X-Bar Theory and Arabic Phrases

Maulood Ahmed[1]

الملخص

يهدف البحث الى تطبيق نظرية X-bar على المقاطع العربية فى ضوء قواعد نحوية عالمية . وفي هذا البحث نجحت المحاولة في تحليل المقاطع العربية في ضوء القواعد العالمية لمركبات المقطع المتصلة التي تهدف إلى توليد مجاميع غير منتظمة من هذه المركبات كما هو الحال في المقاطع الإنكليزية ومقاطع لغات أخرى.

Abstract

This paper attempts to apply the X-bar theory, which aims at establishing a universal grammar, to Arabic phrases. The attempt has been successful in this paper in doing so in the light of the universal constituency rules which are meant to generate unordered sets of constituents as with phrases in English and other languages.

Introduction:

The main and crucial problem for most linguists who follow the generative approach is to construct a universal grammar. To achieve this aim, they seek to extract empirical evidence from particular languages to refine the principles of universal grammar.

Depending mainly on the work of Chomsky and other transformationalists, Radford, in his book " Transformational Grammar" states that "the ultimate goal of linguistics is to develop a maximally constrained theory of language, in order to provide a principled account of the rapidity and uniformity of language acquisition"(1988: p.258). In this book, he discusses the application of

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([1]) Dept. of English, College of Education, University of Mosul.

X-bar theory to English phrases[1]. Supported by empirical evidence, he proves that English phrases have the internal structures X^{II}, X^{I} and X standing for a maximal projection, a small phrase, and a head. In addition, he discusses the role of specifiers, complements, and adjuncts and gives the following basic schematic structure (p. 229):
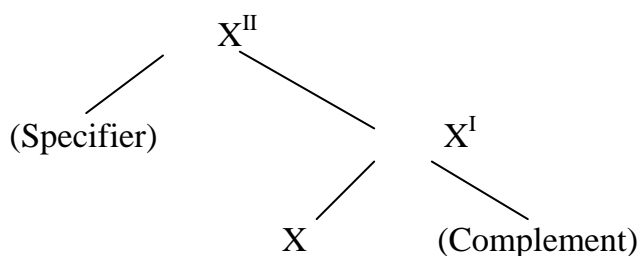
X here is a category variable, which stands for any major word-level category like N (oun), V (erb) etc. The specifier and complement are optional as indicated by the brackets since heads can have the same distribution as their full – phrase counterparts.

In addition, certain constraints and rule schemas concerning adjuncts, attributes, specifiers and complements in English are generalised by replacing category constants with category variables as in the following four category neutral rules:

X^{II} ------> (YP) X^{I} (Generalised Specifier Rule)
X^{I} ------> YP X^{I} (Generalised Attribute Rule)
X^{I} ------> X^{I} YP (Generalised Adjunct Rule)
X^{I} ------> X YP* (Generalised Complement Rule)

The category variable (YP) stands for any type of double-bar constituent and the asterisk operator indicates any number, possibly none. To achieve the aim of linguistics and construct a universal grammar, a comparison has been made between English and other languages such as Korean and Japanese taking into consideration the idiosyncratic properties of each language such as linearisation. Then it is suggested that universal grammar contains a set of universal

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[1] Some of the English examples coupled with comments are quoted from Radford (1988) which is the model adopted in this paper.

constituency rules which generate unordered sets of constituents:

$$X^{II} \text{ } ---- X^{I}, (YP) \quad (\text{ Specifier Rule })$$
$$X^{I} \text{ } ---- X^{I}, YP \quad (\text{ Adjunct Rule })$$
$$X^{I} \text{ } ---- X, YP* \quad (\text{Complement Rule })$$

" The fact that every language makes an infinite use of finite means has long been understood. Modern work in generative grammar is simply an attempt to give an explicit account of how these finite means are put to finite use in particular languages and to discover the deeper properties that define 'human language', in general (that is, the properties that constitute universal grammar)". (Chomsky: 1968, p. 127)

This paper aims at applying X-bar theory to Arabic phrases and tries to present a humble contribution to the possibility of establishing a universal grammar. Therefore, it is assumed that Arabic phrases can possibly be analysed in the light of the universal constituency rules given above which are meant to generate unordered sets of constituents, in the same way as with phrases in English and other languages.

Discussion:
1- Noun Phrases:

There are three categorial levels for nominal constituents, namely N, N-bar, and N-double-bar. One piece of evidence, which states that the N-bar is an independent constituent is a distributional one as in this example:

He became king of England

Another evidence is that only an N-bar constituent can undergo ordinary coordination with another similar constituent:

This is the king of England and ruler of the Empire.
This is the active student and good writer.
This is an active student and good writer.

In these three examples, it is noted that determiners which expand N^{I} into N^{II} do not undergo coordination with the N^{I} s simply because they are constituents of N^{II} .

In Arabic, the noun phrase determiner is realised by "الـ" as well as annexation "الإضافة" whose presence indicates definiteness and whose absence indicates indefiniteness (Wright:1971,p.199). Determiners in Arabic are constituents of the small phrase, which is the N^I, because the whole noun phrase with its definiteness or indefiniteness can undergo coordination:

<div dir="rtl">

هذا ملك إنكلترا و حاكم الإمبراطورية

هذا الطالب النشيط و الكاتب الجيد

هذا طالب نشيط و كاتب جيد

</div>

Complements in English expand N into N^I and adjuncts, which are always optional, expand N^I into N^I recursively as in the following example:

This is a student of Physics with long hair.

It seems that Arabic noun phrases have similar structures with complements and adjuncts:

<div dir="rtl">

هذا طالبُ فيزياء بلباس أنيق

</div>

As is the case with English, there is evidence in support of the argument that there are differences between complements and adjuncts in Arabic as well (Cantarino:1974,pp.92-119). One evidence is that the complement "فيزياء" is obligatory in the above sentence, because of the annexation relationship between "طالبُ" and "فيزياء" shown in Arabic by "aldhama" and not nunation on the head "طالبُ" whereas the adjunct "بلباس أنيق" is optional. Another piece of evidence is that complements are closer to their heads than adjuncts:

<div dir="rtl">

* هذا طالبٌ بلباس أنيق الفيزياء

</div>

In addition, the use of "الذي" is rather similar to the English argument of the pro-form "one" as in the following example:

<div dir="rtl">

–أي طالب تقصد ؟

– * الذي فيزياء

– الذي بلباس أنيق

</div>

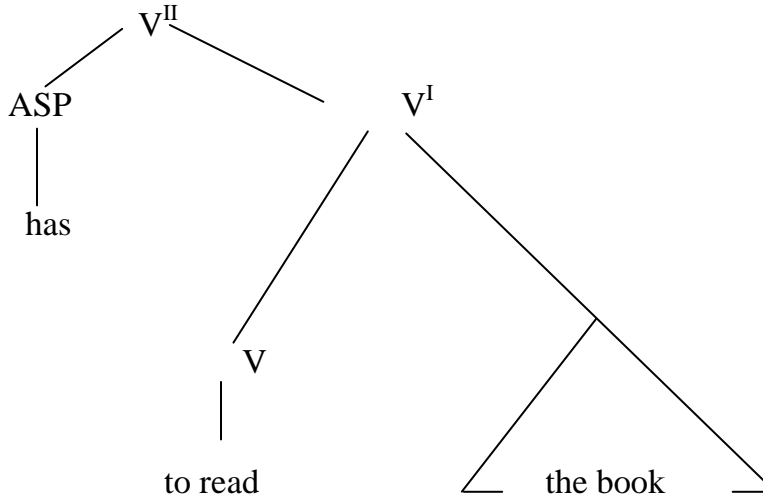This proves that the complement "فيزياء" expands the head "طالب"

which has the status of N into N^I which can be replaced by "الذي" e.g.

- **أي طالب فيزياء ؟**
- **الذي بلباس أنيق**
- **الذي هناك**
- **الذي ذهب قبل قليل**

2- <u>Verb Phrases</u>:

It is argued that V and its complements form V^I which can be expanded by adding a specifier (aspectual auxiliaries have / be) into V^{II} , e.g.

He [has to read the book]

Counter examples can be found in Arabic:

- **عليه [أن يقرأ الكتاب]**

The verb phrase in this sentence consists of "أن" as a specifier, " يقرأ " as a head , and " الكتاب " as a complement. The whole verb phrase is to be considered as V^{II} , the phrase " يقرأ الكتاب " as V^I , and " يقرأ " as V. In answering the question,

- **ماذا عليه أن يفعل ؟**

only the V^I may be used as an answer and not the whole VP,

- **يقرأ الكتاب**

With certain verbs like " رأى " , again , only the V^I is used:

<div dir="rtl">

– رأيته يقرأ الكتاب

</div>

Similarly, " قـد " and " كـان " can be treated as aspectuals expanding V^I into V^{II} (Aziz: 1989 , P. 63):

<div dir="rtl">

كان يكتب الدرس

قد كتب الدرس

</div>

Radford (1988:p.175) presents some empirical evidence in support of the distinction between verbal complements and adjuncts.
Most of the evidence can be applied to the Arabic verb phrase. For example, complements are obligatory and close to their heads, whereas adjuncts are optional unless otherwise marked:

<div dir="rtl">

سينجز أحمد العمل في المكتب

سينجز أحمد العمل

* سينجز احمد في المكتب العمل

* سينجز أحمد في المكتب

</div>

3- Adjectival and Adverbial Phrases:

Following the proposition made by Radford (1988:p.141) in his discussion of the similarities between adjectives and adverbs and his use of the term " advective " to combine the two: adjectives and adverbs, it is found appropriate here to deal with them to find structures in Arabic analysable in terms of X-bar theory. The following example shows that adjectival phrases in English have the internal structure A^{II} ,A^I, and A:

He was not [A^{II} that [A^I [A fond] of Mary]]

However, adjectival phrases in Arabic can have the same internal structure as in this example:

<div dir="rtl">

لم يكن أحمد [A^{II} ذلك [A^I [A^I المولع] بليلى] على أي حال]]

</div>

Again, most of the evidence in support of the A-bar constituent and the complement as well as the adjunct is applicable to the Arabic adjectival phrase. For example, the prepositional phrase "بليلى" is an obligatory complement while the phrase "على أي حال " is an optional adjunct. An evidence in support of the above argument is the ordinary

coordination found in the   following sentence:

<div dir="rtl">

لم يكن أحمد ذلك المولع بليلى أو الفخور بها

</div>

4- Prepositional Phrases

As is the case with other phrases, We can argue that prepositional phrases in Arabic can be amenable to an X-bar
analysis in the same way as with the English prepositional phrases as shown clearly in the following example:

Put it [P^{II} right [P^{I} [P on] the top shelf]]

<div dir="rtl">

ضعها [P^{II} تماماً [P^{I} [P على] الرف العلوي]]

</div>

Another evidence in support of this claim is coordination as in this example:

<div dir="rtl">

انسكب الماء [P^{II} تماماً [P^{I} على رأسه] و [P^{I} على وجهه]]

</div>

Conclusion

The application of X- bar theory to Arabic phrases has proved that phrases in Arabic are presumably analyzable in terms of the set of universal constituency rules mentioned in the introduction of this paper. Only with noun phrases is it found that determiners do not expand N^{I} into N^{II}. Therefore, determiners in Arabic are to be considered as sister of X and daughters of X^{I} while in English, determiners are daughters of maximal projections and sisters of single – bar constituents. Furthermore, the same rules of Determiners, Complements, and Adjuncts apply to both English and Arabic, with the exception that the D in the Determiner rule is obligatory in Arabic NPs containing PPs.

Differences in linearisation such as the position of modifiers in English and Arabic are also possible to tackle within X-bar theory. What is not applicable to Arabic is the existence of premodifiers (whether nominal or adjectival) in English. But an interesting conclusion is that, with a slight modification, the rules of premodifiers can be applied to Arabic, i.e. by changing the status of the modifier from that of premodifier to that of postmodifier. Regarding the other phrases, no problem is found with the application of the set of universal constituency rules. Finally, one is inclined to say that most of Radford's discussion of English phrases is applicable to Arabic.

Maulood Ahmed

References:

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