to a position either to the right of the verb or to the left of the verb.

2.2 The Equational Nominal Structure

The second type of the nominal structure is the equational or existential structure. The theoretical framework of the equational or existential sentence varies among linguists, depending on the approach which they adopt. The theoretical framework of the equational sentence, for example, had been analyzed within the structure of the verbal and complex nominal sentence in the past decades. Snow (1965), Killean (1964), Lewkowicz (1967), and Awwad (1973) have analyzed the structural framework of the equational sentence within the word order of (SVO). According to Bakir (1980), the theoretical framework of the equational sentence for the past decades was as in (1) and (2).

(1)   S ⟶ NP - VP

(2)   VP ⟶ $\left\{\begin{array}{l} \text{V- (NP) (PP) (AdjP) (AdvP)} \\ \text{V- Cop - NP} \end{array}\right\}$

Bakir (1980) and Fihre (1981) deviated from the above framework and perceived the structure of the equational sentence from an NP-Topic and sentential comment point of view. They considered the structure of the equational sentence to be within the word order of NP-(V)-NP. In their framework, they proposed a verb-deletion rule which can delete the existential verb **yakūnu**, 'be' in the present, and keep it in the past **kāna** and future tense **sayakūnu**.

    · In this study, however, I shall analyze the structure of the equational sentence within the framework which I proposed before. This means that the equational structure consists of two constituents. The first is the starting constituent MI which might be (NP), (VN), or (S). The second is the predicate M which might be (NP), (AP), (PP), (AdvP), or (S). All these categories can be collapsed under one category, M (X), i.e., a predicate X. Thus, assuming these constituents, the structure of the equational sentence can be analyzed as in (3):

(3) $\left[\ \overline{\overline{\text{IS}}}..........\text{MI}.............\text{M(X)} \ \right]$

        Condition :   V= is always deleted in the equational structure except when it is in past and

                future tense, i.e., (Kāna = was, sayakūnu =will be)

The constraint on such structures in Ibn ya $^{c}\overline{\overline{\text{is}}}$'s terminology [5] is that M represents three existential verbs :

(4) a.   yakūnu _____ i.e., BE

     b.   yastaqirru _____ i.e., EXIST

     c.   yahduθu _____ i.e., HAPPEN

The two verbs in (b) and (c) must be deleted in any syntactic environment of the equational sentence. The verb in (a) must be deleted only if it is in the present tense. This means that the verb BE is not deleted in the past and future tense. The category (X) (i.e., NP, AP, PP, AdvP); however, must take the position of the deleted verb and function.
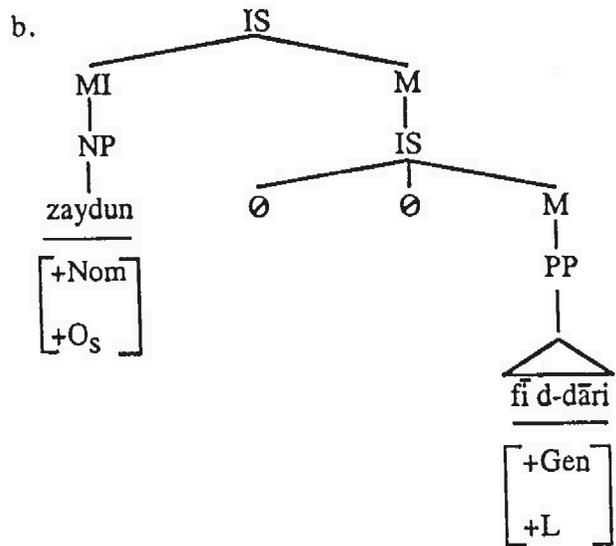
The configuration structure of the equational sentence in (5) and (6) is shown in (7a) and (7b).

(5) $\underline{\text{zaydun}}$ $\underline{\text{*(yakūnu Pro)}}$ $\underline{\text{fī}}$ $\underline{\text{d-dāri}}$
        Zayd   is   he   in   the house

            As for Zayd, he is in the house.

(6) $\underline{\text{zaydun}}$ ⊘   ⊘ $\underline{\text{fī}}$ $\underline{\text{d-dāri}}$
        Zayd   in   the house

            Zayd is in the house.

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(7) a.

```
                    K                           ────────────►
            ┌───────┴───────┐
           AD               ĪS
            │        ┌───────┴───────┐
            ∅       MI               M
                     │               │
                    NP              IS
                     │       ┌───────┼───────┐
                  zaydun     M      MI        F
                             │       │        │
                             V      NP       PP
                             │       │      ╱  ╲
                          yakūnu   huwa    fī  d-dāri
```

b.

```
                    IS
            ┌───────┴───────┐
           MI               M
            │               │
           NP              IS
            │       ┌───────┼───────┐
         zaydun     ∅       ∅       M
        ┌──────┐                    │
        │+Nom │                    PP
        │     │                   ╱  ╲
        │+O_s │                  fī d-dāri
        └──────┘                 ┌──────┐
                                 │+Gen │
                                 │     │
                                 │+L   │
                                 └──────┘
```
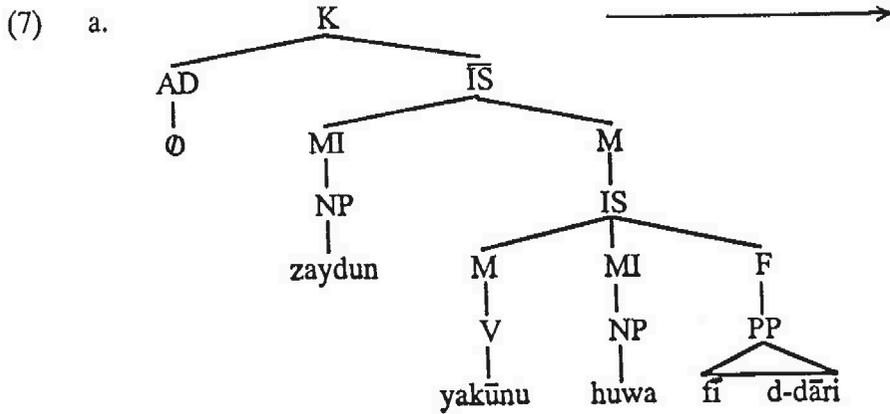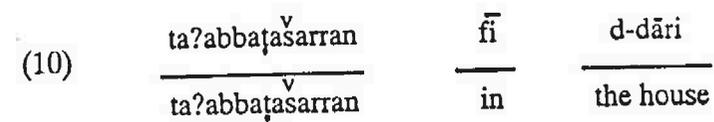
The general structure of the existential sentence might be represented in the following structures :

(8) $\dfrac{\text{zaydun}}{\text{Zayd}}$ $\dfrac{\text{šāʿirun}}{\text{poet}}$

Zayd is a poet.

(9) $\dfrac{\text{ʿamrun}}{\text{ʿAmr}}$ $\dfrac{\text{halīmun}}{\text{patient}}$

ʿAmr is patient.

(10) $\dfrac{\text{taʔabbaṭašarran}}{\text{taʔabbaṭašarran}}$ $\dfrac{\text{fī}}{\text{in}}$ $\dfrac{\text{d-dāri}}{\text{the house}}$

Taʔabbaṭašarran is in the house.   21

(11)

xamrun	li-yawmin	wa	?amrun	li-ǧadin
wine	for today	and	business	for tomorrow

Wine is for today and business is for tomorrow.

The equational structures above are subject to transformations, but the only constituent which can move is the predicate constitute, i.e., M(X), leaving a trace behind. The only constraint on the operation of transformation is that the category M(X) must be indefinite. The idea behind this constraint is semantic and syntactic because when the category M(X) is definite and it is at the beginning of the structure, the process will have nothing to do with transformation. The difinite M(X) would be generated in the base to the left of its MI (NP-argument). In addition, the meaning of the sentence will be narrowed down to focus on the constituent which is at the beginning of the structure, i.e., M(X). For example, if there is no hero, let us say, except **Sayfubnuðiyazan**, we can attach this quality to that person by generating the M(X) in the base as it is shown in (12) and (13).

(12)

sayfubnuðiyazana	baṭalun
Sayfubnuðiyazana	hero

Sayfubnuðiyazana is a hero.

(13)

?albaṭalu	sayfubnuðiyazana
hero	Sayfubnuðiyazana

As for the hero, he is Sayfubnuðiyazana.

The operation of Movement on the basic structure of the equational sentence can be shown when we transform the structures (8), (9), (10), and (11) to the structures (14), (15), (16), and (17).

(14)

saᵛ⁻ᶜirun	zaydun	t
poet	Zayd	

Zayd is a poet.

(15)

halīmun	ᶜamrun	t
patient	ᶜAmr	

ᶜAmr is a patient.

(16)

fī	dārin	ta?abbaṭaᵛsarran	t
in	house	Ta?abbaṭaᵛsarran	

Ta?abbaṭaᵛsarran is in a house.

22

(17)

yawmun	li-xamri	t	wa	yawmun	li-?amri	t
one day	for the wine		and	other day	for the business	
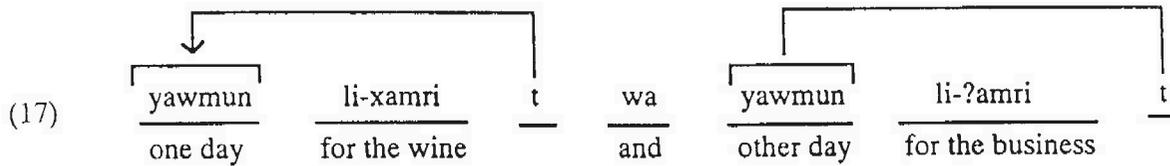
One day is for the wine and the other day is for the business.

As seen in the above examples, the indefinite category M(X) is preposed to the left of its MI (NP-argument) by the operation of Movement which will move M(X) to the front of the structure after leaving a trace behind.

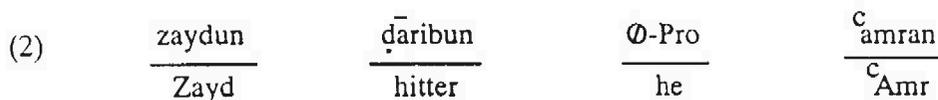## 3. Theoretical Implications

Chomsky (1977) stated that « rules can vary from language to language within the constraints imposed by Universal Grammar, but it is often assumed that conditions on rules must be invariant. This assumption is somewhat arbitrary. There is no **a priori** reason not to assume the opposite »[6]. Examining this statement through the sentential structures in Arabic, we can see that they meet its general principles. In spite of the fact that there are some constraints imposed by Univesal Grammar on Arabic sentential structures, these sentential structures indicate that conditions on rules are indeed variant. This fact, however, can be seen throughout our discussion of the sentence structures within the framework of Universal Grammar.

In this study, it is argued that a relatively deep investigation of the basic structures and their word order in the Arabic sentence can be given by a modern framework. The need for the Arabic sentential insights was raised by the semantic and syntactic constraints which are somewhat different from the universal conditions. For example, applying a strict lexical framework proposed by Chomsky (1970) to Arabic data will indicate some facts about the lexical nature of Arabic which cannot meet exactly Chomsky's assumptions about the lexical hypothesis. This hypothesis assumes that we can classify the major lexical categories by what is known as « binary set of features ». This means that the general domain of these features can capture the nature of more than one syntactic category of the lexical rules.

The binary set of Arabic data differs slightly from that of Chomsky's, because of the derivational nature of the Arabic language which enables the lexical category to share another lexical category with some syntactic and semantic properties (i.e., VN=V,VN=N). Thus, the verbal noun or gerund **dārib** in Arabic is both [+N] and [+V]. This can be illustrated as in (1) and (2).

(1)

?ad-dāribu	zaydun
the hitter	zayd

The hitter is Zayd.

(2)

zaydun	dāribun	Ø-Pro	^{c}amran
Zayd	hitter	he	^{c}Amr

Zayd is the hitter of ^{c}Amr.

We have seen before that the general notion of the structural configuration proposed by the early Arab. grammarians meets the structural configuraion proposed by Chomsky in the EST. Arab grammarians considered what is called in EST as « comp » to be as an AD (i.e., particle). The AD-node is beyond the domination of the essential structure of the sentence, i.e.,the essential constituents are not dominated by the same node which dominates AD in Arabic view or « comp » in Chomsky's view. This means that

the structure of the early Arab grammarians is similar to the structure of Chomsky's EST. This similarity can be illustrated in the following configurations.

(3)   **Sībawayhi (d.793)**

a.

kayfa	ḍaraba	zaydun	^{c}amran
how	hit	Zayd	^{c}Amr

How did Zayd hit ^{c}Amr?

b.

(4)   **Chomsky (1977)**

a.   How did Zayd hit ^{c}amr

b.

As seen in the above configurations, the two concepts represent one abstract structure which can account for Arabic as well as for other languages. Once again, while of course Sibawayhi did not use the notation above, it follows from his theoretical discussion.

Chomsky (1977) proposed phrase structure rules which can account for different syntactic modifications that had been made. The new rules were the following:

(5) $\bar{\bar{S}}$ ⟶ Comp - $\left\{ \begin{array}{c} S \\ \bar{\bar{S}} \end{array} \right\}$

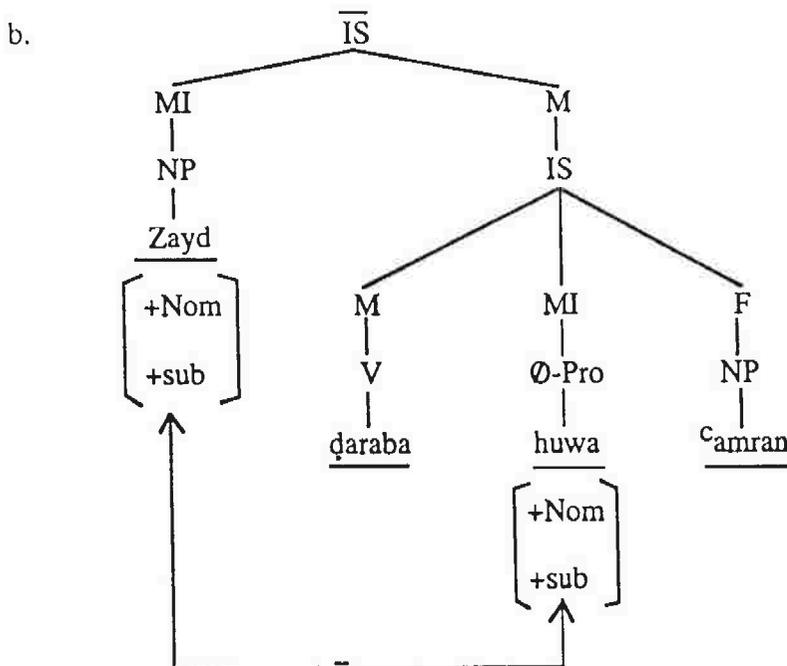(6) $\bar{\bar{\bar{S}}}$ ⟶ Top - $\bar{\bar{S}}$

These rules will generate in English structure the NP -object under the Topic node, as in sentence (7).

(7)   a.   Beans I like.

    b. $\left[_{\bar{\bar{\bar{S}}}} \left[\text{Top-Beans} \right] \left[_{\bar{\bar{S}}} \left[\text{NP-I} \left[\text{VP-like} \right] \right] \right] \right]$

Generally speaking, the NP-subject and the NP-object (i.e., Topic) are base-generated according to these rules. In Arabic, however, there is a distinction between the NP-subject which meets exactly Chomsky's topicalization, and the NP-object which deviates from Chomsky's topicalization. According to the Arabic structures, the topicalization of Chomsky can only apply to the complex nominal sentence whose structure is as in (8).

(8)   a. $\underline{\text{zaydun}}$ $\underline{\text{daraba}}$ $\underline{\varnothing\text{-Pro}}$ $\underline{^{c}\text{amran}}$
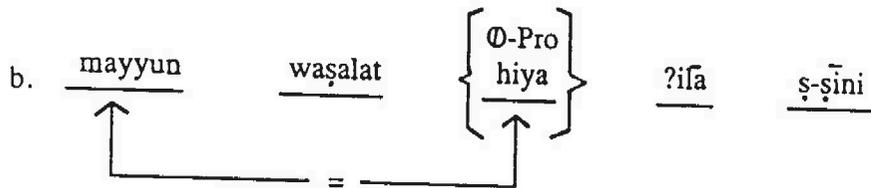   Zayd   hit   he ^{c}Amr

        As for Zayd, he hit ^{c}Amr.

    b.

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The MI (NP-Topic) in (8) is generated in the base under the MI-node. The other constituents in (8) are considered to be sentential comments which are dominated by the IS-node.

It was assumed that the resumptive is coreferential with its antecedent, MI (NP-Topic), either overtly or covertly. That is, the resumptive pronoun might or might not appear in the surface structure, but either way it is present in the underlying structure. The covert resumptive pronoun was called by Arab grammarians **damīr mustatir**, 'a hidden pronoun'. The overt resumptive pronoun was called **damīr ḍāhir**, i.e., 'appearing pronoun'. The covert or hidden resumptive pronoun can be show in the following examples:

(9) a. <u>mayyun</u>   <u>waṣalat</u>   <u>?ilā</u>   <u>s̱-s̱ini</u>

          Mayy   arrived   to   China

As for Mayy, she arrived in China.

b. <u>mayyun</u>   <u>waṣalat</u>   { Ø-Pro / <u>hiya</u> }   <u>?ilā</u>   <u>s̱-s̱ini</u>

In (9b), we can see that the resumptive pronoun is covertly hidden or overtly shown. In either way, it is coreferential with its MI(NP-Topic) antecedent, i.e., **Mayy**.

The F(NP-object) in the verbal structure, however, is different from the MI(NP-subject) because it occurs in a different position and develops a different process. The structure of the F(NP-object) can be given in (10).

(10) a. <u>mayyan</u>   <u>yuḥibbu</u>   <u>zaydun</u>

        Mayy   loves   Zayd

As for Mayy, Zayd loves her :

b.
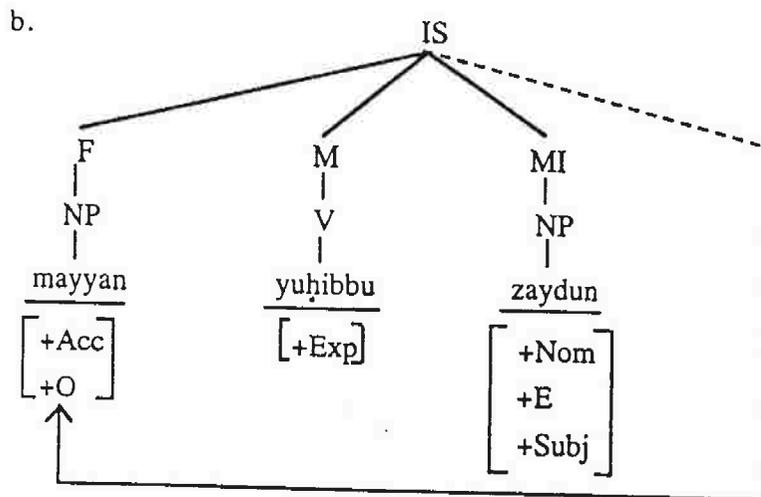
As seen in (10b), the F(NP-object) is not generated in place (as in (10a)) in the base, but is moved transformationally to the front of the structure leaving a trace behind. This means that the F(NP-object)

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cannot be in an initial sentence position by Chomsky's base rule of Topicalization. Arab grammarians, however, agreed with Chomsky on transformational principles by which the F(NP-object) can move transformationally within the S-node or ↑S-node where the F(NP-object) is considered sister-adjoined to the verb. This means then that the F(NP-object) cannot be generated in a higher node to be sister-adjoined to (IS) which is dominated by (IS̄).

Thus the principle of C-command by Reinhart (1976) and developed by Chomsky (1977-1978) can only apply to MI(NP-Topic) which is generated in the base in Arabic. The general principle of C-command is that α C-commands β if α does not contain β and β is dominated by the first branching category dominating α. The C-command principle can be shown in the following configuration:

(11)
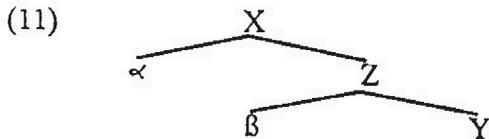
α in (11) commands β, but not vice versa. This notion of C-command is applicable to the MI(NP-subject) in the nominal complex sentence, but not to the F(NP-object) in the verbal sentence. The rule which can be applied to F(NP-object) is transformational, as in the process diagrammed in (2):

(12)
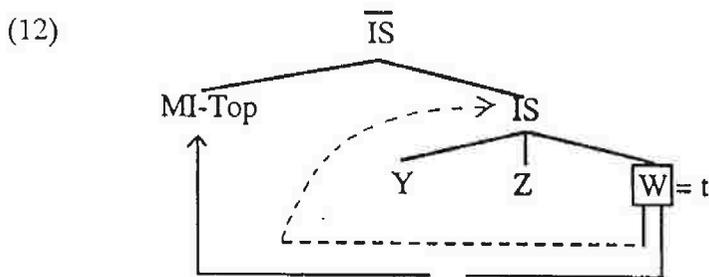
The movement of W as in (12) is restricted to the constituent which is dominated by IS but not MI-Top.

Conclusion

Any linguistic approach seeking a scientific investigation of empirical, exact, and objective methodology needs to be based on different varieties of linguistic data. In addition, it needs to be flexible in its theoretical principles in the sense of being able to benefit from the traditional linguistic analyses which belong to human civilization in general.

In light of these facts, modern linguistic theory, especially the Government and Binding theory proposed by Chomsky (1981-1982), might benefit from the linguistic insights proposed by the early Arab linguists.

At the same time, it would be useful in our contemporary Arabic language research to open our eyes to the tremendous and advanced development in the technology of linguistics in the West generally, and in the U.S.A. particularly.

wa llāhu ?a^clam

Footnotes

1. Brame, **Arabic phonology : Implications for Phonological Theory and Historical Semitic**, Ph.D. dissertation, M.I.T., 1970, p.v.

2. Al-Waer, Mazen, « On some Controversial Issues of Transformational Generative Grammar » Al-Lisāniyyāt, Vol.6.

3. ?As-suyūṭi, **al -?ašbāh wa n-naðā?ir**, vol.1, p.285.

4. ?Az-Zajjāji (d. 944), **? Al-jumal**, ed. 1957, Paris, p. 51.

5. Ibn Ya^ciš (d.1250), **šarḥ ?Al mufaṣṣal**, vol.1, ed. 1970, Beirut, p. 90.

6. Chomsky, Noam, « On WH-Movement », **Formal Syntax**, Wasow, Culicover and Akmajian, eds., Academic Press, 1977, p. 75.

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