The Application of Minimalist Approach to Arabic Clauses with Reference to English

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Abstract

The minimalist approach is a binary one in which clauses are considered to be endocentric in the sense that they are organized around a central unit which is the head. The features of the head percolate to its projection which is the phrase. Thus, a head (V), for instance, heads the projection (VP) and a head (N) heads the projection of (NP) and so on. Every head enters into two local conditions: First the head is locally related to its complement and second the head is locally related to its specifier.

Accordingly, clauses, within the minimalist approach, are organized in terms of binary branches (i.e., two branches only and never more). The aim of this study, thus, is to apply this binary branches analysis to different types of Arabic clauses with reference to English when it is necessary. That is references are made to English only to show the points of similarities and differences between the two languages under analysis.

Keywords: clause, merging, lowering, minimal and intermediate projections

1. Introduction

This paper is concerned with analysis of clauses based on the minimalist approach. It approaches the clause as a binary system regardless of the types of clause and the degree of complexity. A clause is essentially a subject usually a noun (which has the property indicated by the predicate), and a predicate (which is a group of words that assigns a property to the subject) (Carnie, 2002:147).The clause and its constituents are endocentric in the sense that they are organized around a central unit which is the head. The properties of a constituent are determined by the properties of its head, that is, the features of the head percolate to its projection which is the phrase (Haegeman and Jacqueline, 1999:878-79). Accordingly, this paper sheds light on the possibility of applying the binary approach regardless of the word-order a language has. The main purpose of this study is to investigate the application of the approach to different types of

Arabic clauses and to pinpoint areas of similarities and differences between English and Arabic clauses. The problem under investigation deals with the notion of universality as far as the minimalist approach is concerned. The possibility of applying the rules concerning minimal and maximal projections in different types of Arabic clauses is one of the concerns of this study. It is also centered on the possibility of applying these rules regardless of the degree of clause-complexity and clause-type. The application with modification or the non-application is the ultimate goal of this paper.

2. Chomsky's The Minimalist Program

The Minimalist Program is a program in which Noam Chomsky developed based on his previous theories and ideas in terms of analyzing sentence structure. In this program Chomsky stated some rules govern the sentence structure of any language and these rules are located in the child brain. Therefore, the MP main function is to explain the grammaticality and ungrammaticality issues of sentences in all languages (Chomsky, 1995).

Merge, move and copy are syntactic operations; these operations are applied in order to produce syntactic objects. The syntactic operation Merge applies to form a syntactic object by combing lexical items. Merge is the basic structure-building which works in a binary operation to form a new syntactic object contains the features of the originals by merging two syntactic objects. Move is the outcome of the combination of the two syntactic operations; Copy and Merge. Thus, the syntactic operation Move copies a constituent and then merges it with other constituents in the structure. All syntactic operations products are syntactic objects. Then these syntactic objects interface the computational-intentional (C-1) systems to form the Logical Form (LF). However, when these objects interface articulatory perceptual systems, it forms the Phonetic Form (PF), (Adger, 2003; Jubilado, 2010).

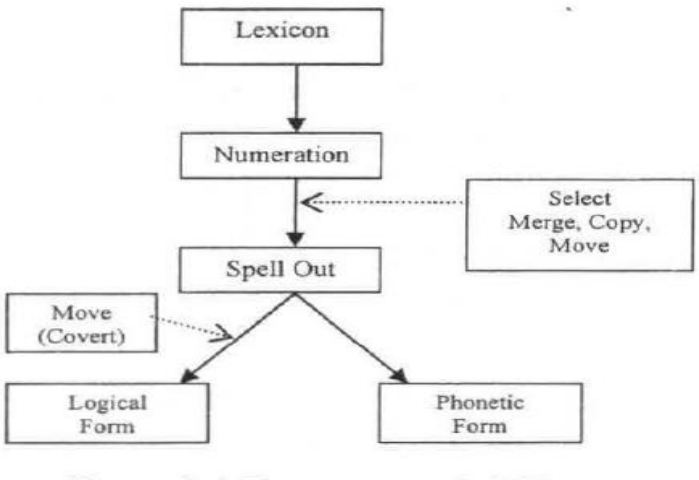


Figure 1: FL within the MP

In the MP, a clause structure is headed by TP the maximal projection of the clause. The head TP is derived from the binary-branching (1) Specifier (Spec) which is the subject and the external argument as well, and (2) Tense-Bar (T') which contains the syntactic objects tense (T) and the verb phrase (VP) which branches to verb (V) and noun phrase (NP) which is the clause object and the internal argument (complement) as well, as it is illustrated in the three diagram below in figure 2:

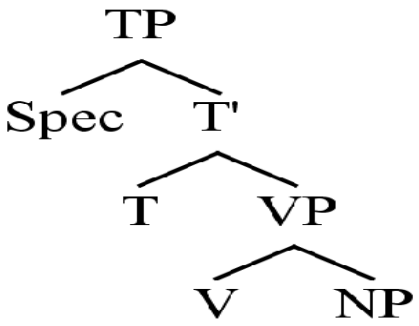


Figure 2: Clause Structure in the MP

X-bar theory is employed in the Minimalist Program in order to be able to describe the structure of phrases, clauses and sentences whatever the order of a language may have adopted SVO, VSO, or OVS. The X-bar theory correctly represents constituents smaller than XP, and bigger than X. It also distinguishes syntactically among complements, specifiers, and adjuncts. Moreover, it makes

cross-categorical generalizations. Furthermore, it expresses the idea in that every phrase has a head 'X' and the other constituents project this head which reach the maximal projection in the XP (the X-phrase). The XP consists of an intermediate phrase called X-Bar which dominates the head and the complement, and optional specifer YP which is the sister of X'. ZP is a phrasal which stands as the complement and is structured in a way presents a sisterhood relation towards the head X as illustrated in figure 3:

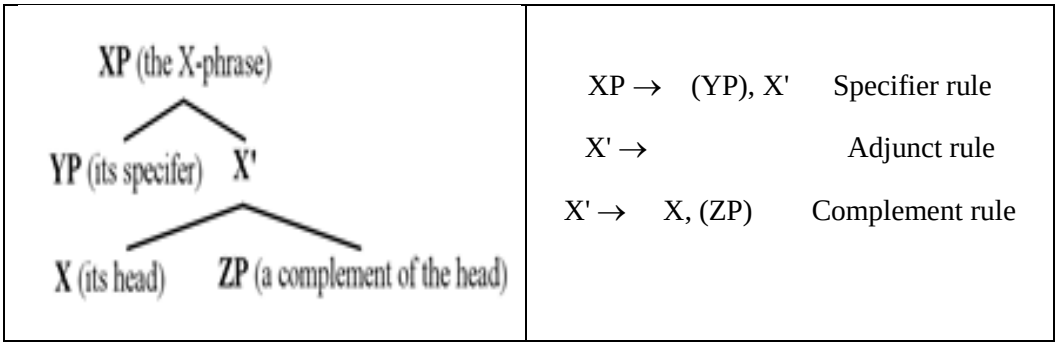


Figure 3: X-Bar Theory Structure

3. De Saussaure (1916)

In de Saussure's (1916) theory, syntagmatic relation refers to a linear relation between constituents in speech or written form (*la parole*). That is, constituents such as words, phrases and clauses occur in linear chains, linking one constituent to the other. This idea of linkages together with the X'-Theory of Culicover (1997) will be used compositely and linearly to show the syntactic argument.

4. **Data and Methodology**

The data for this study are various types of sentences. The analysis has adopted a comparative methodology of the ST data with the TT data in syntagmatic term as propounded by de Saussure (1916). Chomsky (1995) the Minimalist Program (MP) is employed using X-Bar principles and processes

2 Data Analysis

2.1 Declaratives

Declaratives, in Arabic, are mainly of two types namely: the nominal and the verbal clauses. This is due to the fact that Arabic language allows a greater freedom in the arrangement of its word order (Aziz, 1989). Each type will be explained in details below.

The formulation of the clause whether nominal or verbal depends completely on the so-called 'merger' operation in which the tense (or the auxiliary) is merged with the verb phrase, then, merging the noun or the pronoun with the rest of the string. In other word, the inflectional projection (henceforth IP) is the head of the(x-bar) format, which is formed by first merging the auxiliary (I-bar) with the verb phrase (VP-bar= v,v). The outcome is an incomplete auxiliary expression (I=I-bar), thus the second merger operation is between the (I-bar) and the subject to form a complete clause. (Radford. 1997:64-65), (see also Chametzky, 2000:131-138)

2.1.1 Nominal Clauses

Nominal clauses have no verb by definition but only the subject and predicate. The subject is called "المبتدأ"(which is the inchoative), about which a beginning is made. The predicate is called "الخبر" (which is the incentive / announcement), and it can have the same grammatical forms of the subject since the nature of the nominal clause is formal equivalence between both members represented by simple juxtaposition (Jamal- Aldeen, 1980:248- 250).

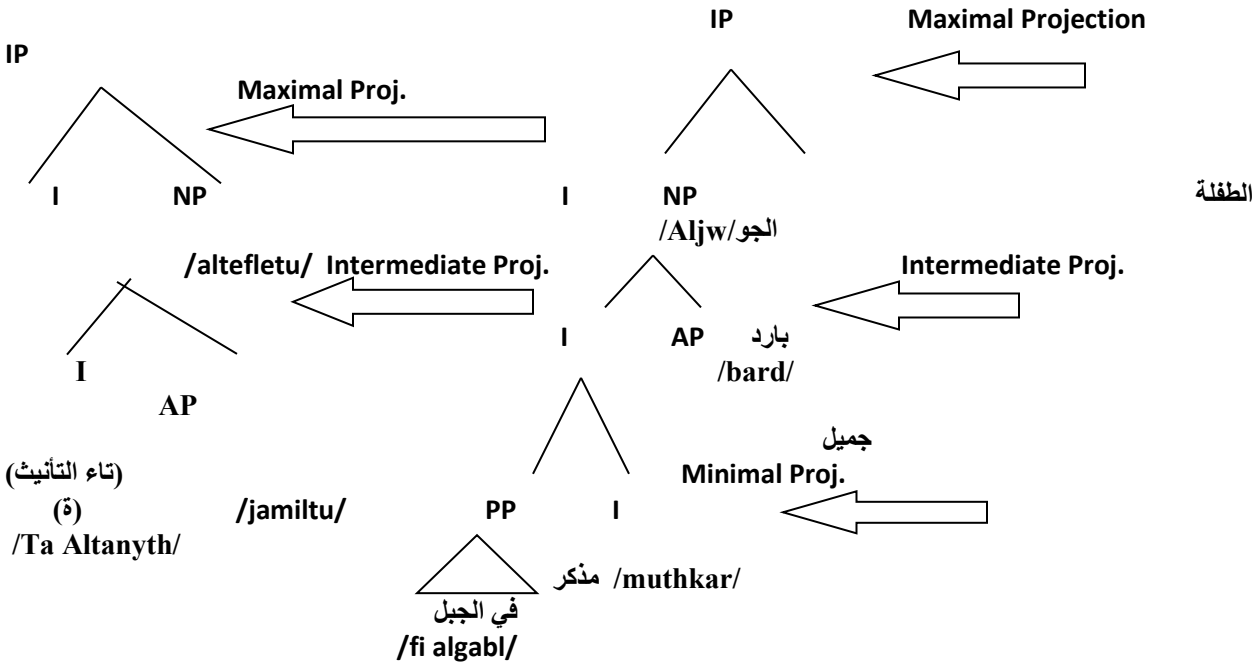
In the following examples, the subjects or (المبتدأ) are (الطفلة)and (الجو) , the predicates or(الخبر) are جميلة and(باردة), respectively. The nominal clause in (1) is dominated by the (NP and AP) resulting in two projections, namely, maximal projection and minimal projection, while the nominal clause in (2) has three projections which are: maximal, intermediate, and minimal projections.

1. /ALtefltu jmiltu/ الطفلة جميلة

2./ Aljw bardu fi algabel/الجو بارد في الحبل

These two projections are formulated by the merger operation of combining two categories together as phrases. Thus, the first example is formulated by merging the I – bar with the AP – bar to constitute the (I – bar), then, the (IP – bar) is formulated by merging (I – bar) with the (NP – bar). The second example is formulated in the same way i.e., the merger operation formulates

(I – bar), the second mergery operation results in (-bar), the last merger operation contributes the (IP- bar) or the whole clause. The representations of these examples are shown below.



The adjectival phrase in these examples varies depending on the choice of subject: with masculine singular subject: الطفل جميل orالجو باردwhile with feminine singular subject ,الطفلة جميلة the adjective agrees with the subject in terms of gender. It also agrees in terms of number as in (الفتيات ذكياتand الأولاد أذكياء) (Aziz, 1989:293). The adjectival "agreement morphemes" head inflection shows that Arabic nominal clauses contain the category (I). This category dominates number and gender features. The adjectival I – bar selects AP – bar as it complement. The subject of these clauses (الطفلة) and(الجو) are the specifiers of IP – bars.

2.1.2 Verbal Clauses

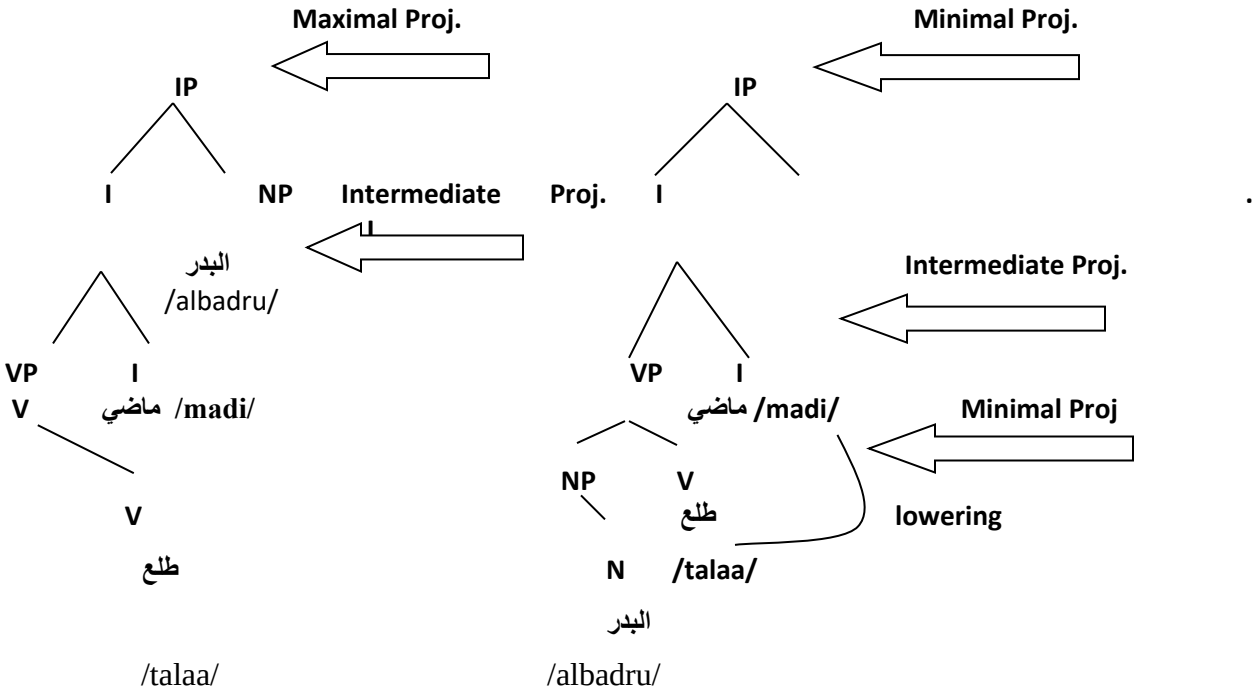
Verbal clauses have been described as those which may or may not begin with a verb. A verbal clause, as its name indicates, may contain two elements: a nominal group as a subject which is

called the doer or (الفاعل) and it expresses the temporal action or the condition (Jamal – Aldeen, 1980:252).Consider the following examples:

3./Albadru talaa/ **البدر طلع**

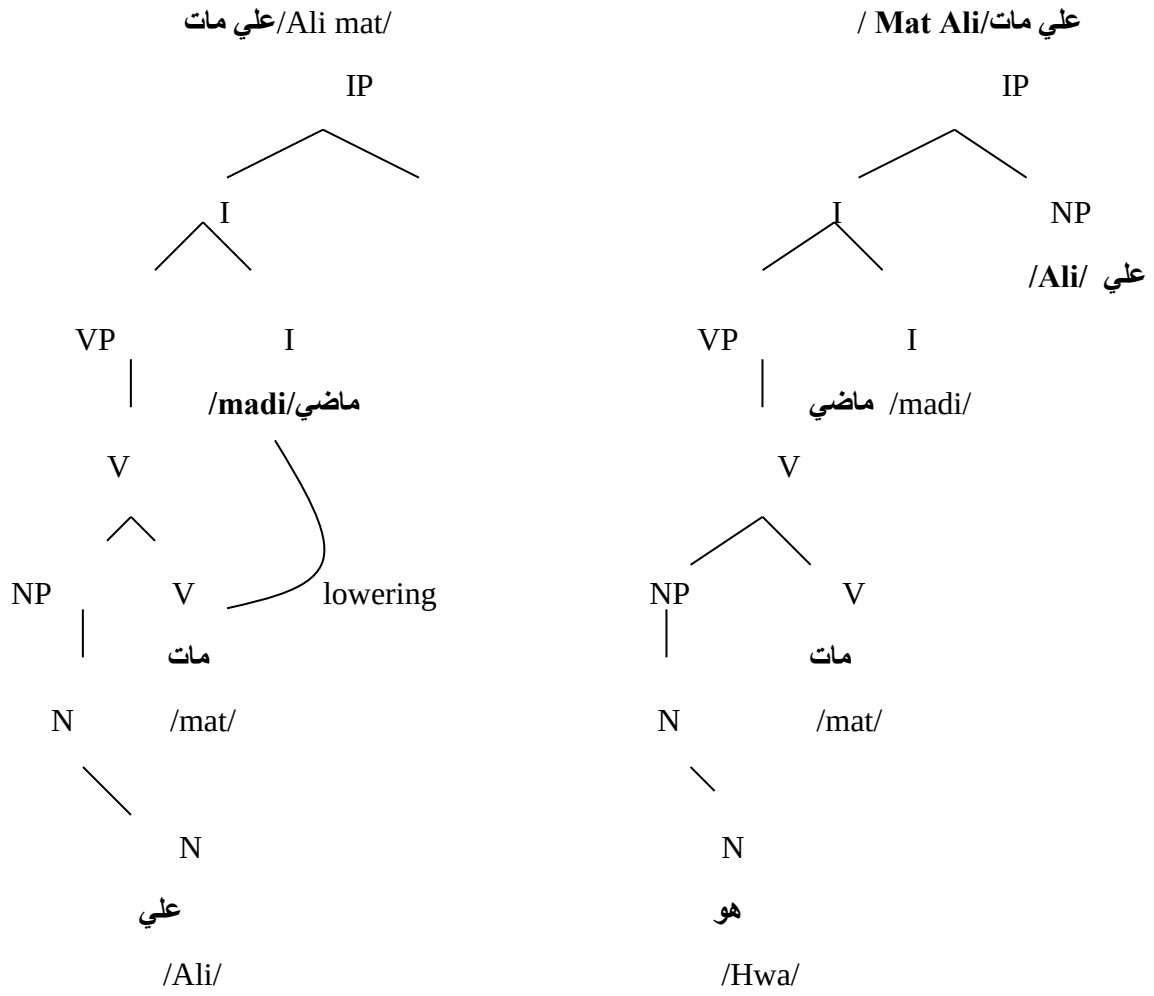
4./Talaa albadru/ **طلع البدر**

The verbal clause in (3) is formed by the same merger operation in which the doer and the predicate are linked or merged together to form the whole verbal clause. That is, the first operation includes the merging of the (VP – bar) with the (I – bar) which usually carries the tense in such a type of clauses formulating the (I – bar). The second operation includes the merging of the (I – bar) with the (NP – bar) to formulate the whole verbal clause. The verbal clause in (4), on the other hand, is formulated by the application of a special extra-transformational rule which is called 'affix lowering' (Carnie, 2002:194). In this rule the affix (الماضي) lowers on the verb to formulate a complete verbal phrase. The same merger operation repeated here as well to constitute the whole clause. Representations of verbal clauses are shown below.



In the first example, the merger operation results in two projections which are the maximal and the minimal. In the second example, however, the merger operation and affix- lowering along with the NP- bar result in three projections: maximal, intermediate and minimal.

The normal word- order of Arabic clauses is usually (VSO or VOSA). Arab grammarians consider this normal word order being so essential to the verbal clause that when it is inverted in clauses such as: علي مات (Ali died), they view it as a nominal clause whose predicate is (مات) (died) which is at the same time a complete verbal group and Ali is the inchoative(المبتدأ) not the doer (الفاعل) .A clause of this kind consisting of an inchoative and a complete verbal clause may be called compound clause since the agent is contained implicitly in the verb itself (علي مات هو) . Other grammarians consider such a clause as one of two faces or aspects (جملة ذات الوجهين) because it is as a whole represents both the nature of verbal and nominal clauses (Wright, 1977:255-258).Representation of this type is shown below.



The clause which is initiated by a verbal group is formed by the merger operation and affix-lowering. The clause which is initiated by a nominal group is formed by three merger operation: In the first one the implied agent is merged with the verb مات, in the second the VP-bar (مات هو) is merged with the I-bar (= tense) resulting in (علي مات هو).

In English language, on the other hand, both inflectional suffixes and the auxiliaries are generated under the IP-bar or the IP-format. They differ, however,

in terms of whether they can stand alone or not. Auxiliaries are independent words and can stand alone. By contrast, suffixes like (-s) and (-ed) have to be attached to a verb since they cannot be pronounced in isolation. Thus, they lower onto the verb (Carnie; 2002:150).Consider the following:

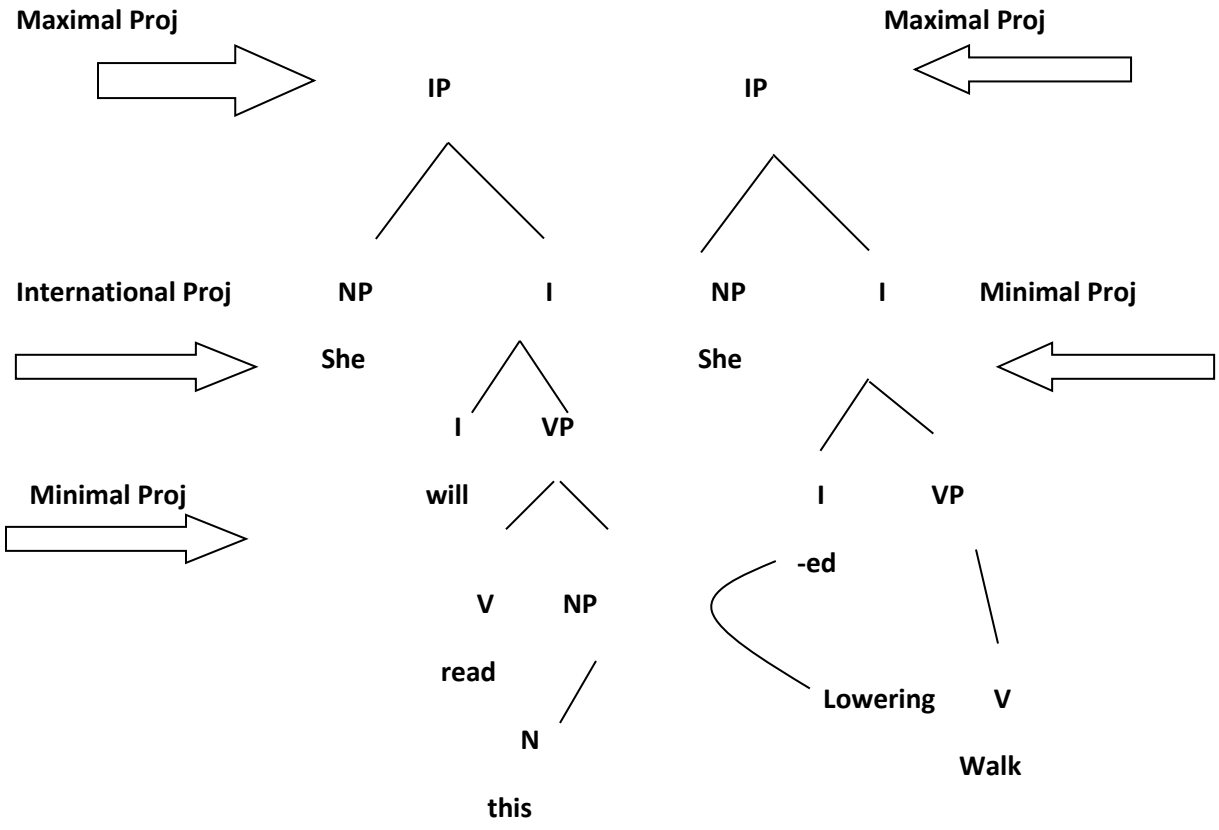
5. She will read this.

6. He walked.

The clause in (5) contains independent auxiliary (will) which can stand alone, thus, the whole clause is formed by the merger operation. The clause in (6) contains the suffix (-ed) which cannot stand alone and which has to lower onto the verb, thus, the whole clause is formed by affix-lowering and the merger operation. Representations of English clauses are shown below.

Accordingly, English inflectional suffixes such as (-ed) and (-s) are similar to Arabic verbal clauses (which are initiated by a verb) in the sense that these suffixes have to lower onto the verb.

It is significant to note that Arabic verbal clauses may be classified into two types, namely,



simple and complex clauses. Each type will be discussed below.

2. Simple and Complex Clauses

Simple and complex clauses are treated differently based on the type of projection that can be generated. The simple clauses are less difficult to be analyzed with one projection. The complex clauses are organized around more complex projection which mainly includes the CP projection as a prominent type of projection.

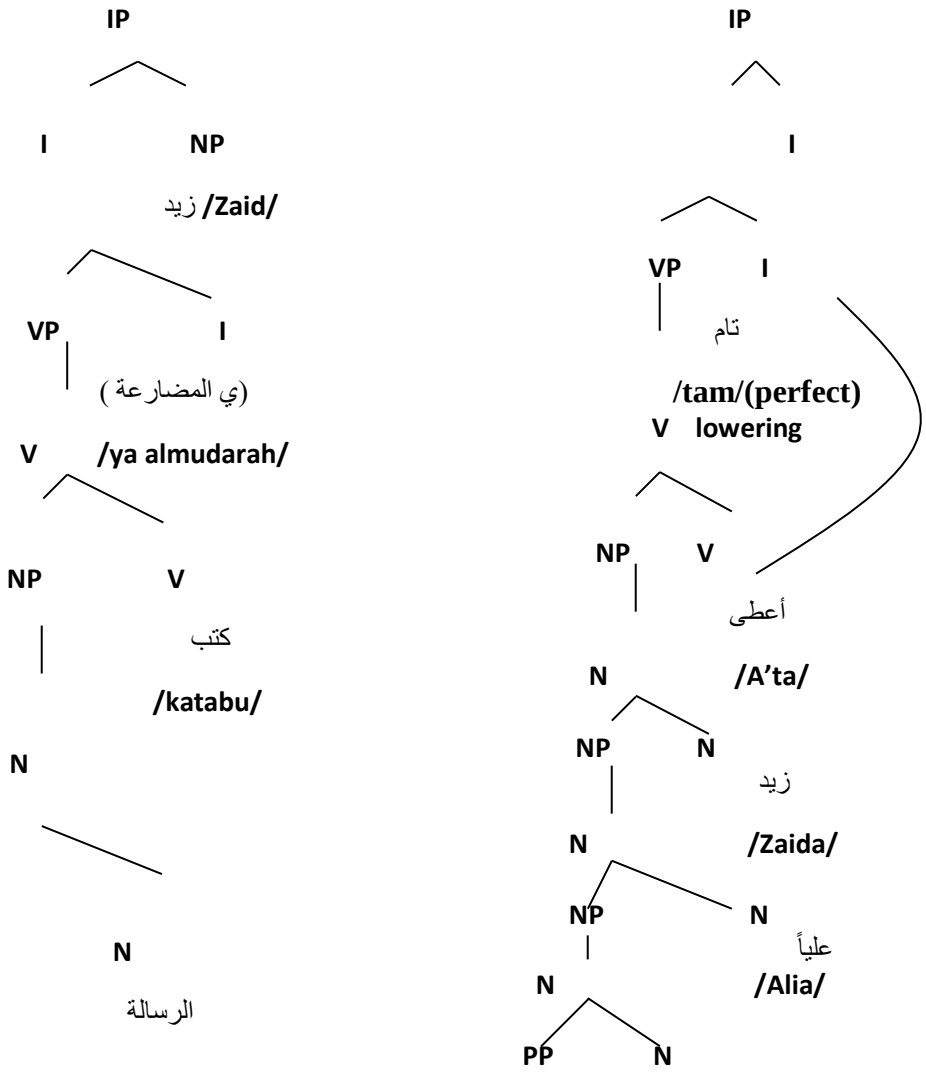
2.1 Simple Clauses

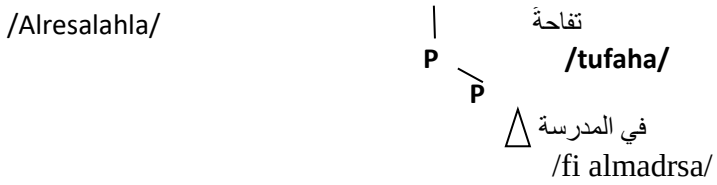
A simple clause is usually composed of the subject and the predicate (Halliday, 1985:64).The simple clause is dominated by the IP-format which is formulated by the merger operation. Consider the following:

5. /alresalaha uatabakya dZai / زيدُ يكتب الرسالة

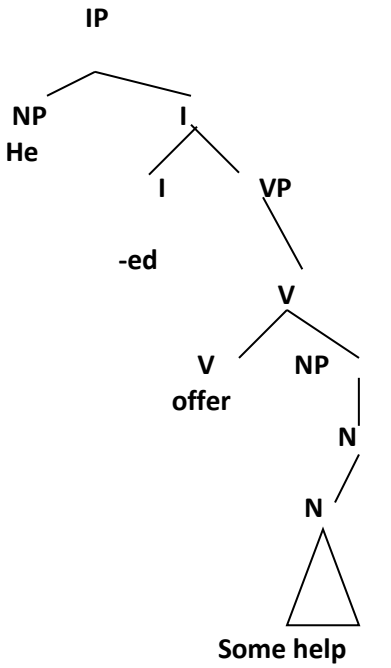
6. /A'ta Zaida Alia Tufahta fi almadrasah/ أعطى زيدُ علياً تفاحةً في المدرسة

Simple clauses, as it is shown in the previous section, is formulated when the NP-bar is merged with the V-bar resulting in VP, then, the VP- bar is merged with I-bar resulting in I-bar. The final stop is when NP-bar is merged with I-bar to form the whole clause. The same merger operation is repeated in (5). Representations of these simple clauses are shown below.





Simple clauses, in English, are also headed by IP- format which is formulated by merger operation in addition to affix-lowering (when it is needed). Representation of English simple clauses is shown below.



He offered some help.

2.2 Complex Clauses

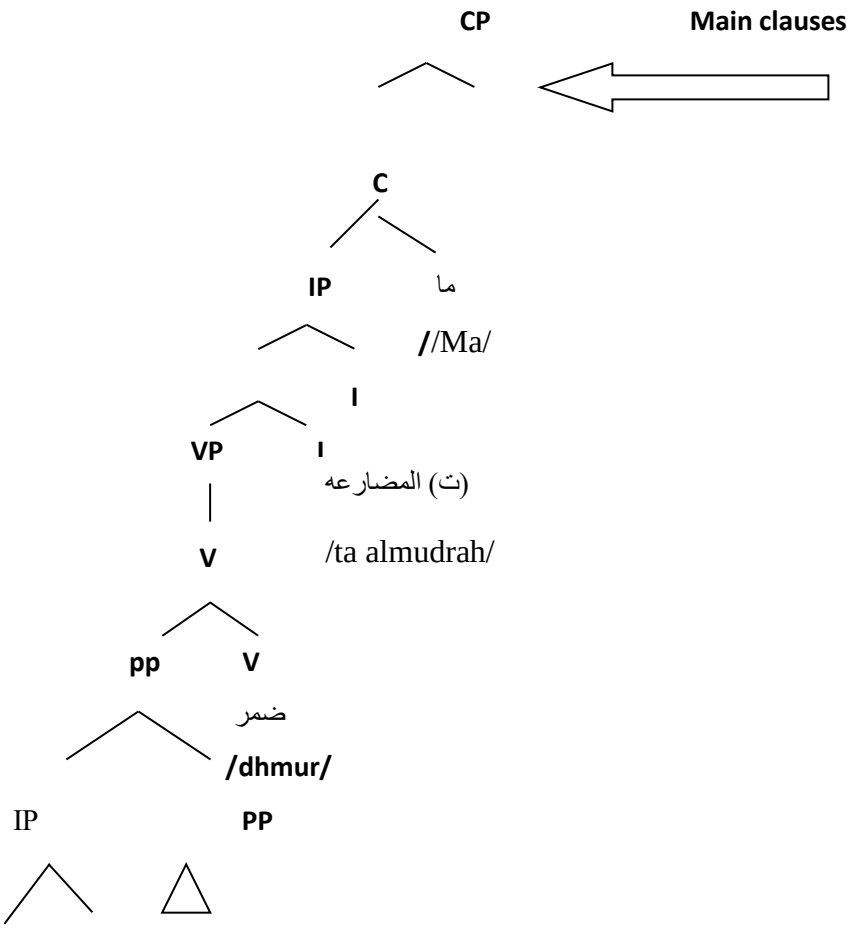
The complex clause is composed of two simple clauses which are linked together forming one complex clause(Halliday, 1985:64) This type is dominated by the complementizer projection

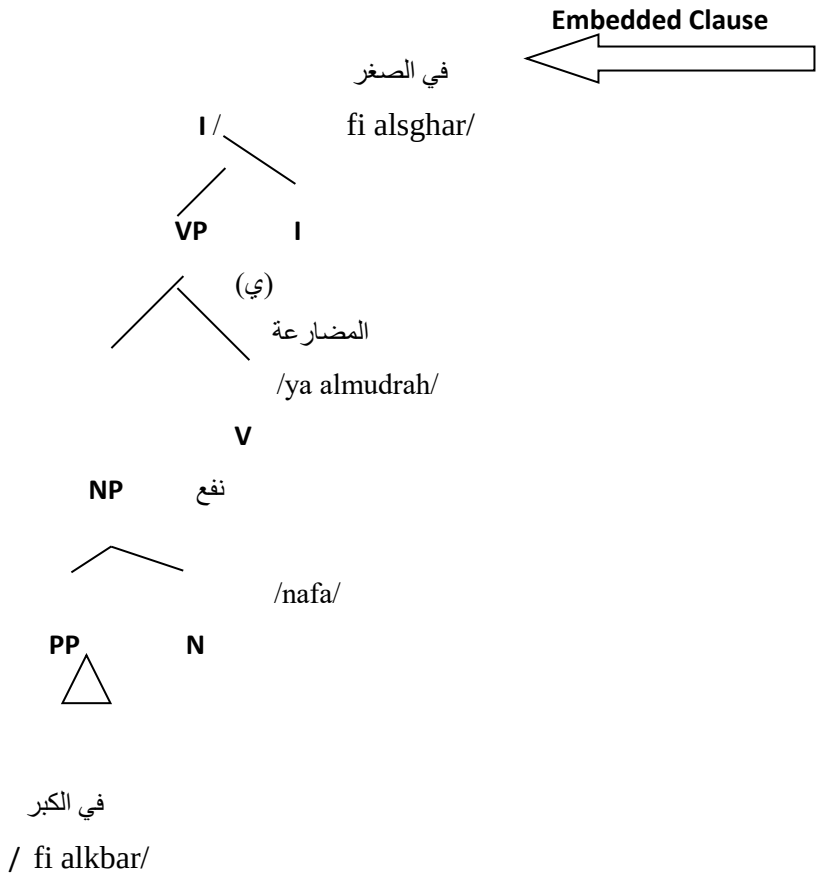
(henceforth CP) which in turns dominates its specifier and its head. The complementizer selects IP and its complement. The CP is usually an embedded or subordinate clauses which is a constituent of another clause (Haegemna Jacqueline, 1999:97)

7. /Ma tadhmur fi alsghar jnf'uk fi alkbar/ ما تضمر في الصغر ينفعك في الكبر

8. /Hasbtu ana Alia yuhibu nafsahu/حسبتُ أنَّ علياً يحبُّ نفسه

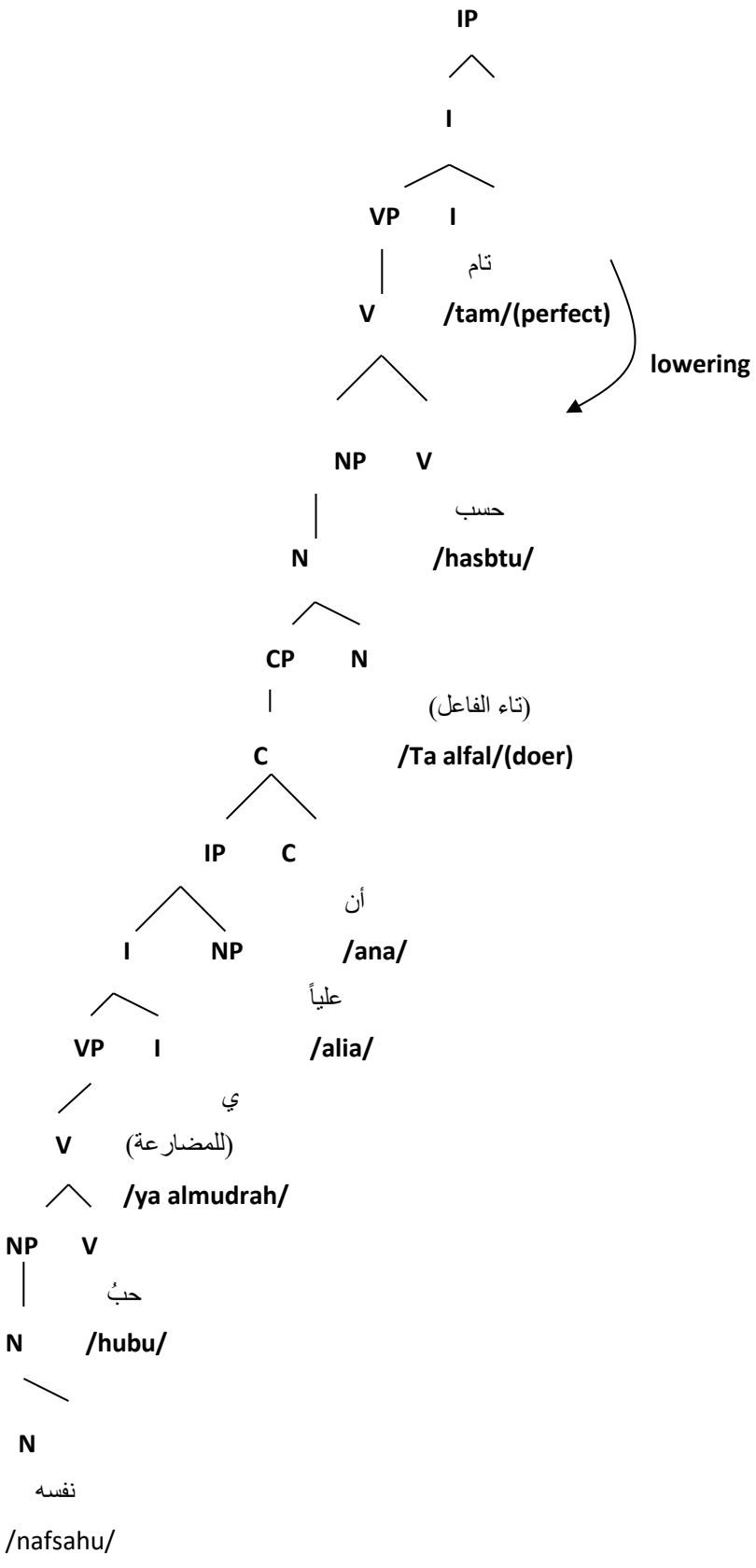
The complementizer (ما) in (7) is usually the head of the complementizer phrase with an empty specifier position. The complementizer initiates the whole clause and it is embedded in the main clause. The merger operation starts at the end of the embedded clause (ينفعك في الكبر) till it reaches the main clause (تضمر في الصغر). The last merger operation is completed when the whole clause is merged to its complementizer. Representation of this example is shown below.





The complementizer clause is sometimes embedded within the main clause. The whole clause is, then, dominated by IP rather than the CP as in (7) above. Representation of this example is shown below.

حسبت أن علياً يحب نفسه



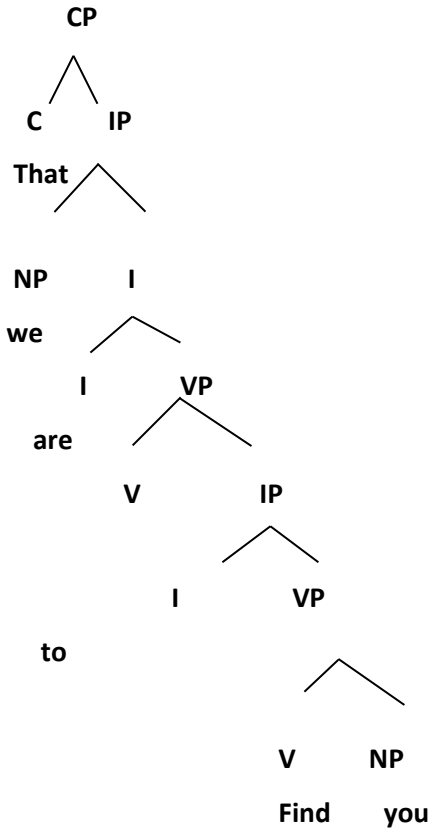
The comlementizer clause is embedded within the main clause which is, in turn, dominated by (أن). The merger operation starts by merging NP-bar (نفسه) with the V- bar (حب). This complex clause is made by merging successive pairs of categories to form various layers and more complex structures. The affix-lowering operation is needed as well.

English complex clauses are also composed of two (or may be more) simple clauses which are joined or linked together. Consider the following:

9. That we are trying to help you.

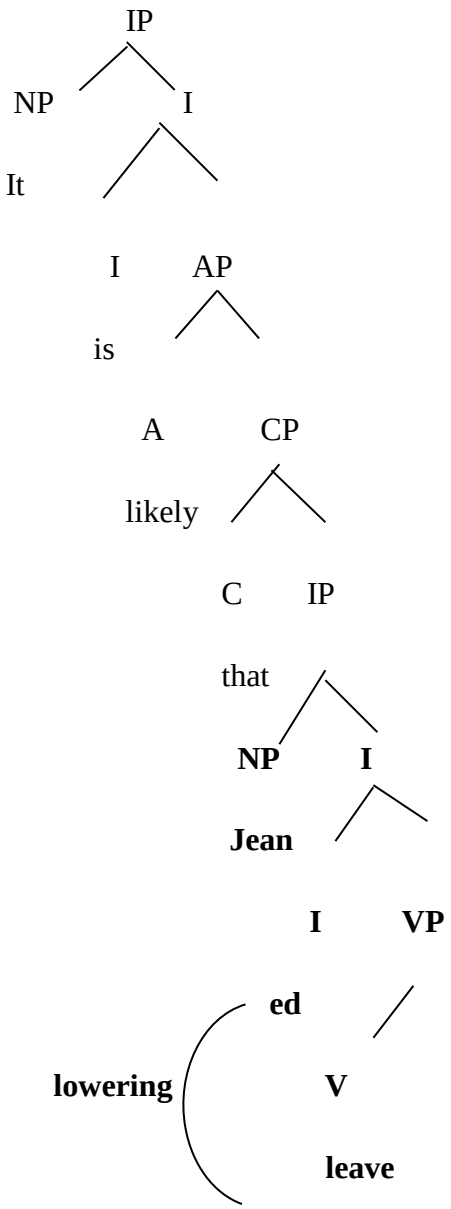
10. It is likely that Jean left.

The clause in (9) is started with (That) holding the position of complementizer of the CP. The pronoun (we) occupies the specifier of the IP. The two verbal phrases (are trying) and (to help) are joined to make this complex structure. The important assumption that can be arrived at is that English complex clauses are formed by essentially the same successive merger operations mentioned above. The representation of this example is shown below.



The CP projection may be preceded by the IP projection when the complementizer occurs after the first clause. That is, the comlemetizer is embedded within the main clause as in (10) below. The merger operation starts when the VP- bar (leave) is merged with the I- bar (-ed). This

operation is repeated successively to form the whole clause. Besides, the affix- lowering is also needed .The representation of this example is shown below.



3. Interrogatives

Interrogative clauses are manipulated to give a response to a question**.** Asking a question, in Arabic, is evoked by the use of two types of interrogatives, namely, the polar interrogatives and the information interrogatives (Wright, 1977:306).Each type will be explained below.

3.1 Polar-Interrogatives

This type of interrogatives is represented by mainly two particles: (هل) and (أ), and substantively by the particles:ألا ، هلا ، لولا ، ألاَ . This type of interrogatives is used to ask questions about the validity of the statement which in turn requires either a negative or a positive answer. The particle (أ) is considered the simplest interrogative particle, which may be prefixed to the word أن and to conjunctions such as: ثم، ف. (Wright, 1977:306) and (Beeston, 1970:102).Consider the following:

11./Hal sawfa yati? /هل سوف يأتي؟

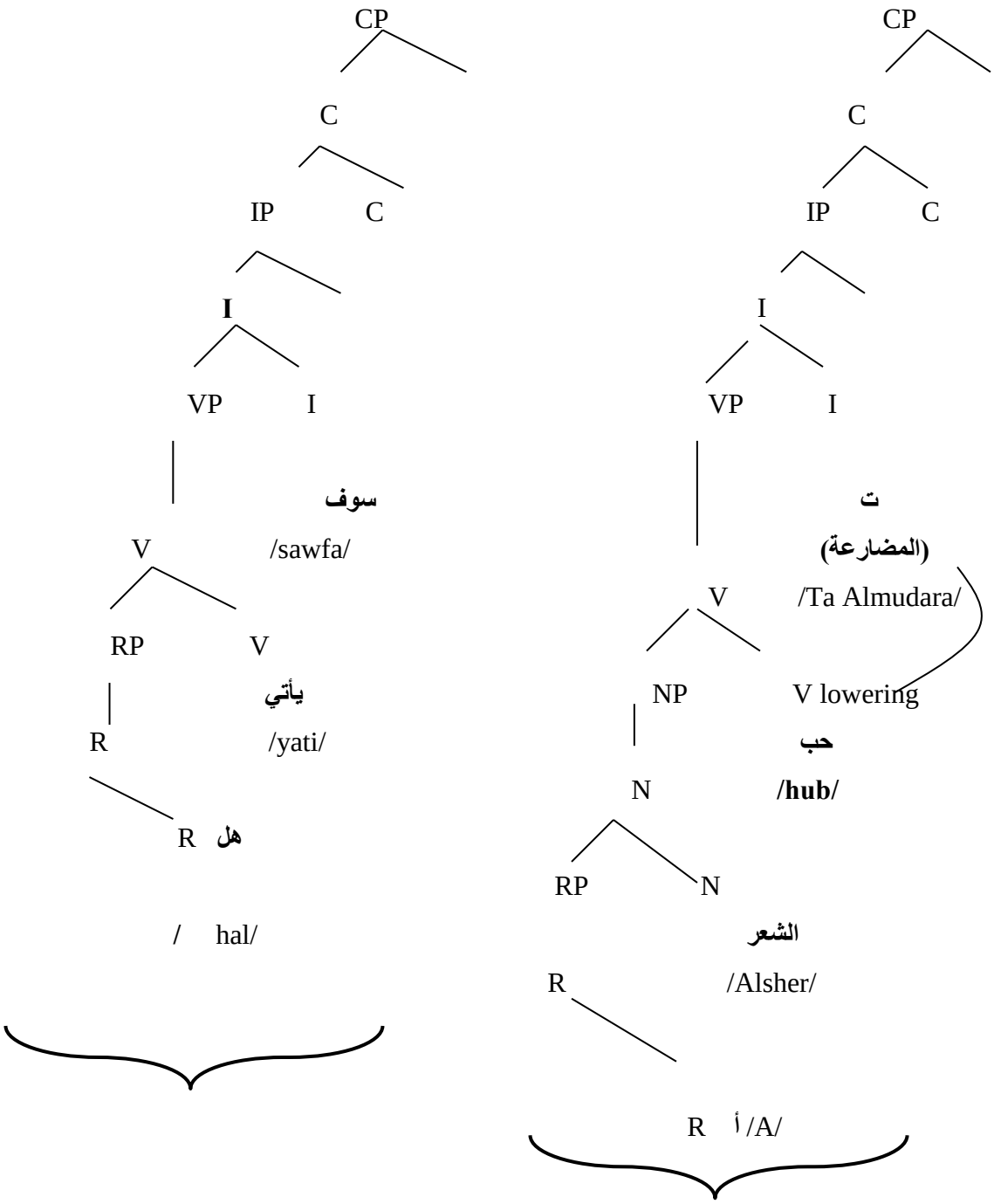
12./A tuhibu alsher?/؟أتحب الشعر

A statement is converted into polar interrogative by the initial particles (هل) and (أ) which do not necessarily entail any other change in the clause structure (Beeton, 1970:102). In the process of making a polar question or interrogatives, the particles are inserted. "Insertion transformations" apply only in the case that there is nothing else you can do. They are, in essence, operations of 'last resort', that is, the application is made when no movement transformation can apply (Carnie, 2002:209).

It is significant to note here that these particles are originally generated at the end of each question, that is, they are deeply found at the end of each statement and are motivated and inserted when they are needed.(ibid:153-154). The deep representations of the above examples are shown below.

/Sawfa yatl hal?/ **"سوف يأتي"هل"** /Tuhibu alsher a?/

تحب الشعر "أ"



A **B**

Interrogatives are made by using the overt complementizer (i.e.هل andأ). The particles are usually generated at the end of each clause and they are moved toward their Complemetizer position. The particle –movement has two main features: First, this movement is an upward one, never downward. Second, the moved particle leaves behind an empty category "trace"

which must have the same head feature as the moved element or the particle. Thus, the empty category would seem to be a silent copy of the moved constituent that it has the same grammatical properties as the moved constituent, and which differs from it (moved element) in that it has no phonetic content (Radford, 1997:111-112)

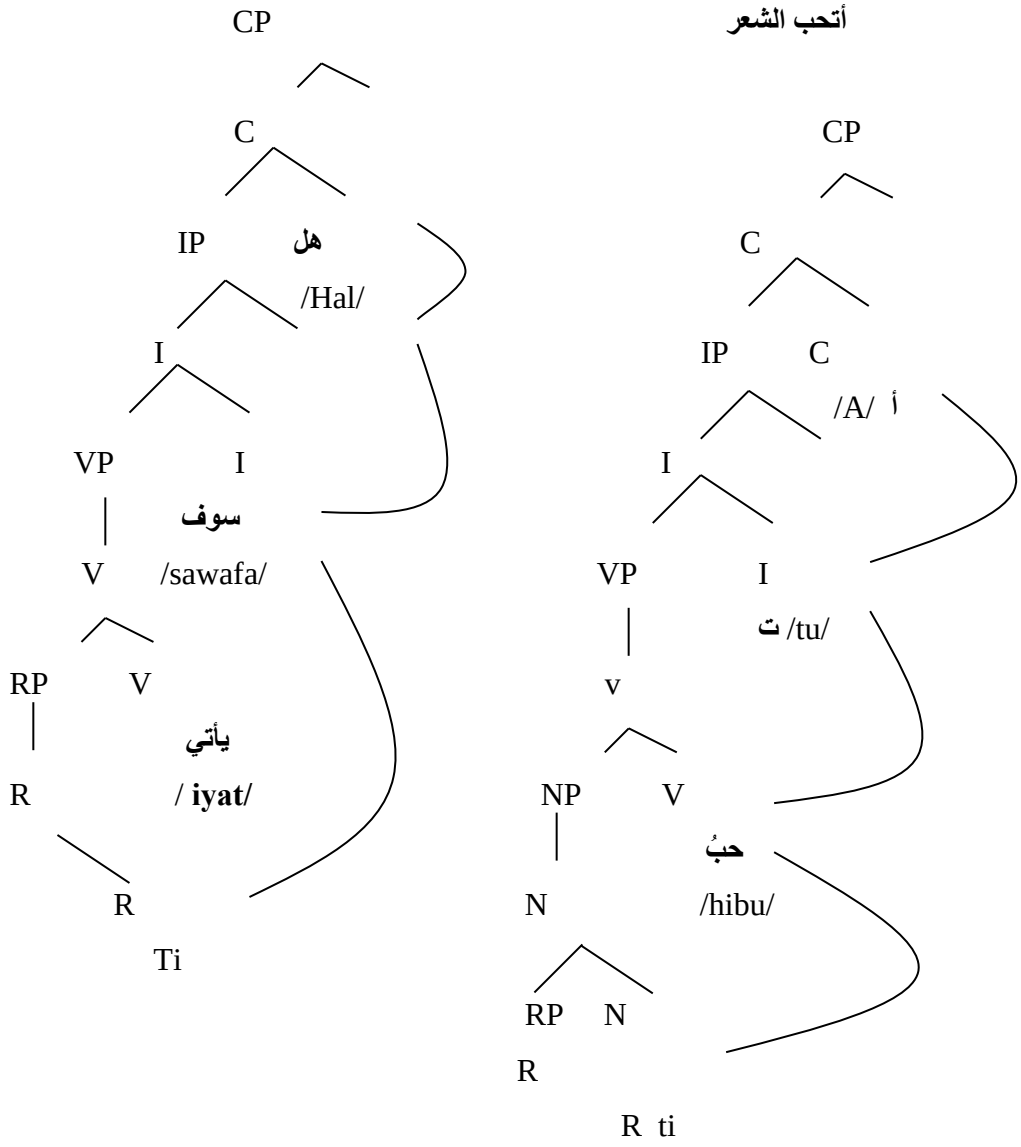
Accordingly, the process, through which the interrogative clause, (هل سوف يأتي؟), is made requires the application of two operations: First is the merger operation in which the various constituents are linked successively to form (سوف يأتي هل). Second is the movement operation in which the particle (هل) moves from its place to the complementizer positioning in an upward movement and leaving a trace behind. Similarly the interrogative clause (أتحب الشعر) is also formed by the application of the two mentioned operations in addition to affix- lowering movement in which (تاء المضارعة) is lowered onto the verb to form a verb phrase.

It is significant to note that these particles are said to apply in successive cycle fashion, moving from the generated position first into VP, then into IP and finally into complementizer position. Each separate movement is local in the sense that it moves only into the head position in the highest layers in successive steps (Ibid: 18). Representations of the interrogatives are shown below.

./Hal sawfa yati?

./A tuhibu alsher?

هل سوف يأتي



Polar interrogatives, however, may use other types of word order. That is, the part of the clause, about which the speaker/ the writer inquires, is placed immediately after the interrogative particles (Aziz, 1989:256).Consider the following:

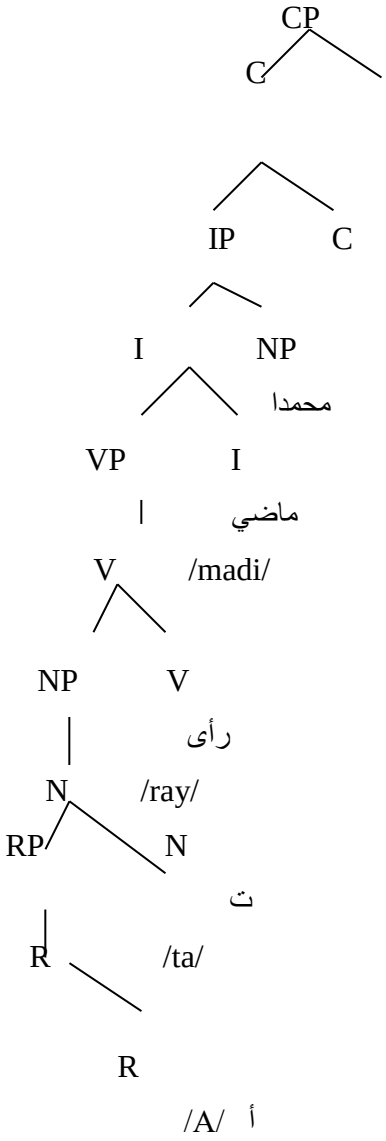
13. /A Muhammad rayta?/أ محمداً رأيت

14./Muhammad rayta a?/؟أ محمدا رايت

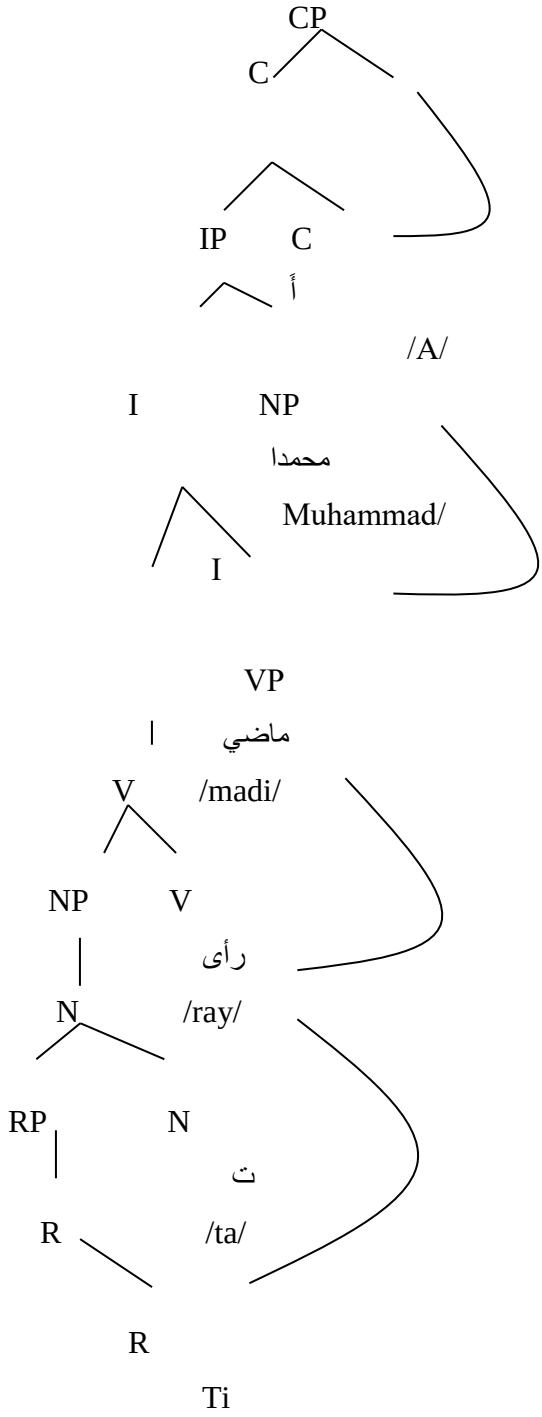
The particle, which is originally generated at the end of the clause, is followed by the noun (محمداً) rather than the verb. In the process of making such an interrogative, two operations are

required, namely, merger operation and movement operation. Representations of this example are shown below.

/Muhammad rayta a?/محمداً رأيت أ



/A Muhammad rayta?/ .أمحمداً رأيت



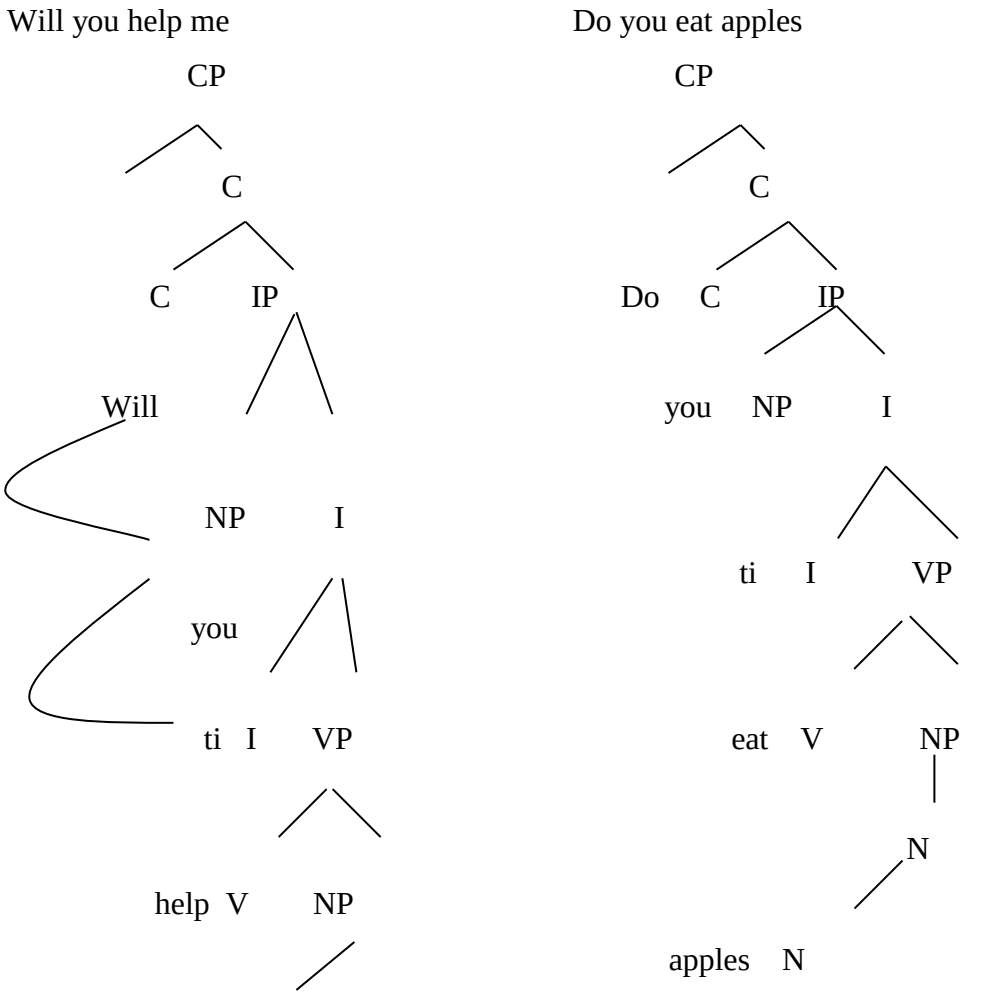
English polar- interrogatives, unlike Arabic, require inversion operation in which the auxiliary moves from its place into the head of CP. This type of movement is called head-to-head

movement. Consider the following:

14. Will you help me?

15. Do you eat apples?

The auxiliary (will) in (14) moves in upward movements into the complementizer position leaving a trace which is an empty category of itself. The dummy meaningless auxiliary “do” may be inserted, as in (13), to from the question. These auxiliary moves from its place into the complementizer position leaving a trace as well. Representations of these two cases are shown below.



me N

It has been stated that inflectional suffixes, in English, lower onto the verb. The transformation of inflectional affixes to the complementizer position forces the same inflectional suffixes to rise. This contradiction is solved when do-insertion is applied (Carnie, 2002:208-209).In both these two examples two operations are required. The first is the merger operation and the second is movement operation in which the auxiliaries (will) and (do) are moved to the complementizer position. This movement requires the inversion of subject / auxiliary. Accordingly, English language uses subject / verb inversion and it lacks special complementizer question- particles. Arabic language, however, has special particles and it won't have subject / auxiliary inversion. In this respect Carine (2002:153) states that if a language employs subject / auxiliary inversion, it will lack complementizer question particle. The opposite also holds true and the phenomena are in complementary distribution.

3.2 Information Interrogatives

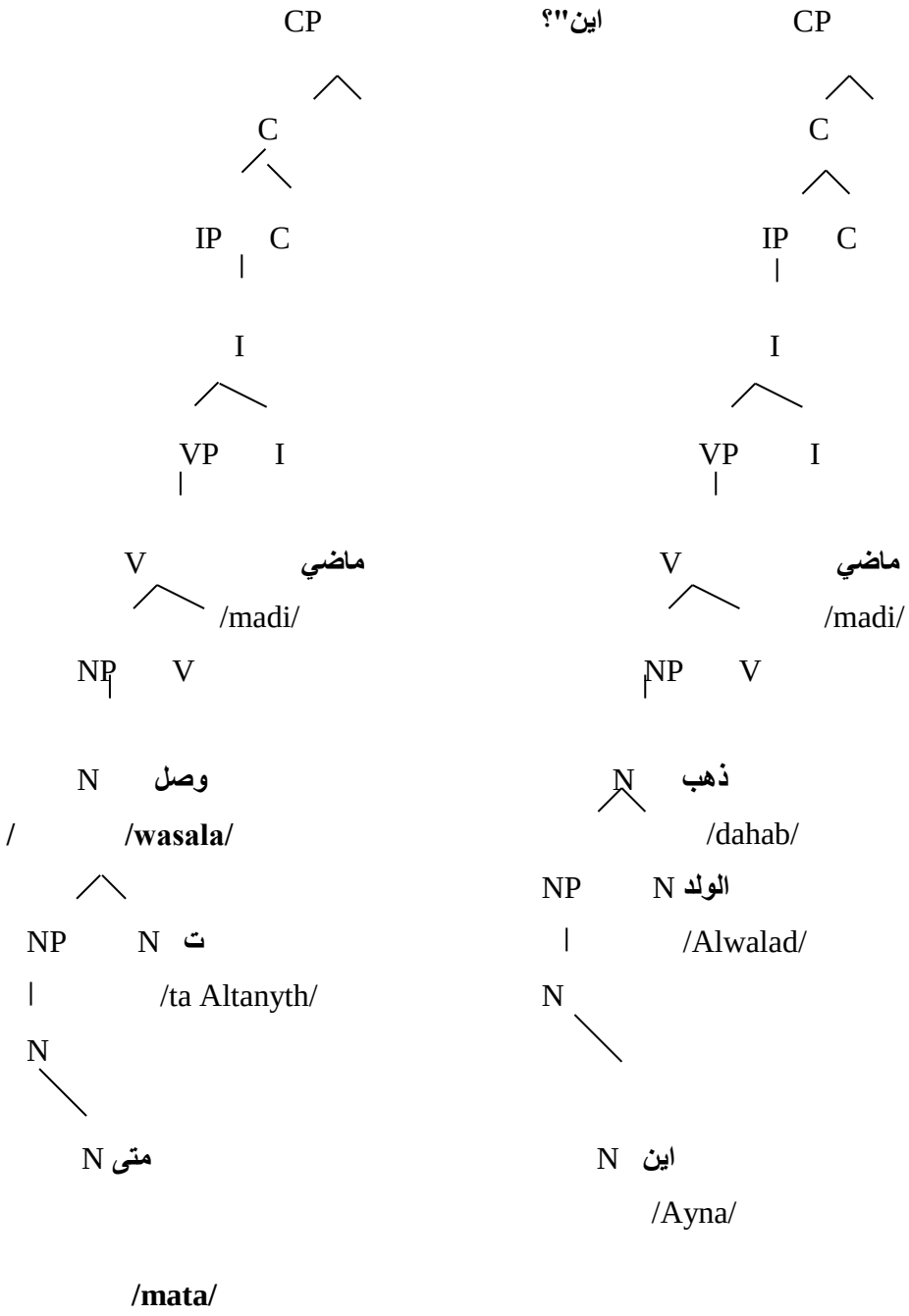
This type of interrogative is used to ask about one of the elements of the clause, thus, a clause may begin with (ما) if the inquiry is made regarding the nature, question social position. Other question-words such as (من),(أين) and(متى) are used in inquiry about persons, places and time, respectively (Aziz, 1989:256-257).See also (Jamal Alden, 1980) .Consider the following:

16./Mata wasalta? /متى وصلت

17./Ayn dahab alwaldu?/أين ذهب الولد

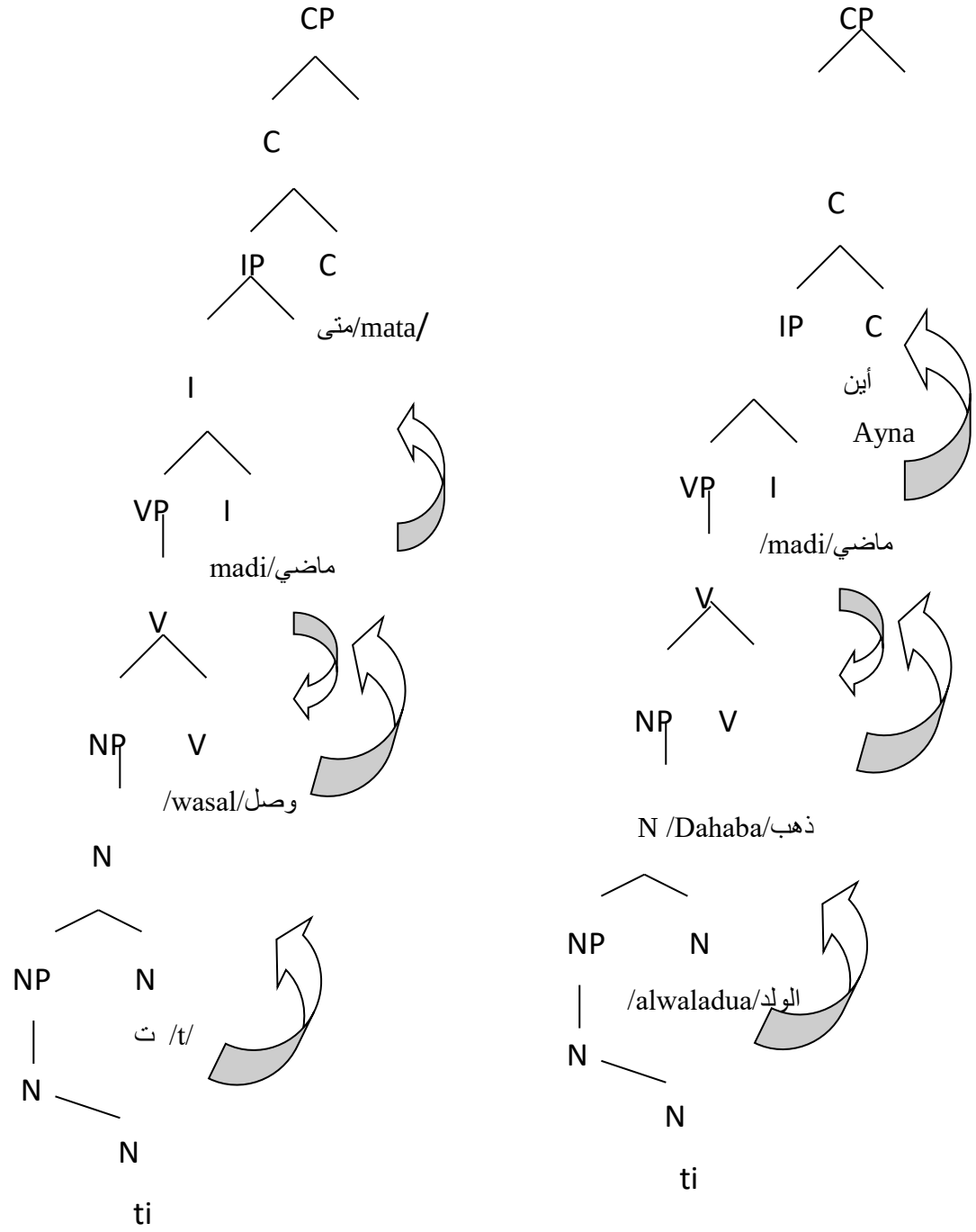
The question-words in these examples are originally generated at the end of each clause and they have to move to the complementizer position. Accordingly, the process of making this type of interrogatives is similar to polar interrogatives in that: First, it does not require subject / verb inversion. Second, it involves the generating of the question words, then, moving in upward movement to the CP leaving a trace. Representations of the deep structures of the above examples are shown below.

/ wasalta mata?/"متى "وصلت **Dahaba alwaldu ayna?/ذهب الولد**



The question –words, which are generated at the level of each clause, have to move from their position to the complementizer positions leaving silent copies of them which have the same grammatical features as the moved words. Representations of this type are shown below. In these representations, the question- words (متى) and (أين) move in successive cycles starting from (NP-bar) and ending with (IP- bar) till they reach the complementizer positions. The affix-lowering operation is also required to merge the inflectional suffix which is the past tense

(ماضي)/madi/ with the verbs.

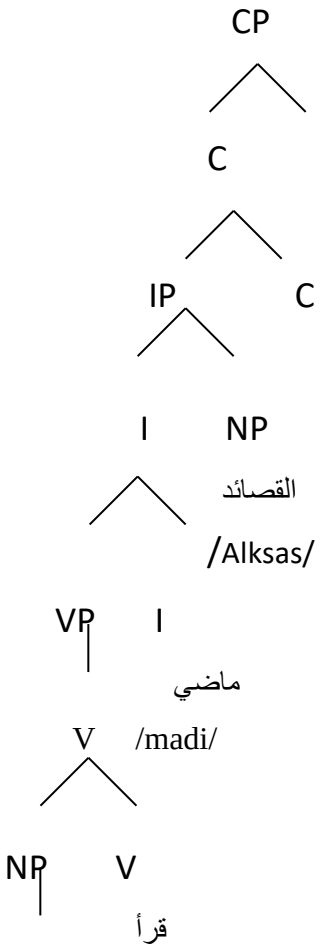


Sometimes the question- word is followed by a nominal group rather than a verbal group. In such a case a specifier position is not left empty. Consider the following:

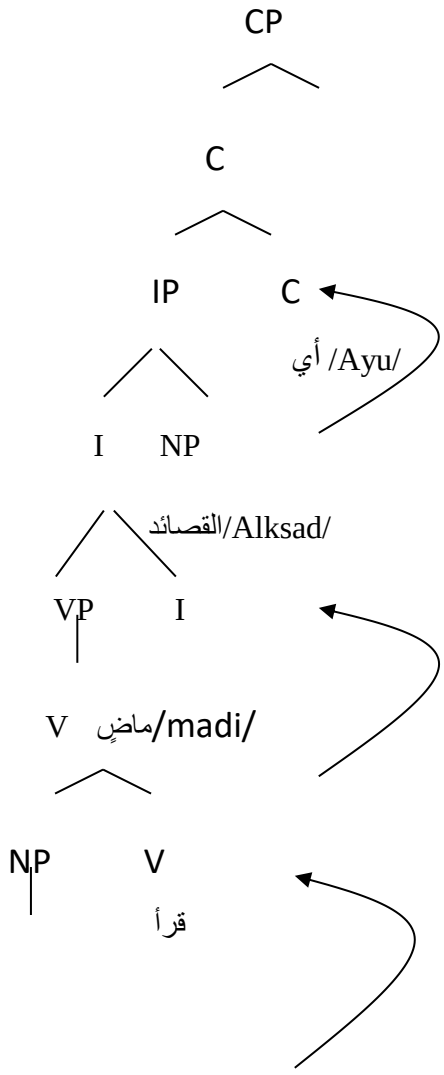
18./Ayu alksad karata?/ أي القصائد قرأت

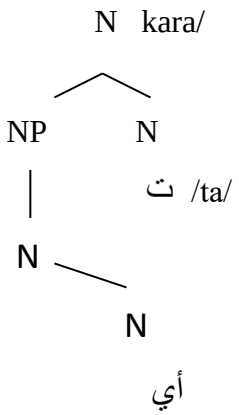
The question word /Ayu/"أي" is followed by the noun/Alksad/ (القصائد) which is in turn followed by the verb/Karata/ (قرأت). The question word, as in the previous example, is generated at the end of the clause and it moves upward towards complementizer position. Representations of this example are show below.

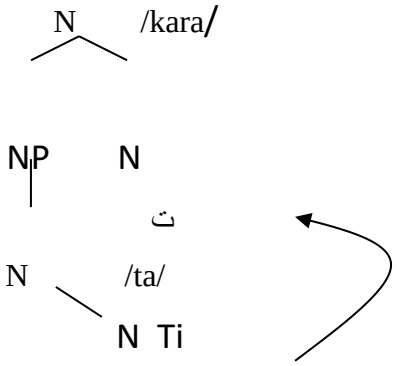
القصائد قرأت "أي"؟



/Ayu Alksad karata?/أي القصائد قرأت؟



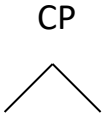




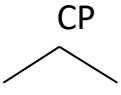
English wh-interrogatives are formed by employing the same operation, i.e. the question words such as: who, where, when….etc are generated and moved to the specifier position of the CP. The representation of English is shown below.

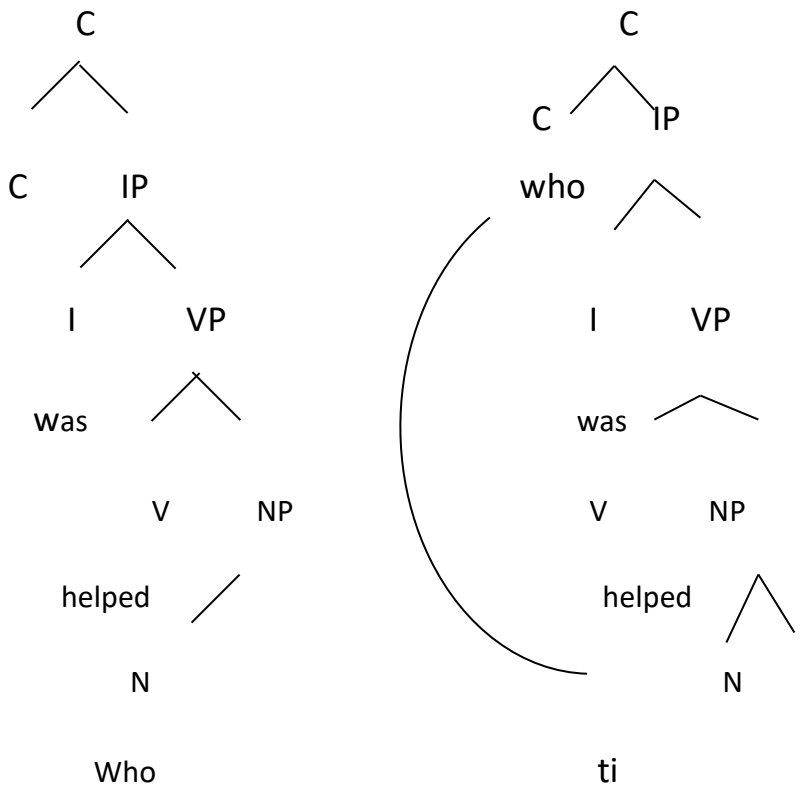
19. Who was helped?

Was helped who



Who was helped





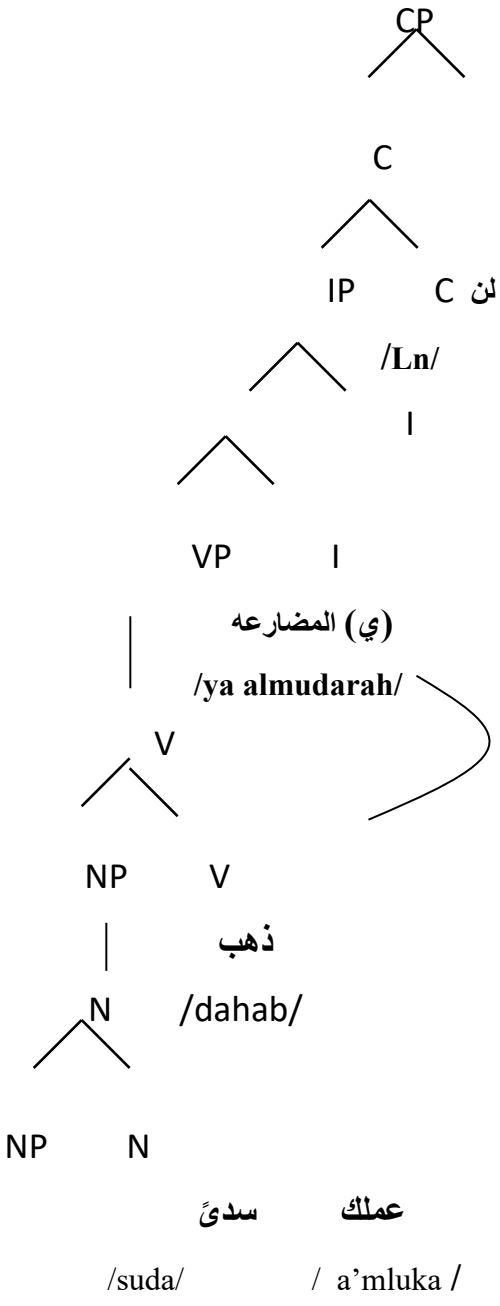
Accordingly, the distinction between lexical and auxiliary verbs are irrelevant to Arabic as far as question formation is concerned since Arabic interrogatives are either formed by using the particles (هل) and (أ) in polar interrogatives at the beginning of the clause without applying the inversion technique, or by the use of question word in initial position without any type of inversion in information interrogatives. This distinction however is needed in English to apply subject / auxiliary inversion.

4.Negatives

Negation in Arabic is mainly realized by certain particles before the negated item. The most generalized negative is "لا". Other negatives particles are"لن"،"ما"،"لم"،"ليس"……etc.(Aziz,1989:239-241) and (Beeston, 1970:99).In Arabic language, there is no need to clarify verbs according to their functions into auxiliary verb and lexical verbs since the negation is realized by negative particles which are placed before the negated constituent or items. Consider the following:

20. /Ln ydhaba a'mluka suda/لن يذهب عملك سدىً

The negative particle (لن) is placed before the negated element which is the verb(يذهب) and accordingly it occupies the complementizer position. The representation of this example is shown below.



English negatives sometimes require the inversion of do-support to negate a clause as in:

21. I ate the apple.

22. I did not eat the apple.

The dummy and meaningless “do” is inserted before the verb to negate the clause and the negated particle (not) follows it directly.

5. Discussion of Results

The binary-branches analysis to Arabic clauses reveals that Arabic clauses are organized around different types of “heads” which are (NP) and (VP) within the (IP-bar). This is due to the fact that Arabic language is flexible in the sense that a clause usually starts with either (a verb) or (a noun). Within (CP-bar), the clauses may or may not be organized around complementizer-head depending on the nature of the clause, that is, if a clause has a complementizer phrase at the beginning of it, the clause will be organized around this bar and if not, the clause may be organized around (IP-bar).

English clauses, on the other hand, are organized around (NP) head only. This due to the fact that English language has a fixed word order in the sense that a clause should be started with (NP) head only and never (VP) head. The (IP-bar) and the (CP-bar) may or may not appear at the beginning of the clause. In such a case, English clauses are similar to Arabic clauses.

The application of this theory can manifest itself at different levels including the intermediate and the maximal production with both simple and complex clauses. The main difference is in the application of “IP” projection which can be implicit in Arabic clauses more frequently than English language. The complementizer is evident in all complex clauses in both languages.

The interrogatives in both languages share the same transformational rules which are the generation, movement rules and the affix –lowering rules. The question words are generated under the last node in the tree and have to move in successive cycles till they reach the complementizer positions. The difference, however, lies in the fact that questions in English, unlike Arabic, require inversion operation or head to head movement and insertion operation. The negatives are formed based on the same transformation process in both languages. The negative element is usually placed or inserted before the negated constitutes.

6. Conclusion

The universality of language is clearly evident through the application of the binary approach. The general application proves that both languages can be analyzed within one main projection that has two nodes. Despite the differences between the word-order of the two languages, the application shows that all clauses are organized around NP, VP, IP and CP projections. The differences can be handled by switching the binary projection to start with the right side to suit the application in Arabic.

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