The Morpho-Syntactic Ievel in Classical Arabic.

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Abstract

The topic explored in this study is a hierarchal intermediary level known in linguistics as Morpho-Syntactic level, to bridge Morphology and Syntax in languages. This level in Arabic language is examined here in two parts: part one considers Derivational and Inflectional morphologies in the language, and shows how they project into syntax. It also examines central grammatical properties needed in syntax such as aspect, mood, finiteness, agreement, etc. Part two is devoted to some syntactic structures and central syntactic concepts such as positions, heads, phrases, etc., adopted in this study to attest and verify universal principles posited by the universal Generalized Phrase Marker. The structure of the Noun Phrase category and the Verb phrase complex are considered. The syntactic distinction between Complement and Adjunct categories is established in terms of adjacency and distribution. This distinction is taken as an evidence for the existence of the intermediate X-bar level in the language. Arabic coordination structures provide a further distributional evidence in support of this distinction. Structural coordination facts suggest that Strict Adjacency Principle holds at all levels, and is extendable to all head categories in the language (Rakas 2017a). Extra-position, pre-posing and questioning structures show that Complements are X-sisters and Adjuncts are X-bar sisters. Furthermore, the pronoun *waahid-u/a/i-n*/ 'one' in Arabic is a pro-N-bar, rather than a pro-N form. In line with the pro-N-bar form, the verb complex citation form /*faʿala ka-ðaalika*/ '(he) did so' is a pro-V-bar, rather than pro-V form. This N-bar and V-bar parallel structural behavior indicates that sentences in Arabic are structured out of phrases, and all phrase categories observe the principles posited by the Generalized Phrase Marker (Rakas ibid). Hence, the focus of this study is placed on three grammatical relations, linking the Arabic interacted morphology with syntax, i.e. (i) the rich agreement declension on nouns, (ii) the rich conjugation on verb complex, and (iii) the relation between the functional positions of sentences and the two intermingled morphologies in the language.

1. Introduction

This paper has a two-folds integrated parts. Part one considers morphological issues and part two examines some syntactic issues in Arabic. Morphology and syntax in Arabic as, presumably, in other languages, are bridged by an intermediate morpho-syntactic level. The integrated Dderivational and Inflectional morphologies in Arabic, respectively, provide syntax with lexical phrasal categories and grammatical properties needed for sentence projection. These two morphologies are quite distinct in English and interacted in Arabic.

The method assumed here for the analysis of the Arabic illustrative exaples has three hierarchal levels: (i) CLA sentences are transcribed into their phonetic script, with hyphenated lexical words and functional affixes, (ii) lexical words are translated into English and affixes are glossed with morpho-syntactic properties. For instance, /*'al*/-(def)inite), /*-t*/-(3fsg), /*-u*/-(nom.), /*ja-*/-(*imp.*)perfect, etc. and (iii) each sentence is translated into English.

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The descriptive power of this method allows non-Arabs to understand the implications of these Arabic informative data in terms of pronunciation, morpho-syntactic functional features and their English translation.

It is assumed in various models of syntax that Derivational/Lexical morphology provides syntax with lexical phrasal categories to articulate sentences syntactic functional positions such as (spec)ifiers, subjects, complements, adjuncts, heads, etc. Inflectional morphology sentence syntactic positions with grammatical features needed for sentences understanding. For instance, verb specific conjugations such as aspect, mood, finiteness, etc., and noun declension properties such as gender, number, case, etc. These grammatical features indicate how syntactic positions in sentences, e.g. head, complement, predicate, etc. are related. The verb-complex in Arabic expresses grammatical properties such as gender, number and person in agreement with its subject. By and large, it is assumed that Arabic has no infinitival verb form, but rather it exhibits word lexical complexes based on consonantal roots. These roots acquire vocalic patterns in order to assume its word category. For example, the root ...k...t...b... must acquire patterns of vocalic affixation, termed in the Classical Arabic (CLA) tradition as */mawaaziin/* (templates), to express word-categories: e.g. /*kitaab*/ 'a book', /*kutub*/ 'books' /*ja-ktub-u*/ 'he-writes', */katab-a/* 'he-wrote', */kaatib/* 'author' /*maktab*/ 'office' */maktabah/* 'bookshop/library', etc.

(S)ubject (V)erb (O)bject (SVO) word order is recognized by CLA grammarians as */mubtada' wa xabar* 'Topic and Comment (T-C) 'structure, vis-à-vis Subject-Predicate in modern jargons. The 'Topic' */mubtada'/* category is an initial functional position in nominal sentences, assigned structural (nom)inative case by the adjacent V position. It could be speculated that the basic sentence structure in CLA is VSO, and the SVO word order is a marked topialized structure (Rakas 2017c). In VSO word order, the subject is categorized as Agent. (T-C) structure shows full (Subject-Verb) agreement, with explicit number, but VSO structure exhibits partial agreement, without number overt marking. Sentences syntactic positions are crystallized by lexical phrasal categories. Functional positions and their syntactic relations are indicated in written Arabic by diacritics and morphological affixation.

2. Part one: Morphology

2.1 Finiteness

It is generally assumed that (non)finite (infinitival) clause distinction is, to a large extent, based on morphological criteria; that is finite clauses necessarily contain a verb inflected for tense and agreement while non-finite clauses contain tense-less and agreement-less verbs. Arabic, as far as one can tell, shows only the former type of clauses in which the verb complex inflects for aspect and shows full agreement in gender and number with the subject in SVO word order.

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2. 2 Aspect

According to Crystal, D. (1980), aspect is a category used in grammatical description of verbs in languages. Along with other morphological affixations and mood inflection, aspect in Arabic describes the verb complex and refers primarily to the way Arabic grammar marks the duration of the action denoted by the verb complex. This aspectual duration is well expressed by the contrast between perfective and imperfective verb forms in the language, the former referring to the completion of the action of the verb, the latter indicates duration without reference to completion.

Imperfective-ness aspect in CLA is expressed by a set of consonants, i.e. the glottal stop /'/, the voiced alveolar nasal /n/, the voiced palatal approximate /j/ and the voiceless alveolar plosive /t/, pronounced as /'-n-j-t/ necessarily prefixed to the verb forms In other words, aspectual Imperfective-ness is encoded by the markers /?-(1sgm/f), n-(1plm/f), j-(3sg/plm), t-(2/3sg/plf/, prefixed to the verb complex. Perfect verb forms in Arabic show suffixed Subject-Verb Agreement markers (Rakas 2008a). Since the onset position of the syllable in CLA must contain one, and only one, C, then the aspectual prefix-C and the initial C of the verb are split by epenthetic Vs. (see table 1 below). Only imperfect verb forms express mood and mood in Arabic The imperfect verbs in Arabic are categorized as present and the perfect verb forms are classed as past. The endings suffixed to the perfect verb forms express agreement with their subjects in the T-C structures.

The imperfect prefixes and their function together with the indicative mood marker are tabulated as follows:

Table 1imperfect aspect and mood markers.

imperfect verb complex forms	prefixes	Function	indicative mood marker
'a-drus-u (I study)	*'-*	*(1sg-m/f)*	*-u*
na-drus-u (we study)	*n-*	*(1plm/f)*	*-u*
ta-drus-u (you/she study)	*t-*	*(3fsg)*	*-u*
ja-drus-u (he studies)	*j-*	*(3msg)*	*-u*

2.3 Mood

Mood, mode or Modality is a stylistic property marked on the verb and extend to the scope of the sentence as a whole, i.e. unmarked vs. marked structures. The indicative vs. subjunctive mood distinction in Arabic is determined by the main verb (Rakas 2008c, 2017c). Consider the following Arabic data and the subsequent analysis:

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(1) 'a-'lamu/'alim-tu   'anna-k-a   (sa)-tu-ghaadir-u/ghaadar-ta   'ila faransa

    know/knew-1sg   that-2msg-acc (fut)-imp-leave-ind./left-2msg   to   France

    'I know/knew that you (will) leave/left for France'

(2) 'a-qtarihu/'i-qtarah-tu   'an   (*sa)tu-ghardira/*ghadar-ta   'ila   faransa

  suggest/suggested-1sg   that/to (*fut)imp-leave/left-2msg   to   France

  'I suggest/suggested that you leave/*will leave/*left for France'

(3) 'i-ntadar-tu   'ila   'an   habat-at/*ta-hbuta   t-taa'irah

    waited-1sg   to   that   landed-fsg/imp-land   def-plane

    'I waited till the plane landed /*lands'

(4) (sa)-'a-ntadiru   'ila   'an   ta-hbuta/*habat-at   t-taa'irah

    (will)-1sg-wait   to   that   fsg- land/landed-fsg   def-plane-fsg

    'I will wait till the plane lands /*landed'

(5) sa-'u-ghaadiru   'in   habat-at/ta-hbuta   taa'irah

    will-1sg-leave   if   landed-fsg/imp-land   def-plane(fsg)

    'I will leave if the plane landed/*lands'

In (1) above, the embedded clause is introduced by the subordinate declarative Complementizer C /'anna/ 'that', which must select a nominal IP complement where the verb can assume either perfect or imperfect form. The C, assigns accusative case -*a* to the subject of the embedded clause -*k*-a. In (2), the complement is introduced by the subordinate subjunctive mood assigner C /'an/ 'that/to', which must select verbal IP complement whose verb usually assumes the imperfect form inflected for agreement. Examples, (3) and (4) show that the tense inflection of the embedded verb is dictated by the tense of the main verb. In (3) the main verb and the embedded verb assume the perfect form, whereas in (4) both verbs are in the imperfect form. Example, (5) is a conditional structure, in which the matrix verb must be in the imperfect (future) form and the embedded verb normally assumes the default perfect form. (For a detailed discussion for verb inflection see Al-Mubaarak, M. (1979) and Fassi (1993).

Thus, verbs in indicative clauses (1/5) are specified for Aspect and Agreement, whereas those verbs in subjunctive clauses (2-3-4) are not specified for Aspect. It could, therefore, be concluded that the Cs /'i/anna/ 'that' are indicatives, and /'an/ 'to' and /'in/ 'if' are

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subjunctives. The conclusion that could be abstracted is that indicative Cs, e.g. */'i/anna/* subcategorize for SVO nominal complements with inflected verbs, and subjunctive Cs, e.g. */'an/* 'that/to' introduce necessarily VSO verbal complements with imperfect verb forms.. Thus*,* */'anna/* is sensitive to VSO, and */'an/* is sensitive to SVO as can be seen from the ungrammaticality of following examples,

(6) *'a-'lamu/'alim-tu   'anna   ju-ghaadiru/ghaadar-a   l-waladu

   know/knew-1sg   that   imp-leave/left-3msg   def-boy

   'I know/knew that the boy leaves/left'

(7) *'a-qtarihu   an   l-fataata   tu-ghaardiru/ghaadara-t

   1sg suggest   that   def-girl   imp-leave/left-3fsg

   'I suggest that the girl leaves/left'

It is generally accepted that subordinate (Complement) clauses are introduced by overt or covert C particles. Edmond (1976 and Soames: Radford 1988) suggest that the C node is generated within sentence (S') as a sister of the subject NP of the clause:

$$(i) \ S` \longrightarrow C \ NP \ VP$$

An alternative analysis, which is currently far more prominent in syntax is formulated by Bersnan (1970:Radford (ibid.) to the effect that C and S form a maximal projection, which she calls S-bar (C'), whose structural head is C. Such a maximal projection (S`) is nowadays widely known as CP for Complementizer Phrase and the S category is known as IP for Inflectional Phrase (IP). Thus S = IP and S` = CP (Radford (ibid), Haegeman (1991), Cowper (1992) and Rakas (2017a).

$$(ii) \ S`(CP) \longrightarrow C \ S \ (IP)$$

$$(iii) \ S \ (IP) \longrightarrow NP \ VP$$

Arabic seems to favor the CP to the IP analysis. Empirical evidence for IP/CP distinction in Arabic can be established by appealing to coordination and gapping,

(8) ['inna] l-walad-a   jaa'-a   l-yawma   wa   ['inna] l -bint-a

   [that]   def-boy-acc came-3msg def-day   and   [that]   def-girl-acc

   jaa'a-t   'ams

   came-3fsg   yesterday   (CP + CP)

   'that the boy came today and that the girl came yesterday'

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(9) [e] l-walad-u   jaa'-a   l-yawma   wa   [e]   l-bint-u

   [e] def-boy-nom   came-3msg   def-day   and   [e]   def-girl-nom

   jaa'a-t   'ams

   came-fsg   yesterday   (IP + IP)

   'the boy came today and the girl came yesterday'

Examples (10-11) below show coordinated CP categories with empty C positions cf. (8) and (9) above

(10)   ['inna] l-walad-a   jaa'-a   l-yawma wa   [e]   l-bint-u

        [that]   def-boy-acc   came-3msg def-day   and   [e]   def-girl-nom

        jaa'a-t   'ams

         came-3fsg   yesterday   (CP + CP)

      'That the boy came today and the girl came yesterday'

(11) [e] l-walad-u   jaa'-a   l-yawma   wa   ['inna]   l-bint-a

    [e] def-boy-nom   came-3msg   def-day   and   [that]   def-girl-acc

    jaa'a-t   'ams

    came-3fsg   yesterday   (CP + CP)

    'the boy came today and that the girl came yesterday'

(12) *['inna] l-walad-a   jaa'-a   l-yawma wa   [e] l- bint-u   'ams

        [that] def-boy-acc   came-3msg def-day   and   [e] def-girl-nom yesterday

       'that the boy came today and the girl yesterday'   (CP + Gapped IP)

(13) [e] l-walad-u   jaa'-a   l-yawma wa   [e] l-bint-u   'ams

    [e] def-boy-nom came-3msg def-day   and [e] def-girl-nom   yesterday

    'the boy came today and the girl yesterday' (IP + Gapped IP)

(14)   *['inna] l-walad-a jaa'-a   l-yawma   wa ['inna] l-bint-a   'ams

        [that]   def-boy-acc came-3msg def-day   and [that]   def-girl-acc yesterday

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'That the boy came today and that the girl yesterday' (CP + Gapped CP)

(15) *[e] l-walad-u   jaa'-a   l-yawma wa ['anna] l-bint-a   'ams

     [e] def-boy-nom came-3msg def-day   and [that] def-girl-acc yesterday

     'I knew the boy came today and that the girl yesterday'(IP + Gapped CP)

Sentences (8) through to (11) are straightforward coordinated CP structures with both C nodes lexically filled as in (8), both null as in (9) or either of them is filled as in (10) and (11). The ungrammaticality of (12) is due to the coordination of a CP and an IP, while the ungrammaticality of (14) and (15) is related to gapping in CP structures: only conjoined IP's can undergo gapping as shown by the grammaticality of (13). This argument presupposes that the IP and CP are independent categories and embedded complement clauses are CP constituents generated under Bersman's [C, IP] analysis. The generalization, here, is that only identical constituents can be coordinated and only coordinated IP constituents allow gapping.

Having established this two-folds criterion as a test for a constituent status we may proceed to examine the status of the subjunctive subordinate structures. Subjunctive verbal subordinate clauses introduced by the subjunctive C /'an/ 'that/to' show similar behavior to declarative nominal clauses. Compare the following structures:

(i) 'aqtarihu   [e]   ya'tii l-walad-u l-yawma wa [e] ta'tii   l-bintu ghadan

(ii) 'qtarihu   ['an] ya'tii l-walad-u l-yawma wa [e] ta'tii   l-bintu ghadan

(iii) *'aqtarihu ['an] ya'tii l-walad-u l-yawma wa [e] -   l-bintu ghada

(iv) 'aqtarihu   [e]   ya'tii l-walad-u l-yawma wa ['an] ta'tii   l-bintu ghadan

(v) 'aqtarihu   Ø   ya'tii l-walad-u l-yawma wa Ø   -   l-bintu ghadan

(vi) *'aqtarihu ['an] ya'tii l-walad-u l-yawma wa ['an] -   l-bintu ghadan

(vii) *'aqtarihu [e]   ya'tii l-walad-u l-yawma wa ['an] -   l-bintu ghadan.

'I suggest [that] the boy comes today and [that] the girl comes tomorrow'

Example, (i) is a coordinated CP structure with empty C nodes, and (ii) has a suppressed C node in the second coordinated CP (cf. iv). Example, (iii), however, shows that the CP and the IP constituents cannot be coordinated with each other, hence gapping is not possible. Example, (iv) shows coordinated CP constituents, the first complement CP has an empty subjunctive C and the second CP has an overt subjunctive C. Its grammaticality is explained in virtue of the coordination constraint that only identical constituents can be coordinated. It follows, then, that the first clause must also be a CP category with the C position left empty. Example, (v) shows coordinated IPs and thus gapping is possible. Since CP gapping is not

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possible as shown by (vi) and (vii), the IP coordinated analysis in (v) is based on the fact that the second gapped clause must be an IP. Examples, (vi) and (vii) are ruled out for the same reason; that is gapping does not hold for conjoined CPs. The analysis that the C position in Arabic is the position typically occupied by Cs is also supported by other structures, in which the C must be overtly expressed.

1. Relative subordinate clauses encoded by any of the relative */'alladi/* 'that-msg' Cs (Rakas 2000).

2. The overt yes/no question Cs /hal/'a/ 'Modal/aux', /'alaa/'ala/ 'Modal/aux not' to introduce interrogative clauses. English, which has no such a C, uses, instead, subject-auxiliary inversion i.e. I to C head movement.

3. Exclamation main clauses are introduced by overt Cs such as the intensifiers /kam/ 'how' and the exclamatory */maa/* 'what/how'.

4. The 2-person vocative pronoun */yaa/* 'Oh, you'

CLA normative grammar developed in the Arab traditions is a two-level model, a word level and a sentence level, in which words enter into linear dependency relations. I conjecture that no categorical terms are given for the (head) and (phrase) notions, nonetheless, certain structural relations such as c-command, government, syntactic positions and morphological markers are explicitly stated in the Arabic traditions (Mubaarak 1979). The most effective testing device used by CLA grammarians to classify grammatical categories in the language, is the substitution test; that is only identical categories (constituents) can fill the same syntactic slot. The central categories for CLA grammarians are the verb and its agent, all other categories are deemed *fadla* 'marginal' or 'leftover'. In the following discussion, the X-bar (X') syntactic level will be taken as a theoretical device to explore some syntactic issues pertaining to phrase structure, and to verify whether Arabic has a two-levels flat structure or a configurationally three-levels phrase structure.

A two-levels theory is postulated and widely adopted in the traditional literature on syntax: a Word-Level (Head) category and entire Phrase Level category, in which only the head is central and obligatory element. The tradition of the intermediate X' level goes back to the late forties and early fifties. Harris and Wells (see Radford ibid), developed views on the hierarchy structure of the phrase, which became central to American Structuralism (taxonomic linguistics). These views were later adopted and developed by researchers working with the transformational model, who posited an intermediate X' structural level of a phrase category, smaller than a full phrase and larger than a single head.

The most influential figures in this respect are (Harris's Number-Notation, Jackendoff's Prime-Notation and Chomsky's Bar-Notation (cited in Radford (ibid). Given that these three systems are equivalent, Chomsky's X`-system is commonly assumed. The following is the

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generalized X` schema posited to regulate the structure of phrases and clauses (Haegeman ibid: 95).

Fig 1 GPM Scheme
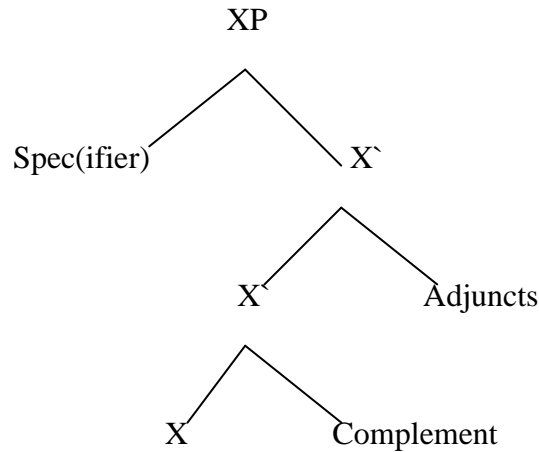
Jackendoff (1977) proposes that Complements expand X into X`, Complements are sisters of X and daughters of X`, Adjuncts are both sisters and daughters of X`, and Spec node is a sister of X` and a daughter of XP. The diagram indicates that while Spec. expands X` into XP, Adjuncts expand X` into another X` (recursive-ness). A phrase category is defined as a set of elements, which form a constituent, with no restriction on the number of these elements. For example, an XP constituent expands an obligatory head X without any implication that the maximum projection XP must contain anything other than the head X. Thus, a single unmodified head can have the same distributional syntactic status as its phrasal counterpart.

1. Noun Phrase Internal Structure:

The evidence for N` intermediate level in Arabic can be established on a distributional basis. The three-levels syntactic structure of the Noun Phrase (NP) in Arabic is expressed by the following expansions:

(16) ’ustaath-u-n   li   l-kimyaa’-i   bi   mi‘taf-i-n   ’abyad-i-n

   prof.-nom-indef to def-chemistry-gen with coat-gen-indef white-gen-indef.

   ‘a professor of chemistry with a white coat’

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```
                          NP
                        /    \
                     spec     N`
                             /   \
                           N`     PP
                          /  \
                         N    PP   bi mi'taf-in 'abyadin

                      'ustaathun  li-lkimyaa'i
```
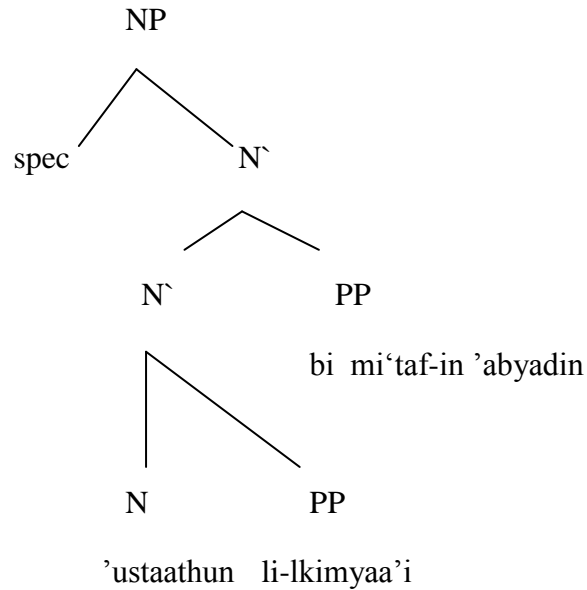
The reference of the head Noun (N) *'ustaathun* is specified by the PP Complement *li-lkimyaa'i*, expanding N into an N` *'ustaath li-l-kimyaa'i*, which is both modified and expanded into another N` category by the PP Adjunct *'bi mi'tafin 'abyadin'*. The resulted N` category *'ustaath li-l-kimyaa'i bi mi'tafin 'abyadin'* is further expanded into the NP maximal projection, in which the Determiner Spec node expands N` into NP (Determiner Rule, Radford (ibid). X`-theory proponents impose a severe restriction on the distribution of Complement constituents, which specify N (usually PPs or NPs), and Adjunct constituents, which modify N` (usually PPs or/and APs).

Advocates of X' propose the seemingly valid universal principle that when the head N is modified by a Complement and an Adjuncts, the former must precede the latter. Consider the grammaticality of sentence (17) below, in which the Complement is adjacent to its head N, as opposed to the ungrammaticality of sentence (18), in which the Adjunct precedes the Complement. In other words, example (18) violates the universal 'Strict Adjacency Principle' (SAP), expressed in Arabic tradition as *ʔal-ʕaamilu wa l-maʕmuula* (Lit: the governor and the governed).

(17) 'ustaath-u-n   [li-t-taarix-i]   [bi-mi'taf-i-n   'abyad-i-n]

   prof-nom-indef. [to-def-history-gen]   [with-coat-gen-indef   white-gen-indef.

   'a professor of history with a white coat'

(18) *'ustaath-u-n   [bi   mi'taf-i-n   'abyad-i-n]   [li-t-taarix-i]

   prof-nom-indef. [with coat-gen-indef. white-gen-indef.] [to-def-history-gen]

   '*a professor with a white coat of history'

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The optional Adjunct rule, [N⟶ N` (PP)], as it is expressed by the appearance of the N` category on both sides of the arrow, is recursive and predicts that Adjuncts PPs can be indefinitely stacked on top of each other. The Complement rule [N` N (PP)] is not recursive since N` appears only on the left of the arrow. The rule, thus, states that a head noun may, but does not have to, be specified by one and only one Complement PP. Appositive Adjuncts categories can be indefinitely embedded. Another piece of syntactic evidence in support of the Complement/Adjuncts distinction comes from coordination. Since Complements are sisters of an N, then they are attached to the N-level, and since Adjuncts are sisters of N`, then they are attached to the N`-level. This distributional restriction predicts that only constituents belong to the same level can be coordinated. The following four examples illustrate the four, possible, logical combinations:

(i) Complement + Complement (N-level)

(19) 'ustath-u-n   li   l-kimyaa'-i   wa   li   l-'ahyaa'-i

    prof.-nom-indef   to   def-chemistry-gen   and   to   def-biology-gen

    'a professor of chemistry and (of) biology'

(ii) *Complement + Adjuncts (N + N')

(20) *'ustaath-u-n   li   l-kiymyaa-i   wa   bi   rijl-i-n

    prof.-nom-indef   to   def-chemistry-gen   and   with leg-gen-indef.

    mabtura-t-i-n

    amputated-f-gen-indef

    '*a professor of chemistry and with an amputated leg'

(iii) Adjuncts + Adjuncts (N' + N')

(21) (a) muhaader-u-n   bi   sha'r-i-n   tawiil-i-n   wa   (bi)

        lecturer-nom-indef   with   hair-gen-indef.   long-gen-indef.   and   (with)

        rijil-i-n   mabtuura-t-i-n

        leg-gen-indef   amputated-f-gen-indef.

        'a lecturer with long hair and with an amputated leg'

    (b) muhaader-u-n   bi   rijil-i-n   mabtuura-t-i-n   wa

        lecturer-nom-indef   with   leg-gen-indef   amputated-f-gen-indef.   and

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(bi)   sha'r-i-n   tawiil-i-n

(with)   hair-gen-indef.   long-gen-indef.

'a lecturer with an amputated leg and (with) long hair)

(iv) *Adjuncts + Complement (X' + X)

(22) *daabit-u-n   tawii-u-n   wa   mina   sh-shurta-t-i

officer-nom-indef.   tall-nom-indef.   and   from   def- police-f-gen.

'*a tall officer and from the police'

The Coordination process given above reveals that Complements and Adjuncts can be coordinated only at their structural levels, i.e. X and X' respectively, as shown by the ungrammaticality of (20) above, where a complement and an adjunct are coordinated, and (22), where an adjunct and a complement are coordinated. In contrast to coordination, the universal constraint 'SAP' stipulates that Complements precede Adjuncts. I speculate that 'SAP' holds here because Complements belong to the X level and Adjuncts belong to the X' level as shown by the ungrammaticality of (18), (20) and (22) above. In other words, Coordination excludes structures such as (20) and (22), where Complements and Adjuncts are coordinated at the same level. 'SAP' excludes structures such as (18), where Adjuncts precede Complements, i.e. X' precedes X. Complements can be coordinated at their X level as in example (19), Adjuncts can be coordinated at their X' level as in (21a/b), when they co-occur, Complement must precede Adjuncts as shown by (17) cf. (18) above.

Since [N + Complement] projects N' level, and [N` + Adjunct] projects the same N' level, it is expected that they can be coordinated with themselves and each other as shown in (23 to 26) below.

(i) Complement + Complement

(23) daabit-u-n   min   j-jaysh-i   wa   jundii-u-n   min
officer-nom.indef.   from   def-army-gen   and   soldier-nom-indef   from
l-'ihtiyaat-i
def-reserve-gen
'an officer of the army and a soldier of the reserve'

(ii) Adjunct + Adjunct

(24) daabit-u-n   bi-zayy-i-n   'askari-i-n   wa
officer-nom-indf.   with-uniform-gen-indef.   military-gen-indef.   and.
jundi-u-n   bi-zayy-i-n   madaniy-u-n
soldier-nom-indef   with-uniform-gen-indef.   civil-gen-indef.
'an officer in a military uniform and a soldier in a civil uniform'

(iii) Complement + Adjunct

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(25) daabit-u-n   min   l-htiyaat-i   wa   jundii-u-n   bi

officer-nom-indef   from   def-reserve-gen   and   soldier-nom-indef.   with

rijil-i-n   mabtuura-t-i-n

leg-gen-indef   amputated-f-gen-indef.

'an officer of the reserve and a soldier with an amputated leg'

<u>(iv) Adjunct + Complement</u>

(26)   jundii-u-n   bi-rijil-i-n   mabtura-t-i-n   wa

soldier-nom-indef.   with-leg-gen-indef.   amputated-f-gen-indef.   and

daabit-u-n   min   l-htiyaat-i

officer-nom-indef.   from   def-reserve-gen

'a soldier with an amputated leg and an officer of the reserve'

A third argument for the Complement/Adjuncts dichotomy in Arabic is based on the syntactic process of Extra-position. The PP Adjuncts in (27) below is extra-posed from its VP category in (28), more freely than the PP Complements in (29) when extra-posted in (30) below.

In structural terms, the more closely related an PP is to its head, the less freely it can be extra-posed.

(27)   daabit-un   daxal-a   l-maktab-a   bi-zayy-i-n

officer-IN   came in-3msg   def-office-acc   with uniform-gen-indef.

 madaniy-i-n

civil-gen-indef.

'an officer came into the office in a civil uniform'

(28) daabit-u-n   bi-zayy-i-n   madaniy-i-n   daxal-a

officer-nom-indef.   with-uniform-gen-indef.   civil-gen-indef.   came in-3msg

l-maktab-a

def-office-acc.

'an officer in a civil uniform came into the office'

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(29) daabit-u-n   min   sh-shurta-t-i   daxal-a   l-maktab-a

officer-nom-indef.   from   def.police-f-gen   came-in-msg   def-office-acc

'an officer from the police came into the office'

(30) *daabit-u-n   daxal-a   l-maktab-a   min   sh-shurta-t-i

officer-nom-indef.   came in-msg   def-office-acc from   def-police-f-gen

'*an officer came into the office from the police'

Further structural tests for complement/adjunct distribution in Arabic are pre-posing and questioning. Complements can be pre-posed or questioned while Adjuncts can neither be pre-posed nor questioned; that is an NP which is the object of a preposition heading a Complement PP can be pre-posed or questioned more freely than an NP which is the object of a preposition heading an Adjuncts PP. Accordingly, one may claim that the pre-posed Complements in (31a/b) are more closely linked to their heads than the Adjuncts in (32a/b) below.

(i) pre-posing

(31) (a) 'ustaath-u-n   min   l-jaami'a-t-i

professor-nom-indef.   from   def-university-f-gen

'a professor from the university'

(b) 'al-jaami'a-t-u   qaabal-tu   'ustaath-a-n   min-haa

def-university-nom   met-1sg   professor-acc-indef.   from-3fsg

'the university I met a professor from'

(32) (a) 'ustaath-u-n   bi   qamiis-i-n   bunniy-i-n

prof-nom-indef.   with   shirt-gen-indef.   brown-gen-indef.

'a professor with a brown shirt'

(b) *qamiis-u-n   bunniy-u-n   qaabal-tu   'ustaath-a-n

shirt-nom-indef.   brown-nom-indef.   met-1sg   prof-acc-indef.

bi-hi

with-3msg

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'*a brown shirt I met a professor with'

(ii) <u>questioning</u>

(33) huwa   daabit-u-n   min   sh-shurta-t-i

     he   officer-nom-indef.   from   def-police-f-gen

     'he is an officer of the police'

(34) 'ayy-u   shurt-t-u-n   huwa   daabit-u-n   min-ha?

     which-nom   police-f-nom-indef.   he   officer-nom-indef.   from-3fsg

     'which police is he an officer from?'

(35) 'imra'at-u-n   bi   sha'r-i-n   'ashqar-i-n

     woman-nom-idef.   with   hair-gen-indef.   blond-gen-indef.

     'a woman with blond hair'

(36) *'ayyu   sha'r-u-n   'shqar-u-n   hiyya   'imra'at-u-n

     which   hair-nom-indef.   blond-nom-indef.   she   woman-nom-indef.

     bi-hi?

     with-it(3msg)

     '*Which blond hair is she a woman with?'

Unlike Adjunct PPs, Complement PPs in Arabic restrict the choice of their heads nouns (37) cf. (39):

(37) 'ustaath-u-n   li   t-taarix-i   (PP complement)

     prof-nom-indef.   to   def-history-gen

     'a professor of history'

(38) 'ustaath-u-n   bi   sha'r-i-n   'abyad-i-n   (PP adjunct)

     prof-nom-indef.   with   hair-gen-indef.   grey-gen-indef.

     'a professor with grey hair'

(39) *fataat-u-n   li   t-taarix-i   (PP complement)

girl-nom-indef.   to   def-history-gen

'*a girl of history'

(40) fataat-u-n   bi   sha'r-i-n   'abyad-i-n   (PP adjunct)

girl-nom-indef.   with   hair-gen-indef.   gray-gen-indef.

'a girl with gray hair'

Arabic exhibits a structural parallelism between the PP Complement (41i) and the construct state second term NP Complement (41ii) as shown by the following paradigm:

(41) (i) 'an-naa'ib-u   li r-ra'iis-i   (ii) naa'ib-u   r-ra'iis-i

def-vice-nom   to def-president-gen   vice-nom   def-president-gen

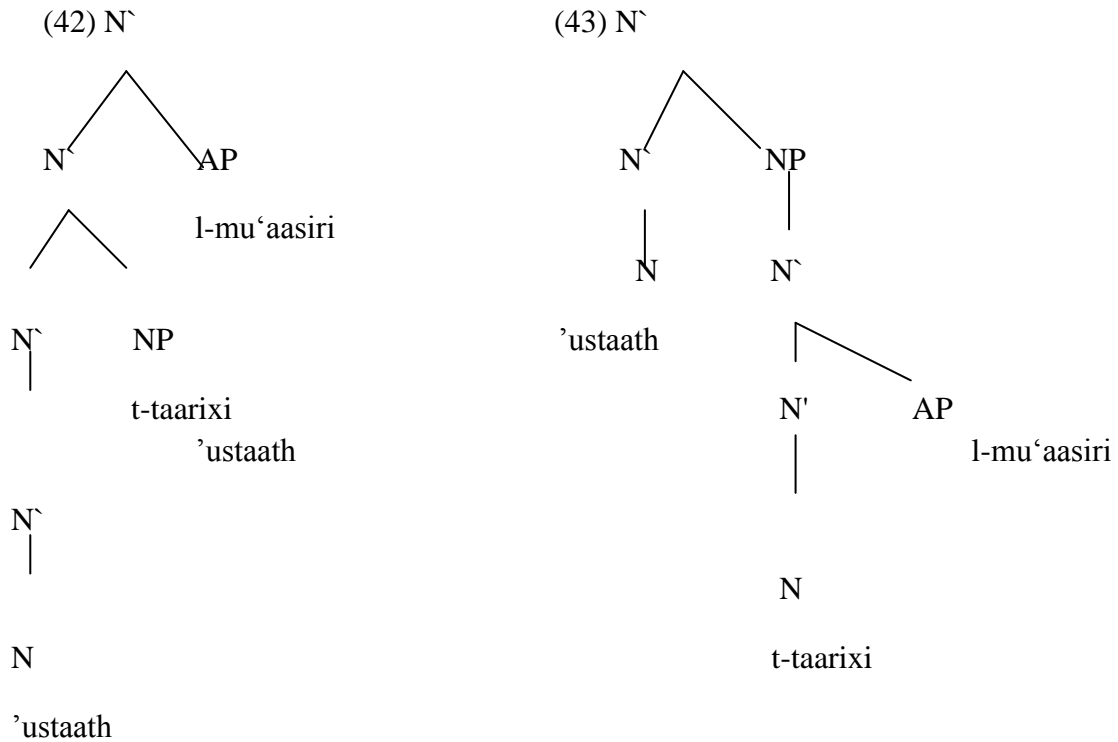'the vice to the president'   'the vice president'

Structural ambiguity may rise when a construct phrase NP is modified by an Adjunct or an attribute adjective, because the modifying category modifies an N` at different levels.

(42) 'ustaath-u   t-taaix-i   [l-mu'aasi-i]

prof-nom   def-history-gen   [def-contemporary-gen]

'the contemporary history professor'

(43) 'ustaath-u   [t-taarix-i   l-mu'aasir-i]

prof-nom   [def-history-gen   def-contemporary-gen]

'the professor of the contemporary history'

In (42), the bracketed AP modifies the entire preceding construct state N' 'ustaathu   t-taaixi, while in (43) the AP modifies the N` second term of the construct state t-taarixi. This structural ambiguity is due to the different deep structural relations shown by the following configurations:

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(42) N`                                    (43) N`

      N   AP   N   NP
               l-mu‘aasiri   N   N`
  N`   NP   ’ustaath
          t-taarixi   N'   AP
          ’ustaath   l-mu‘aasiri
  N`
                                                        N
  N
                                                        t-taarixi
  ’ustaath

Hornstein and Lightfoot (cited in Radford ibid) claim that each N` level specifies a semantic property. The fact that (42) shows two modified N` constituents, entails that two properties are attributed to the head N *’ustaathu*, namely, that (i) he is a contemporary and (ii) he is a professor of history. By the same token (43) contains only one modified N` constituent, it follows that it attributes only one semantic property to the head N *t-taarixi*, which is that it is contemporary.

1.1 Pro-N`

It is generally accepted that the traditional pro-Noun 'one' is, in fact, a pro-N`, rather than a pro-N (Radford ibid and Cowper ibid). The 'pro-N` device has been widely used for the establishment of the N`-level in different languages. As for Arabic, it has a pro-N` pronominal form, i.e. *waahid-u-a-i-n* 'one', which shows agreement with the antecedent head noun, to which it refers.

1.1.1 N-level

(44) *huwa   qaabal-a   ’ustaath-a-n   li-l-kimyaa’-i   wa   'anaa

     he   met-3msg   professor-acc-indef.   to-def-chemistry-gen   and   I

     qaabal-tu   waahid-a-n   li-l-‘ulum-i

     met-1sg   one(msg)-acc-indef.   to def-science-gen

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'*he met a professor of chemistry and I met one of science'

1.1.2 N`-level

(45) huwa   qaabal-a   taabit-a-n   bi-zayy-i-n

he   met-3msg   officer-acc-indef.   with-uniform-gen-indef.

madaniyy-i-n   wa anaa   qaabal-tu   waahid-a-n   bi   zayy-i-n

civil-gen-indef.   and I   met-1sg   one-acc-indef.   with uniform-gen-indef.

'aaskariy-i-n

military-gen-indef.

'he met an officer with a military uniform and I met a one with a civil uniform'

2. The Verb Phrase

In contrast to NP, the VP category in Arabic exhibits the same three X`-structural levels given above. Thus the VP category in Arabic is a projection of a head verb V (see P. 2 above). Together with its complement, V projects V' category, and together with its modifying (adverbial) adjunct(s), it projects another V' category, V' and its spec. project the maximum VP shell. In harmony with N', V' in Arabic displays pro-V`, rather than pro-V level. The pro-V` complex in Arabic is *'fa'al-a (ka)thaalika'* 'he did so/likewise' (Rakas 2017a). This verbal complex may substitute for a V', but not for a head V as indicated by the following examples respectively.

2.1 V`-level

(46) 'uxt-i   ba'atha-t   risaalat-a-n   'ila   waalidat-i

sister-1sg:poss   sent 3fsg   letter-acc-indef.   to   mother-1sg:poss

wa   'ax-i   fa'ala- a   ka-thaalika

and   brother-1sg:poss.   did-3msg   likewise/so

'my sister sent a letter to my mother and so did my brother'

2.1 V-level

(47) *'ax-i   darab-a   l-kalb-a   wa ka-thaalika   fa'ala-t

brother-1sg:poss   hit-3msg def-dog-acc   and like-that   did-3fsg

'uxt-i   l-qittat-a

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sister-1sg:poss   def-cat-acc

'*my brother hit the dog and my sister did so the cat'

Conclusion

Consideration of the Arabic integrated Lexical and inflectional morphologies reveals that no basic or stem lexical forms exist, hence no tense inflectional verb paradigms. Instead, the language displays consonantal root patterns, and resorts to vocalic templates, called /*mawaziin s-sarf*/ "inflection templates' to produce lexical words. The verb complex shows two aspectual (im)perfct forms. Finiteness and mood properties are considered in relation to the verb complex category, verb complexes show inflections, hence finite clauses.

In harmony with the principles postulated in the X' theory of syntax, Arabic shows a hierarchical structure, in which X head and X' are distinct levels. A complement constituent is a sister of, and adjacent to, its head, This implies that complements precede adjuncts. This precedence relation between complement and adjuncts categories is pinpointed in CLA grammar as /'*al-'aamil wa l-ma'muul*/ 'the governor and the governed' The complements and adjuncts different structural relations to their heads are attested against certain universal constraints such as "SAP", coordination and GPM principles. It is shown that complement and adjunct categories belong to different structural levels, only identical constituents can be coordinated and only coordinated IP constituents allow gapping. Spell out of complement and adjunct positions is optional whereas Spec and Head positions realization is obligatory. Syntactic processes such as pre-posing, post-posing, and questioning provided illustrative evidences in support of the complement adjunct distinction, which leads to the conclusion that Arabic has a hierarchical three-levels phrase structure, and hence the existence of the intermediate X' level. Pro-N' and Pro-V' show parallel syntactic behavior in the sense that they observe the levels of coordination.

Three major problematic issues are encountered in this study, i.e. (i) whether the CLA T-C structure and the SVO word order are different structures, (ii) whether the basic word order in Arabic is SVO or VSO and (iii) whether the nom. case marked on T is inherently assigned by the initial governing position of the nominal sentence, called in CLA grammar /'*ibtidaa'*/, or structurally assigned by the adjacent the predicate position.

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