Arabic Noun Phrases and X-bar Theory with Reference to English Noun Phrases

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Symbols Used in Transliteration of Arabic Words
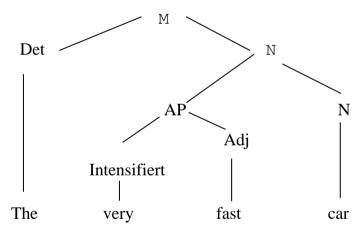
Consonants	*Short Vowels*	*Long Vowels*
ع ـــــ ؟	الكسرة = أ	ii ي
ض ـــ D	الفتحة = a	aa آ
ذ ـــــ 6	الضمة = u	uu و
ح ـــ n		
ص ـــ S		
ق ـــ q		
ط ـــــ t		
ش ـــ $		
س ـــ s		

Background

X-bar (x) is a system of grammatical analysis developed in recent generative linguistics as an alternative to traditional account of phrase structure grammar. It is argued both that rules of phrase – structure grammar need to be more constrained and that more phrasal categories need to be recognized. Within the noun phrase, for example, the need is felt to recognize intermediate categories

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larger than the noun but smaller than the phrase, e. g. very fast or very fast car in the noun phrase "the very fast car." The intermediate categories, which have not status in previous phrase structure models, are formally recognized in x-bar syntax by a system of x-bars, each of which identifies a level of phrasal expansion. Given a lexical category, X, $X^5 = $ "X withe no bars" (i.e. the category itself; $x = X^1 = $ "X – bar" = "X – singular bar"; $X = X^2 = $ "X – double – bar"; $z = X^3 = $ "X – treble – bar" and so on, Expansion for N ('N – bar' and 'N – double – bar') can be illustrated in the following tree.

```
                    M
        Det                  N
                    AP              N
                         Adj
         |       Intensifiert
                         |        |
        The      very    fast     car
```

Each of the bar categories corresponding to X is known a Bar-Projection of X (Radford, 1988: 277).

The value of recognizing intermediate categories in this way is widely agreed upon, but there is no agreement among linguists about the number of categories which need to be recognized, nor

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how far it is possible to generalize rules of category formaton throughout grammar.

Furthermore, this study provides a brief account of X-bar Theory in the light of Radfords' "Transformational Grammar, 1988". To my knowledge, within this framework, no comprehensive study of X-bar Teory in Arabic has been conducted, a fact which has encouraged the writer to cultivate this virgin soil of Arabic syntax within this model.

Introduction

Arabic differs from English in too many respects and what applies to English cannot readily be applied to Arabic without serious modifications or even sometimes radical changes. Nouns in English aredefined by the definite determiner "the" or the indefinte determiners 'a' or 'an' (Quirk et al. 1973:54). Nouns in Arabic can be defined by ـال 'al', genitive or adjective (Beeston, 1968:24).

Adjectives in Arabic conform with nouns in terms of definiteness or indefiniteness, singular or plural and feminine or masculine. Thus, adjectives having the definite article ال al-, can be pluralized and can be made feminine or masculine according to the noun head they follow. Since there is no 'of-construction' in Arabic as a sign of genitive case, there is no amorphous link between the noun head and the following qualifier. In this paper, I have tried to tackle the above-mentioned difficulties and the

terminological quagmire per se. in the course of our discussion I have summed up that X-bar rules can be successfully applied to Arabic noun phases after proposing certain modifications to these rules.
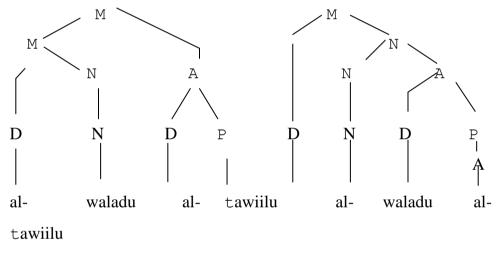
Discussion

When a noun by itself is inadequate to describe the entity term intended, one or more qualifiers may be added. A qualifier in Arabic can be one of these four possibilities:

 (i) an adjective,

(ii) another entity term (noun, pronoun or demonstrative),

(iii) a qualifying clause,

(iv) a prepositional phrase.

(i) In Arabic, the adjective adapts itself to the noun which it qualifies in two ways:

First, it takes the same ending of the noun when the latter (viz, qualified noun) is grammatically feminine as in   ولد طويل "walladun ʈawiilun" (a tall boy) بنت طويلة "bintun ʈawiilatun" (a tall girl) this type of adaptation is not very significant to our topic, so I will move to the second type of adaptation. Secondly, the qualifying adjective must itself have the article when it qualifies a noun which is defined in either way:

الولدُ الطويلُ"al-waladu al-ʈawiilu" (the tall boy)

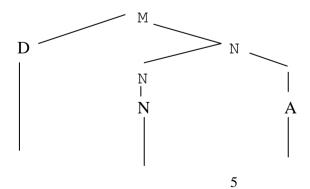الحربُ الشديدُ " al-ħarbu al-ʃadiida" (the violent war)

Morecover, adjectives in Arabic occur in postposition and the nominal head and its qualifying adjective discontinuously fused to each and this may cause some sort of complexity in the language. Perhaps this is the reason why I have given priority to the discussion of adjectives in noun phrases. Try with me to detect the shortcomings which result from the application of X-bar theory to the above mentioned Arabic noun phrases.

```
        M                                M
     M     N     A                  N       N
     |     |    / \              D   N    D   A
     D     N   D   P                      |  / \
     |     |   |   |                      D  P
    al-  waladu al- tawiilu              |   |
                                         al- waladu  al-
                                                       A
                                                       ↑
```

[Tree No. One]   *[Tree No. Two]*

Here, the third tree can be drawn on the basis of considering the adjectives determiner as "Epenthetic".

```
          M
     D        N
     |      N    N
     |      N    A
     |      |    |
```

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Al   waladu   al-tawiilu   *[Tree No.Three]*

Trees No. 2 and 3 are more consistent with the x-bar rule because No. 1 states that determiners expand N-bar into N-double-bar. However, tree No. 2 is more evident and comprehensive in that x-bar theory has been applied to the adjective phrase as well as the noun phrase. A bird's eye view on tree No. 3 may demonstrate that it is completely correct, yet a moment's thought and speculation shows that adjective's determiner cannot be epenthetic but it a prerequisite in Arabic. If we put it another way, it is the occurrence of the determiner with the noun which leads the adjective to have its own determiner to be in congruence. If we delete the first ال (al-) the second ال (al-) must also be deleted, and if we keep one and delete the other, the noun phrase becomes a basic sentence as in

الولدُ طويلٌ "al-waladu tawiilun"⟶ (= the boy is tall)

والدُ الطويلُ "waladu al-tawiilu" ⟶ (= the mans' son)

"al-tawiilu" in the second example is used as a surname.

Since we need not concern ourselves with adjective phrase internal structure for the time being, I will take tree No. 3 into consideration in deducing that:

1. Arabic NPs differ from English NPs in that adjective in Arabic occur in postnominal positions (adjective and nouns in NPs are in

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congruence in number, gender and definiteness), while in English NPs, the adjectives occur attributively (in prenominal position).
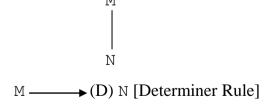
2. Determiners and their heads cannot be split in Arabic.

3. Determiners in Arabic and English NPs expand N-bar into N-double-bar.

So far the situation is simple and clear, yet it is not so for the following NP which is different from the previous ones in two respects:
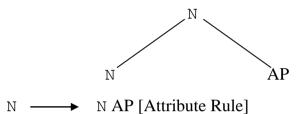
روما القديمة "Roma al-qadiima" (= ancient Rome) (Beeston, 1968:36)

1. The noun head "Roma" is grammatically feminine.

2. It is also defined by its nature. However, distributional facts (sentence-fragments, coordination, pronominalization) provide strong empirical support for the fact that such NPs lack determiners?
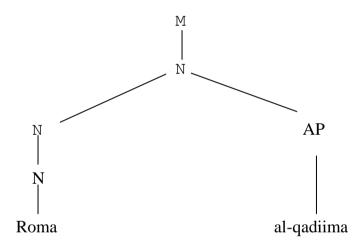
In drawing a tree for "Roma al-qadiima", we start applying Determiner Rule which tells us that we can expand an N into an optional determiner plus an N-bar, if we reject the option of having a determiner, then our rule will generate the structure below:

$$M$$
$$|$$
$$N$$

M $\longrightarrow$ (D) N [Determiner Rule]

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We now apply the attribute Rule which tells us that can expand and an N-bar into an N-bar plus AP, our rule will generate the structure below:
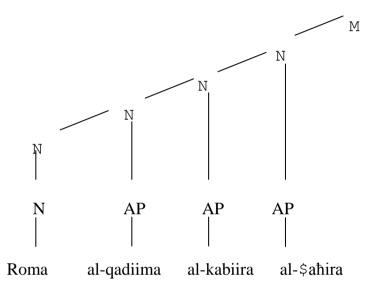
```
            N
          /   \
        N       AP
```

N ⟶ N AP [Attribute Rule]

The overall structure would be:

```
              M
              |
              N
           /     \
         N         AP
         |         |
         N         |
         |         |
       Roma     al-qadiima
```

In other cases, Nps may have several adjectives and so Aps can be used as attributes and hence can recursively expand N-bar into another N- bar. this case, we strat applying Determiner Rule first and then we apply Attribute Rule recursively. Consider this example:
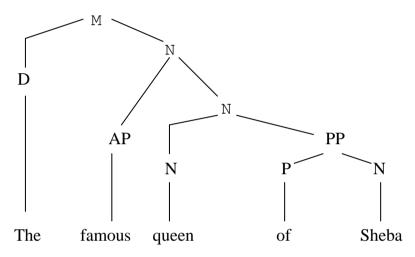
"Roma al-qadiima al-$aniira" روما القديمة الكبيرة الشهيرة

"Rome - the ancient – the – well – known"

```
                                              M
                                         N  /
                                   N    /
                             N    /
                       N    /
                 N    /
       N
       |
       N        AP        AP        AP
       |        |         |         |
     Roma    al-qadiima  al-kabiira  al-ṣaħira
```
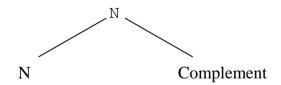
(ii) A noun followed by another entity term which serves as a qulifier to it is said to be annexed to the qualifying term; and the ststus of annexed noun has important grammatical consequences. In a phrase of this nature, the qualifying noun corresponds to the English forms with apostrophe "'s" or with prefixed "of" as in 'Rome's glory' or 'the glory of Rome'; but such phrases in Arabic are indivisible compounds and cannot have anything inserted between them as is possible in English; 'Rome's ancient glory'. An adjective which qualifies an annexed noun must therefore be placed after the qualifying entity as in:

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مجد روما القديم "Rome's ancient glory". (Beeston, 1968: 27)

ملكة سبأ المشهورة "The famous queen of Sheba". (Ibid.)

```
                    M
                   / \
                  /   N
                 /   / \
                D   /   \
                   /     N
                  /     / \
                 AP    /   PP
                 |    N    / \
                 |    |   P   N
                 |    |   |   |
  The         famous queen of Sheba
```
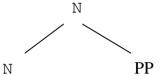
In drawing the tree-diagram for "malikatu Sabaa'al-ma$ħuura", we start applying "complement Rule" which tells us we can expand N-bar into a noun plus complement, and rule will generate the structure below:

```
            N
           / \
          /   \
         N    Complement
```

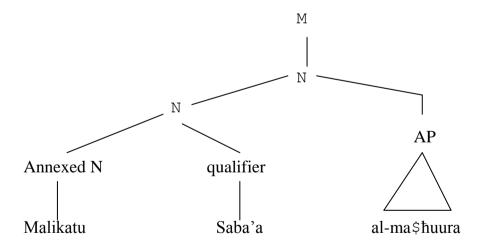N ⟶ N Qualifier [Complement Rule]

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Now, we apply Attribute Rule which states that we can expand an N-bar into an N-bar plus AP, and our rule ill generate the structure below:

```
              N
            /   \
          N       PP
```

And finally we apply "Determiner Rule" which states that we can expand an N into an optional determiner plus an N-bar, and if we reject the option if having a determiner, then our rule will generate the structure below:

```
        M
        |
        N
```

Accordingly the overall structure would be:

```
                    M
                    |
                    N
                  /   \
                N       \
              /   \       AP
        Annexed N  qualifier  /\
            |         |      /  \
        Malikatu    Saba'a  al-maʂħuura
```

With respect to the following NP in Arabic

طالب الفيزياء الذكي ذو الشعر الطويل.

"ʈaalibu al-fiizyaa' al-6akkiyyu 6u al-$aʕri al-ʈawilli"

its structure can be derived with little changes in rules to construct our ad hoc rules and apply them successfully to show the differonces in Arabic and English NPs.

1.   N ⟶   N Qualifer [complement Rule].

2.   N ⟶   N AP [attribute Rule].

3.   N ⟶   N the five nouns   الأسماء الخمسة [Adjunct Rule].

4.   M ⟶   (D) N [Determiner Rule].

```
                              M
                              |
                              N
                    N                    
              N         AP        the five nouns
           N    qualifier           /\
           |        |              /  \
        ʈaalibu  al-fiizyyaa'   al-6akkiyu   6u al-$aʕri al-
        ʈawiili
```
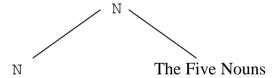
the five nouns is a subcategory of nouns in Arabic grammar, They are followed by noun phrases or pronouns altogether and they mainly have the meaning of 'owner' or 'possessor' The Np after ذو '6u' will have further internal structure, but this not our concern for the time being.
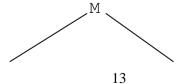
If we delete the complement and AP (-ie, al-fiizyaa' al-6akkyyu) from the above NP, we should supply the remaining NP with a determiner, thus the new NP would be الطالبُ ذو الشـعر الطويل : "al-ṭaalibu 6u al-ša⁀ri al-ṭawiili". In order to derive the structure of the previous NP, we need only two Rules:

1. N ⟶ N the five nouns [Adjunct Rule]

2. M ⟶ (D) N [Determiner Rule]

the first Rule states that we expand the N-bar into an N-bar plus one of the Five nouns. Accordingly, this Rule will generate the following structure:

```
                  N
                /   \
               /     \
              N      The Five Nouns
```
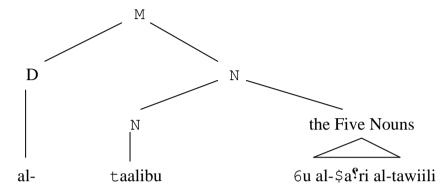
The second Rule tells us that we can expand the N into a determiner plus an N-bar. Consequently, the rule generates the structure below:

```
                  M
                /   \
               /     \
```
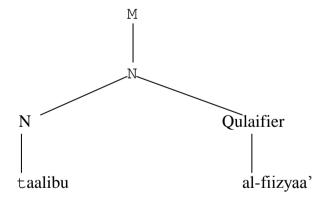
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D   N

The overall structure would be:

```
                      M
              ┌───────┴───────┐
              D               N
              │          ┌─────┴──────────┐
              │          N            the Five Nouns
              │          │                 △
             al-      taalibu      6u al-$aʕri al-tawiili
```

so far we have seen that the deletion of the complement heightens the need for a determiner. Quite reversely, if we delete the adjunct and keep the complement, there will be no need for a determiner. The noun phrase such as "taalibu al-fiizyaa'" is quite possible and so as to derive its structure two rules should be fllowed:

```
            M
            │
            N
        ┌───┴────┐
        N      Qulaifier
        │        │
     taalibu  al-fiizyaa'
```

By the way of inference, we can sum up three significant facts:

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1. Determiners, complements, adjuncts and attributes can be optional and we have been able to deal with their optionality.
   Arabic and English NPs are alike in this respect.

2. Unlike English, Arabic Head noun cannot have adjuncts, complement and attributes which are in prenominal position. In Arabic, these three classes occur only as postnominal modifiers.

3. A very significant and remarkable difference is that multiple determiner sequence in Arabic is sometimes meaningful. In English, no multiple determiner sequence is possible at all.
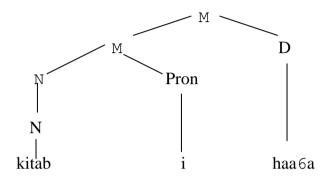
Multiple determiner sequence		Arabic	English
Determiner	+Determiner	No	No
	+ Pronoun	No	No
	+Determiner	No	No
Pronoun	+Determiner	No	No
	+ Pronoun	No	No
	+Demonstrative	Yes	No
Demonstrative	+ Determiner	Yes	No
	+ Pronoun	No	No
	+ Demonstrative	No	No

We can see that two multiple determiner sequence are possible:

     A. Pronoun + Demonstrative,

e.g. كتابي هذا "kitaabi haa6a" (this is my book)

Such a pronoun in Arabic is illusive when it refers to an overt entity. The structure would be:
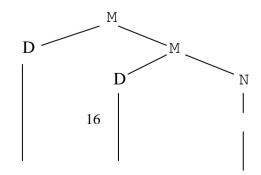
```
                          M
                     ╱        ╲
                   M            D
                 ╱    ╲          │
                N     Pron       │
                │      │         │
                N      │         │
                │      │         │
              kitab    i       haa6a
```

B. Demonstrative + Determiner

e.g هذا الكتابُ "haa6a al-kitaabu" (this book)

هذه السيارةُ "haa6hi al-sayyaratu" (this car)

If we delete the determiner from the above noun phrases, the constructions becomes sentences as in:

هذا الكتاب (this book) ⟶ هذا كتابٌ (this is a book)

To deal with the structures of A and B, I should propose a rule which expands an N into a demonstrative' plus an N

M ⟶ Demonstrative   M [Demonstrative Rule] in (B)

M ⟶ M Demonstrative [Demonstrative Rule] in (A)

The structure of (B) would be:

```
               M
            ╱      ╲
          D          M
          │        ╱    ╲
          │       D      N
          │       │      │
          │       │      │
         16       │      │
```
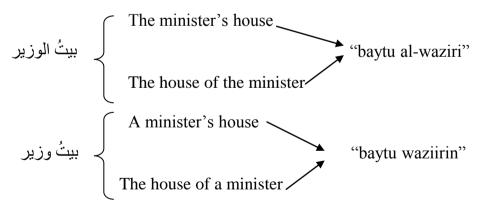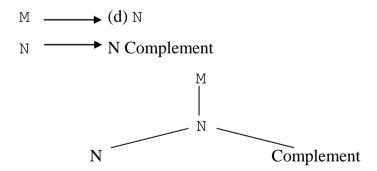
N

haa6a   al-   kitaabu

Some Arab grammarians as it seems agree that one determiner is not enough to define Arabic noun phrases and conventionally nouns themselves require multiple determiners.

(iii) Phrases consisting of annexed noun plus qualifying entity term have their status as defined or undefined marked only by the qualifying term, and the annexed noun itself never has the article. If the qualifying term is an undefined noun of multiple application, then the phrase as a whole, and the annexed noun, is grammatically undefined or a defined entity term of any other kind, then the phrase as a whole, anmd the annexed noun, is defined, hence.

بيتُ الوزير

The minister's house

The house of the minister

"baytu al-waziri"

بيتُ وزير

A minister's house

The house of a minister

"baytu waziirin"

It follows that English expressions or constructions of the type "a house of the minister" cannot be represented in Arabic by the annexed structure but in the form of prepositional phrase.

سكة حديد "sikkatu nadiid"; سكة الحديد "sikkatu al-nadiid"

(road of iron)   (the railway)

تقريرُ الكاتب "taqriiru ai-kaatibi" (the rport of the writer)

كاتب التقرير "kaatibu al-taqriiri" (the writer of the report)

تقريرُ كاتب "taqriiru kaatibin"   (a report of a writer)

كاتب تقرير "kaatibu taqriirin"   (a writer of a report)

In Arabic noun phrases such as بيتُ وزير "baytu waziirin" the indefinite determiner and the (of) genitive construction are not expressed explicitly. The second noun postmodifies the first. The second noun, as it seems, syntactically functions as a comlement. In this case we can derive the structure of the noun phrases such as "sikkatu hadiid", "sikkat al-hadiid" by applying the following two rules:
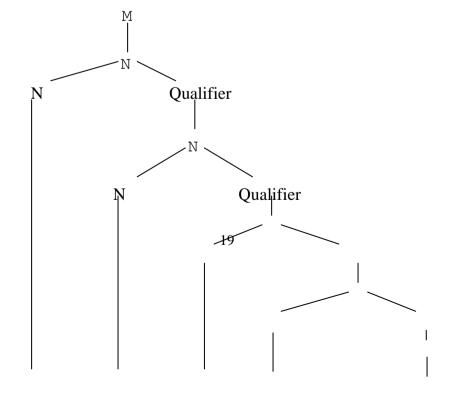
M ⟶ (d) N

N ⟶ N Complement

```
            M
            |
            N
          /   \
        N       Complement
```

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sikkatu   (al-) nadiid

For further comparison between Arabic NPs and English NPs, consider the following examples:

معنى مقال وزير الدولة "maʕna maqaalu waziiru al-dawla" (The sense of a minister of states' speech) (Beeston, 1968: 27)

معنى مقال وزيرُ دولـة مصـر "maʕna maqaalu waziru dawlata mi+ra" (The sense of speech of the minister of state of Egypt) (Ibid).

In trying to derive the structure of the last example, we need to apply Complement Rule recursively and eventually apply Determiner Rule. Here, "qualifier" is used as a term referring to the implicit mentioning of the genitive constructions which create definiteness and accordingly the determiners are dispensed with in such cases. In Arabic grammar, the above cases are referred to as المعرف بالاضافة "al-muʕarrafu-bil-idaafa". After applying the above-mentioned rules, I propose the structure below:

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N

N   Qualifier

N

N   Qualifier

N

ma𝕊na   maqaalu   waziru   dawlatu   mi𝕊ra

From the above example, we can see that it is possible to have a whole string of nouns constituting a single structural unit in which each successive noun is annexed to the following qualifying phrase which in tura consists of annexed noun plus qualifier.

It is worth noticing that the word كل "kull" is a noun which, when annexed to an undefined noun conveys the sense of the English adjective "each / every"; when annexed to a defined entity term, that of English "all / whole" (Beeston, 1968: 28):

كلَّ انسانٍ "kullu insaanin (= ” every human being”

كلَّ ساعةٍ "kullu saa𝕊atin (= "each hour")

كلَّ ملوكِ الأرضِ "kullu muluuki al-arDi" (= all the kings of the earth")

كل الحقيقة "kullu al-naqiiqati (= "the whole truth")

As for بعض "ba𝕊Du" is a noun of anomalous use (Ibid), it connotes "one of / some of" and it is annexed to a formally defined entity term, yet contrary to what has been said above, it retains an undefined sense:

"baʕDu wuzaraai al-dawalati" بعضُ وزراء الدولة

"one minister of a state" or "some ministers of state".

(Ibid.)

Conclusion

This paper is channelled towards examining how far Arabic and English are similar or different with respect to X-bar theory. I have modified some rules so as to cope with Arabic noun phrase constructions. In addition, I have tried to touch on all types and numbers of modifiers of the noun head. In so doing many problems have taken place and accordingly I have offered my own solutions. I also have argued that there are nominal constituents larger than the noun but smaller than a full Noun phrase despite the fact that Arabic determiners occur irregularly yet not randomly.

References

Beeston, A. F. L. (1968) <u>Written Arabic: An Approach to the Basic Structures</u>. Cambridge: Cambridge University Press.

Quirk, R. and S. Greenbaum. <u>A University Grammar of English</u>. London: Longman.

Radford, A. (1988). <u>Transformational Grammar</u>. Cambridge: Cambridge University Press.

ملخص

معرفة مدى تطبيق نظرية إكس بار "X-bar" على العبارة

الاسمية في اللغة العربية مع الإشارة إليها في اللغة الإنكليزية

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يستعرض هـذا البحـث نظريـةٌ أساسـها النحـو التوليـدي ألا وهـي نظريـة
(X-bar) . فهي نظـام نحـوي تحليلـي تطـور حـديثاً فـي ميـدان اللغـة الإنكليزيـة.
تقوم هـذه النظريـة علـى أن هنـاك عـدة وحـدات لغويـة فـي العبـارة الاسـمية لابـدّ
مـن إدراكهـا وتعيينهـا فـي سبيل فهـم العبـارة الاسـمية كاملـة. فهنـاكَ عـدة وحـدات
لغويـة فـي العبـارة الاسـمية (Noun   phrase) اصـغر مـن الاسـم نفسـه وتُـعرف
(بالوحدات المتوسطة) (Intermediate-categories).

في هذا البحث نجد أن اللغة العربية تختلف كثيراً فـي عـدة جوانب عـن اللغـة
الإنكليزيـة. فـإذا أردنـا تطبيـق هـذه النظريـة (X-bar) لابـد أن تجـري فـي العربيـة
تعديلات أو تغيرات جوهرية. فالاسم في الإنكليزية يعرّف بـ "the" أو بواسطة "a"
و "an" . أمـا فـي العربيـة فالاسـم يمكن تعريفه بـ "ألـ" أو أن يكون صفة لأن
الصفة بالعربية تشبه الاسم في وظيفتها النحوية من حيث التعريف التنكير التنكير والمفرد
والجمع والتذكير والتأنيث.