Embedded Predicate phrases and copular CPs as non-phase Phrases in Classical Arabic

PRESENTED BY:
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ABSTRACT
This paper reveals that the application of the multiple Agree operation results in creating an assumption that the embedded predicate phrases and copular complementizer phrases (CP) in Classical Arabic (CA) are not phases. This multiple Agree operation occurs simultaneously between a c-commanding active verb and its c-commanded active goals that originate in the embedded predicate phrases and copular phrases in Classical Arabic. These goals also get their case valued in their original position. Our analysis is grounded on the recent extension of Chomsky’s minimalist program. It works on Agree proposed by Chomsky (2000) and Hiraiwa’s (2000) Multiple Agree operations. We apply these processes to the structure of Classical Arabic Hearts verbs, three-place predicates and a modified transitive verb by a secondary predicate. The crucial role of the locality condition is provided in this paper, as it is the constraint on which all the syntactic operations are based.

Keywords: Features, Agree, Multiple Agree, Phase, Transparent, Transfer.
Table of symbols used in the phonemic transcription of Classical Arabic Consonant Forms throughout the Paper:

<table>
<thead>
<tr>
<th>Plosive</th>
<th>Bilabial</th>
<th>Labio-Dental</th>
<th>Inter-Dental</th>
<th>Dental</th>
<th>Dento-Alveolar</th>
<th>Palatal</th>
<th>Post-Alveolar</th>
<th>Vela r</th>
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Table 1. Classical Arabic Consonant Phonemes.

Due to space configurations, the following symbols are not present in table 2:
a. The symbol for the Pharyngeal Voiced fricative (ʕ ع).

b. The symbol for the Pharyngeal Voiceless fricative (ħ ح).

https://en.m.wikipedia.org/wiki,Arabic

Table of Symbols used in the phonemic transcription of Classical Arabic

<table>
<thead>
<tr>
<th>Vowels</th>
<th>Description</th>
<th>Examples</th>
<th>Trans.</th>
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<tbody>
<tr>
<td>/i/</td>
<td>short high unrounded vowel</td>
<td>xil-t</td>
<td>thought</td>
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<tr>
<td>/u</td>
<td>short high back rounded vowel</td>
<td>shug</td>
<td>brave</td>
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<tr>
<td>:/</td>
<td>back close rounded vowel</td>
<td>nuquud</td>
<td>Money</td>
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<td>/a</td>
<td>short mid unrounded vowel</td>
<td>Šala</td>
<td>On</td>
</tr>
<tr>
<td>:/</td>
<td>long mid unrounded vowel</td>
<td>Šaaqi</td>
<td>Reasonable</td>
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</tbody>
</table>

Table 2: Vowels in Classical Arabic

Adapted from (Ezzat, 1973 pp.XI-XIII)

- Length of a vowel is indicated by doubling the vowel as (Šaaqil)
- Gemination is indicated by doubling the consonant letter, as (Šadda)
List of the abbreviations used throughout the paper:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<td>Acc</td>
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<td>Adverb Phrase</td>
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<td>CA</td>
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<td>Complementizer Phrase</td>
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<td>PIC</td>
<td>Phase Impenetrability Condition</td>
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<tr>
<td>vP</td>
<td>Light Verb Phrase</td>
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<td>X`</td>
<td>X-Bar</td>
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</table>
1.0 Introduction

In CA, there are verb phrase structures in which there is a copular (i.e. tense-less) CP that functions as an internal clausal argument or an adjunct of the verb. These copular CPs include an embedded predicate phrase. This predicate phrase (PrP) has a predicate head, external argument of the predicate and a complement of the predicate (Bowers, 1993). This paper introduces an assumption by the researcher that the embedded predicate phrase and the copular CP are not phases in CA. It explains that this assumption is created as a consequence of the establishment of the multiple Agree operation between an active probe outside the copular CPs with the DPs included in the scope of the embedded predicate phrases and the copular CP simultaneously. This multiple Agree process occurs in the structure of CA Hearts verbs, CA three place-predicate structure, and the construction of a modified transitive verb by a secondary predicate. It is discusses also that all the Agree and multiple Agree operations are controlled by the locality condition (Chomsky, 1995).

This paper comprises five sections. Section one offers a bird’s-eye view on the theoretical background on which the analysis of the paper works. Section two captures a comprehensive sketch of the multiple Agree operation’s application to the CA Hearts verb’s structure which serves as the first piece of evidence of our assumption. Section three presents the mechanism by which the two DPs, included within the internal clausal complement of the three-place predicate in CA, get their case valued, which acts as the second evidence that supports our assumption. Section four offers the third evidence of the given assumption by explaining how the secondary predicate phrase is a non-phase phrase in CA. Finally, Section five includes the conclusion.
1.1 Minimalist Program

Minimalist Program is the most recent extension of Transformational Grammar presented by Chomsky (1995). It is defined by Chomsky (1995) as be a theory of language in which any linguistic element satisfies the phonetic form and the logical form levels. These two levels are considered the heart of the Minimalist program because grammar links between sound and meaning. Chomsky (2000) mentions that the Minimalist program is minimalist in the sense that the language faculty “provides no machinery beyond what is needed to satisfy minimal requirements of legibility and that it functions in as simple way as possible” (pp.112-3). The lexicon is introduced by Chomsky (1993, 1995) as the birth of any syntactic derivation. He proposes that there is a reason for the occurrence of each word. He explains that a given lexical item inflects according to its features in the lexicon, and it enters the derivation already inflected. Some features of the lexical items are checked with their matched features of the functional categories. Minimalism includes a notable operation, which is movement. It has two types, overt and covert. The overt movement occurs prior to the process of spell out while the covert movement occurs at the logical form. In the recent minimalist program (Chomsky, 2000, 2005), the case feature is assumed to enter the course of the derivation unvalued, and it is valued as a result of an Agree relation with an active c-commanding probe carrying a matched valued case feature as a part of a “goal-probe” system. The nominative case is valued via Agree with the head T, while the accusative case is checked via Agree relation with the head v/V. Carnie (2013) states also that the locality condition is a basic constraint on which the case checking takes place (p.337).

1.2 X-Bar Theory

Chomsky (1995) expresses that X-bar theory conveys general assumptions of Universal grammar. These assumptions deal with a hierarchical phrasal model to deal with the relationship between the constituents within phrases that form a sentence. They help to determine the complements and the adjuncts of the head of a phrase. Ouhalla (1999) clarifies that there is a level between the XP (maximal projection) and the head X. This level is called an intermediate level that is represented by the symbol X’. It is called
also a single bar projection. Every XP merges into a specifier and an X-bar (X'). This X' immediately dominates the head X and its complement if it has a complement. He mentions also that the hierarchical relations of the three levels are expressed by the number of the bars at each level. The maximal projection is represented by (X``), to the intermediate level that is expressed by (X`) to the head which is shown by the zero bar (X^0). The following tree diagram expresses this hierarchical structure:

(1)

```
XP [maximal projection]
  Specifier
    X' [intermediate projection]
      X [head]
      Complement
```

1.3 Phase Theory and Transfer

Phase is a ‘propositional unit’. “I will assume that the phases are CP and vP but crucially not TP” (Chomsky, 2001, n.p.). CP and vP are considered as phases, according to Chomsky, because the CP represents ‘complete complex with a force marker’ and the vP has a ‘full thematic complex with an external argument’. He mentions that the phase heads must be functional categories that carry phi-features. Hence, phases are “CPs, finite or control and transitive vPs. TPs and unaccusative passive are not phases” (n.p.). Chomsky (2001) introduces a condition called ‘Phase Impenetrability Condition’ (PIC).

He explains this condition by saying “consider a typical phase with H head: PH = [a [HP]]. This head H is the edge of the phase phrase PH. The domain of H is not accessible to operations but only the edge of HP” (Chomsky, 2001, n.p.). This means that once the domain of a phase head completes all its operations with the constituents higher than this phase head, it becomes frozen and inaccessible to undergo any further operation. Only the head of the phase phrase can undergo any further operation.
Chomsky (2006) proposes that the transfer to the logical form and phonetic form levels must be ‘convergent’, which means that all unvalued features must be valued before transfer (p.17). The spell out (transfer) of the phases, CP and transitive vP, is applied once their next phase head is merged (Chomsky, 2001; Richards, 2007). They transfer to the semantic and phonological components at this point simultaneously (Chomsky, 2001; Richards, 2007). Transfer is applied cyclically in the course of the derivation (Chomsky, 1998).

1.4 Agree

Chomsky (2000) introduces the term Agree by saying that “the erasure of uninterpretable features of probe and goal is the operation we called Agree” (P.122). Chomsky (2001) mentions that “a relation holding between α (alpha) and β (beeta), where α has interpretable inflectional features and β has uninterpretable one which delete under Agree” (p.3). He states also that, “it is clear that there are uninterpretable inflectional features that enter into agreement relations with interpretable inflectional features. Thus, the φ-features of T are uninterpretable and Agree with the interpretable φ-features of a nominal that may be local” (Chomsky, 2001, p.3). The unvalued features of both the probe and its goal are valued by Agree (Chomsky, 2000, p.124).

Chomsky (2000) views the conditions of Agree mechanism between a probe and a goal: first, the probe and the goal must match, which means that both of them must carry the same feature identity (p.122). Feature identity means “the choice of feature, not of value” (Chomsky, 2000, p.124). Second, the “Goal as well as probe must be active for Agree to apply” (Chomsky, 2001) as active means carrying unvalued feature (p.3). Third, the “G (goal) must be (at least) in the domain of the D(P) of P (probe) and satisfy locality conditions”(Chomsky, 2000, p.122). The head T and v are active probes by virtue of carrying unvalued features, which are valued and deleted after being valued as a result of their Agree with their local active goals (Chomsky, 1998, 1999, 2001).

1.5 Multiple Agree

Hiraiwa (2000) proposes a theory called “Multiple Agree theory” (p.69). He states that “Multiple Agree with a single probe is a single simultaneous syntactic
operation; AGREE applies to all the matched goals at the same derivational point derivationally simultaneously” (p.69). He explains MULTIPLE AGREE theory by mentioning that:

At the point of the derivation where the probe P is merged, the probe feature starts to search down for a closest matching goal feature within its c-command domain and locates and matches with the closer goal β. However, this doesn’t result in an immediate Agree; rather the probe feature, being [+multiple], continues to probe for a next closest goal, resulting in matching with γ. This continues until the probe locates all the matching goals within an ‘accessible’ domain. Now at this point of the derivation, AGREE applies to all the matched goals derivationally simultaneously, establishing AGREE (α, β, γ). Thus under MULTIPLE AGREE, a superficial ‘covert multiple feature-checking’ is not multiple instances of the syntactic operation AGREE; rather it is reduced to a single syntactic operation. (Hiraiwa, 2000, p.70).

He applies his theory to a multiple nominative construction (Possessor-Raising Construction and Nominative Object Construction) in Japanese. For example:


John-NOM Mary-NOM eyes-NOM bad-PRES C believe-PST

‘John thinks that Mary has a bad eyesight.’

(Hiraiwa, 2000, p.73)


John-NOM Mary-NOM English-NOM well do-can-PRES C falsely-believe-PST

‘John believed that Mary can speak well.’

(Hiraiwa, 2000, p.74)

1.6 Predication

A universally structured theory of predication is introduced by Bowers (1993). It offers a unified account of the small clause predication. He proposes a new functional category, which is the predicate. Its abbreviation is Pr. For example:
They consider $[[\text{IP} \ 	ext{They consider} \ [\text{PrP}\text{ John} \ [\text{Pr} \ [\text{Pr} \text{e}][\text{AP crazy}]][]]]]$  
(Bowers, 1993, p.595)

He clarifies the deep structure of the predicate phrase by providing this tree diagram:

(5)

\[
\begin{array}{c}
\text{PrP} \\
\text{NP} & \text{Pr'} \\
\text{Pr} & \text{XP}
\end{array}
\]

(Bowers, 1993, p.595)

Svenonius (1996) states that the predicate can be in the form of a PP, Adv.P, NP or a VP:

(6) We saw the zookeeper arrive.

(7) The party left Hurbert depressed.

(Svenonius, 1994, n.p.)

Hornstein & Lightfoot (1987) and Svenonius (1996) assume that small clauses contain a functional head, which is the predicate head. Partee (1987) and Svenonius (1996) state that the functional predicate head requires a complement. Since every clause must have a subject, according to the EPP (Extended Principle Projection) assumed by Chomsky (1981), then, there is an external argument of this predicate head in the form of a DP “in spec Pred.P” (Svenonius 1996). Svenonius (1996) says also that these constituents can take the “PRO” as an external argument, and this Pred.P is “dominated by a functional projection CP” (n.p.).

Citko (2014) assumes that the predicate head requires an external argument and a ‘predicate nominal’ (i.e. complement of the predicate). She explains that “Predicate
nominals are marked with instrumental case in Slavic languages like Polish and Russian” (p.126). She mentions also that the predicate head is a phase only in the case of its ability of assigning an instrumental case to its complement, due to carrying unvalued phi features. Otherwise, she elaborates that the predicate head is not a phase when it loses its ability to value instrumental case to the predicate nominal, due to not carrying unvalued features. Thus, the complement of the predicate and its external argument get their nominative case by their multiple Agree with the head T, or get their accusative case through their multiple Agree with their c-commanding verb (pp.128-129).

2.0 CA Hearts verbs

This section represents that the generated assumption is created as a result of the establishment of the multiple Agree operation between an active single probe and its c-commanded active goals included in the embedded predicate phrase and the copular CP in CA. It is applied to the Hearts verbs in CA. This type of verbs requires one internal clausal complement, according to our analysis of their structure in line with Chomsky’s theory. This section also highlights the Multiple Agree allowance or prevention by the locality constraint.

Hearts verbs are called ʔafʕaal-l-quluub by Arabic grammarians. They carry the meaning of thinking or believing. ʔafʕaal-l-quluub in CA are called “Verbs of Hearts” by Haywood & Nahmad (1965, p.511). Wright (1898) calls them “Verbs of the heart” (p.48). They have another term by Svenonius (1994, 1996) and Al-Tamimi (2012) which is “Epistemic verbs” because they express “likelihood or assumption or conclusion” (p.7).

The following examples are given to mirror the structure of Hearts verbs in CA and to illustrate the mechanism of applying the multiple Agee operation within their structure:

(8) ḥasiba ʕabdullaah-u zayd-an bakr-an.

thought ʕabdullaah-nom zayd-acc bakr-acc.

‘ʕabdullaah thought that Zayd is Bakr’.

(Sibawayh, 1988, I, p.39)
(9) wagad-tu zayd-an gawwaad-an.
found-I zayd-acc generous-acc
‘I found Zayd generous’.

(Al-Jurjaanii, 1988, p.276)

(10) ẓanna ʕamr-un xaalid-an ʔab-aa-ka.
thought ʕamr-nom xaalid-ace father-ace-your
‘ʕamr thought that Xaalid is your father’.

(Sibawayh, 1988, I, p.39)

When we try to analyze example (10) above, according to the recent approach of Chomsky’s theory, we find that the verb ẓanna (i.e. thought) is a two-place predicate that requires an external argument, the DP, ʕamr-un (i.e. ʕamr-nom) and an internal clausal complement, xaalid-an ʔab-aa-ka (i.e. xaalid-acc father-acc-your). It is assumed also by Svenonius (1994, 1996) and Al-Tamimi (2012) that this type of verbs requires one clausal complement in the form of a small clause. Svenonius (1996) mentions that “the complement position of epistemic verbs allows small clause complements to these verbs to be interpreted as propositions” (n.p.).

Tree diagram (10a) mentioned below encompasses the internal structure of sentence (10):

(10a)
Tree diagram (10a) shows that the DP, ئاب-ک (i.e. father-your), the DP Xaalid, and the DP ئامر enter the derivation with valued phi features (3rd person, masculine gender and singular number) and unvalued case feature (Chomsky 1998, 1999, 2001). The light verb is a phase head, so it enters the derivation with valued case feature and unvalued phi features (Chomsky, 2005). It is reviewed that the lexical V inherits its features in order to enter into an Agree operation with its immediate two c-commanded active goals (Chomsky, 2005, 2006; Richrads, 2007; Miyagawa, 2005, 2006). We assume that the light v donates its unvalued phi features and valued case feature to its lower non-phase head without keeping them (Ouali, 2008).

Our assumption is proposed because if the light v keeps its features, it will be the only local probe that can value the unvalued case features of the two active goals by assigning accusative cases to them. This option is possible, but it will violate the locality condition assumed by Chomsky (2001) that triggers the case assignment to occur between a case assigner and its immediate case assignee within its domain. The two active goals, xaalid and ئاب-ک (i.e. father-your), are within the immediate domain of the lexical V. This leads us to decide that lexical V has to have unvalued phi features and
valued case feature in order to be an active probe that can undergo Agree operation with its immediate c-commanded active goals. The light v in this structure, as shown in tree diagram (10a), does not have any goals within its immediate domain, so it does not have to carry any unvalued phi features, because if it carries unvalued phi features, they must be valued and deleted via an Agree operation with another active goal. Since there are no active goals within its immediate domain, therefore, its unvalued features would still be unvalued and this will crash the derivation (Chomsky 2000, 2001). Based on these views mentioned above, the light v donates its features to its lower non-phase lexical V (Ouali, 2008). This leads to the carrying of unvalued phi features and valued case feature by the lexical V to be an active probe.

Tree diagram (10a) also shows that the head C₂ is a null head, and it does not carry any unvalued features. This means that it is an inactive head. It also c-commands a null head T₂, therefore, it is a copular (i.e. tense less) CP. It also represents that the lexical verb żanna (i.e. thought) is an active probe due to carrying unvalued phi features. It c-commands two active goals, and there is no an intervening constituent between this active probe and its active goals, because the head C₂, T₂ and the Pr head are null heads. These c-commanded active goals are the DPs, Xaalid and ?ab-k (i.e. father-your). This active probe and its two local c-commanded active goals carry features with the same identity, which means that there is matching between them (the probe and the two goals). The small clause, Xaalid ?ab-k (i.e. father-your), includes a functional head, which is the predicate head (Hornstein & lightfoot, 1987; Bowers, 1993; Svenonius, 1996). The DP, ?ab-k (i.e. father-your) acts a predicative complement of the predicate head, as the predicate head takes a complement (Partee, 1987; Svenonius, 1996; Citko, 2014). The DP, Xaalid, serves as the external argument of the predicate head because the predicate head requires an external argument (Svenonius, 1996) according to the EPP assumed by Chomsky (1981) that triggers each clause to have a subject (external argument). Hale & Keyser (1998) mention also that, “by definition, a predicate requires a subject which is supplied by the specifier. Thus, the appearance of a specifier, as well as the appearance of a complement, is an inescapable consequence of the nature of the head” (n.p.).
The DPs, ʔab-k (i.e. father-your) and Xaalid, are active because they carry unvalued case features that have to be valued by being assigned case by its c-commanding active probe with its valued case feature. This case assigning of both goals occurs simultaneously by their single active probe, the lexical verb ẓanna (i.e. thought), via Multiple Agree (Hiraiwa, 2000) operation between them (Citko, 2014, pp.128-129). She (Citko) assumes that the predicate head requires an external argument and a ‘predicate nominal’ (i.e. complement of the predicate). She mentions also that the predicate head is a phase only in the case of its ability of assigning an instrumental case to its complement, due to carrying unvalued phi features. Otherwise, she elaborates that the predicate head is not a phase when it loses its ability to value instrumental case to the predicate nominal, due to lack of carrying unvalued features. Thus, the complement of the predicate and its external argument get their nominative case by their multiple Agree with the head T, or get their accusative case through their multiple Agree with their c-commanding verb (pp.128-129).

Multiple Agree operation is a mechanism introduced by Hiraiwa (2000) by which a single c-commanding active probe simultaneously Agrees with its multiple c-commanded active goals without the occurrence of an intervening active probe (i.e. a probe carries unvalued features) between this single probe and its multiple goals.

The lexical verb, ẓanna (i.e. thought), assigns accusative cases to both of its c-commanded active goals to value their unvalued case features and to delete them (unvalued case features) after being checked. This Multiple Agree operation also results in valuing the unvalued phi features of this active probe and deleting them (unvalued case features) after being valued (checked) (Hiraiwa, 2000; Chomsky, 2000, 2001). Besides, there is no barrier between this active single probe and its active goals to block this multiple Agree operation, because, in this case, the head C₂ and the pr head act as transparent heads (i.e. they cannot prevent the occurrence of any syntactic operation between the lexical verb and its two c-commanded DPs). Thus, we can conclude that the lexical verb ẓanna (i.e. thought) carries [+multiple] feature as claimed by Hiraiwa (2000), which allows it (the lexical verb ẓanna (i.e. thought)) to Agree simultaneously with its
multiple c-commanded goals. Once it Agrees with its closest local active goal, it searches for a lower one to Agree with.

Based on the discussion above, the conclusion presumed here is the occurrence of multiple Agree operation between the lexical verb, ẓanna (i.e. thought), the external argument of the predicate, Xaalid, and the complement of the predicate ʔab-k (i.e. father-your) simultaneously. It corroborates Citko’s (2014) assumption that the embedded predicate phrases are not phases as long as they do not assign an instrumental case as in Slavic languages. Thus, we can assume that the embedded predicate phrases in Classical Arabic are not phases. It can be assumed also that the embedded copular CPs are not phases in CA, according to our above analysis within the transitive light vP phase phrase.

If this head, C₂, is a phase head in this structure in CA, the Impenetrability Condition (IPC) proposed by Chomsky (2001) prevents its domain to enter in any further operation with any higher constituent than the head C₂, and the lexical V will be prevented to assign any case to these two DPs. IPC means that once all the operations, within a domain of a given phase head, are completed, this domain would not be allowed to enter any further operation with a higher constituent. Only the phase head is the element that can enter any operation with its higher constituent. Another evidence to our assumption is that these two DPs, Xaalid and ʔab-k (i.e. father-your), are base generated. They are not triggered to move from their position in order to get their accusative case. They get their case in their in situ (i.e. original) position.

The light v is a strong affixal verb that triggers its closest lexical V to move to it (Larson, 1988; Hale & Keyser, 1993, p.56) leaving behind a null copy of itself in the position out of which it is moved according to the copy theory of movement (Chomsky, 1995). As a result, the lexical V is moved from its position to the light v in order to satisfy this light verb’s strength leaving behind a trace (i.e. null copy) in its extraction site (i.e. the position out of which it is moved).

Tree diagram (10b) manifests all these operations discussed above:

(10b)
Since the transfer is a cyclic operation (Chomsky, 2001), the domain of the light vP phase is frozen in its place and invisible syntactically to enter any further syntactic operation. It transfers to the phonological and semantic components (Chomsky 2005) once all the Agree and movement operations in this light vP phase are completed. This domain, the lexical VP, cannot act as a goal for a higher probe. The DPs, Xaalid and ʔab (i.e. father), transfer to the phonological form and spelled out as Xaalid-an (i.e. Xaalid-an) and ʔab-aa-ka (i.e. father-acc-your), because in CA the accusative case has a case marker that is pronounced as /an/ in Xaalid-an (i.e. Xaalid-an) and /a:/ as in ʔab-aa-ka (i.e. father-acc-your).

In the light of our analysis of example (10) within Chomsky’s theory, a generalization is formulated. It is that the embedded predicate phrase (PrP) and the copular CP are not phases in Classical Arabic. They are non-phase heads. They are transparent. This is concluded as a result of assigning the accusative cases of the complement of the predicate and its external argument, within the Scope of an embedded predicate phrase and a copular CP, simultaneously via their multiple Agree (Hiraiwa, 2000), with a lexical head occurring in a position higher than these copular CP and predicate phrase. This is applied without the occurrence of an intervening active
constituent between them. These two DPs also get their accusative case while they are in their original position.

2.1 Locality constraints with respect to case and the optional deletion of the complementizer ئanna

In (10), we find that the lexical verb ئanna (i.e. thought) can assign an accusative case to the external argument of the predicate and its complement, because the head C2 is null. It is in a local relationship with them, because there is no intervening complementizer that occurs in the head C2. If we propose that there is a complementizer ئanna (i.e. that) occurring in the head C2, can the lexical verb assign an accusative case to the external argument of the predicate head c-commanded by the head C2? The following example is cited in order to answer this question:

(11) ئanna ئامرن ئanna xaalid-an ئab-uuka.

thought ئامرن that xaalid-acc father-nom-your
‘ئامرن thought that Xaalid is your father’.

We analyze the case assigning occurring in the lexical V`, ئanna ئanna Xaalid-an ئab-uuka (i.e. thought that Xaalid-acc father-nom-your) by drawing the tree diagram (11a):
Here, the head $C_2$ carries the transitive complementizer ?anna (i.e. that) that c-commands the DP, Xaalid. The head $C_2$ also carries its inherent unvalued phi-features and valued case feature because it is a phase head. Chomsky (2001, 2005, 2006) states that the head $C$ and $v$ have inherent valued case feature and unvalued phi-features. Hence, the transitive complementizer ?anna (i.e. that) is a barrier that prevents the lexical verb, ẓanna (i.e. thought), from assigning an accusative case to the DP, Xaalid and the DP, ?ab-k (i.e. father-your). The DP, ?ab-k (i.e. father-your) is within the scope of the head $T_2$. It carries unvalued case feature that needs to be valued.

In order to value the unvalued case feature of the DP, ?ab-k (i.e. father-your), the head $T_2$ must carry unvalued phi features and valued case feature in order to be active to enter into an Agree relationship with its local nominal active goal. There is another DP that carries unvalued case feature and needs to be valued via an Agree relation with a c-commanding active goal. Accordingly, we assume that there is a feature sharing operation between the phase head, the head $C_2$, and its closest non-phase head, the head $T_2$, in order to carry unvalued phi features and valued case feature by both heads to undergo an Agree operation with their local active goals cyclically.

Thus, the head $T_2$ carries unvalued phi features that have to be valued. Consequently, there is an Agree operation which can occur between it and its local active goal, the DP ?ab-k (i.e. father-your), to value their unvalued features. Subsequently, the unvalued case feature of the DP ?ab-k (i.e. father-your) is valued by getting its nominative case, and the unvalued phi features of the head $T_2$ are valued by the copying of the inherent valued phi features of its local DP to it. This Agree mechanism between this probe and goal results in valuing and then deleting the unvalued feature of them simultaneously (Chomsky, 2000; Richards, 2007; Citko, 2014). There is also an Agree relationship between the complementizer ?anna and its closest DP. The DP, Xaalid, is within the scope of the complementizer ?anna. It is the closest c-commanded DP to it, hence, locally it should be assigned a case by this complementizer ?anna (i.e. that). This case assignment is established via the Agree operation between them. It assigns an
accusative case to it and deletes its unvalued case feature concurrently via this Agree process between them.

The blocking of the Agree operation between the lexical V and its c-commanded active goals, due to the presence of an intervening active constituent, supports the intervention condition assumed by Chomsky (2005). It proposes that a probe X cannot target a goal Y if there is an active (i.e. carries unvalued features) constituent ‘intervening’ between the probe and the goal. Once we remove this transitive complementizer ?anna (i.e. that), the DPs, Xaalid and ?ab-k (i.e. father-your), will be in the scope of the lexical verb, ẓanna (i.e. thought). It will be the closest c-commanding case assigner to them. Thus, it can assign an accusative case to them.

In the light of this, we can conclude that the complementizer ?anna (i.e. that) is a barrier that blocks the higher V from assigning case to whatever constituent c-commanded by it. It is concluded also that locality is a crucial condition (Chomsky, 2001) for allowing a case assigner to assign a case to its case assignee or not. The case assigner must be in a local relationship with its case assignee in order to assign case to it (Stowell, 1981; Travis, 1984; Koopman, 1985). This accounts also for Agree operation that is assumed by Chomsky (2000, 2001), as locality is one of its conditions which allows a given active probe to Agree with its c-commanded active goal.

We finally conclude that, according to Chomsky’s theory, we can create the assumption that the embedded predicate phrase and the copular CP in CA are not phases. This assumption is a result of the application of the multiple Agree operation between the lexical verb and the two DPs constituents of the embedded PrP and the copular CP simultaneously without the occurrence of an intervening active element between them. We explain another evidence to our assumption in the following section by discussing how the cases are assigned in one-step to the DPs included in the embedded PrP in CA.

3. Three-place predicates in CA

Our analysis of the three-place predicate in CA provides a second piece of evidence to our assumption that the embedded predicate phrases and copular CPs are not phases in CA. It is shown by the occurring of the multiple Agree operation in order to
assign the accusative case of the two DPs within the embedded predicate phrase of the embedded copular CP. We argue that it is a di-transitive verb that requires an external argument in the form of a DP, an internal argument in the form of a DP, and another internal argument in the form of a clause. The following examples capture the structure of the CA three place-predicates:

(12) ʔaxbar-tu zayd-an ʕamr-an ʕaṣṣib-an.
    told-I Zayd-acc ʕamr-acc absent-acc.
    ‘I told Zayd that ʕamr is absent’.
    (Ibn ʕaqiil, 1980, II, p.71)

(13) ʔašlam-tu zayd-an ʕamr-an munțaliq-an.
    informed-I zayd-acc ʕamr-acc free-acc.
    ‘I informed Zayd that ʕamr is free’.
    (Ibn ʕaqiil, 1980, II, P.64)

Here in (13), there are two clauses: a matrix clause, ʔašlam-tu zayd-an ʕamr-an munțaliq-an (i.e. informed-I zayd-acc ʕamr-acc free-acc), and an embedded one, ʕamr-an munțaliq-an (i.e. ʕamr-acc free-acc). The matrix clause includes an external argument, tu (i.e. I), of the matrix verb and its internal argument, Zayd, in the form of a DP. The embedded one is composed of a predicate phrase that consists of a predicate head, its external argument, and its complement (Partee, 1987; Svenonius, 1996; Citko, 2014).

Tree diagram (13a) views the internal deep structure of (13):
Tree diagram (13a) presents the entering of the DPs, munţaliq (i.e. free), and ū'amr, the derivation with valued phi features (3rd person, singular number and masculine gender), and unvalued case feature (Chomsky, 1998, 1999, 2001). It is observed that they are two active goals within the domain of the lexical V in the lexical V-cycle with unvalued case features. Moreover, it is represented that there is an active nominal goal, Zayd, within the immediate domain of the light v in the light v-cycle whose unvalued case feature must be valued in the course of the derivation in order not to crash it (the derivation). Accordingly, we decide to apply the SHARE mechanism of features of the phase head, light v (Ouali, 2008). This is in order to allow the lexical V and the light v to carry unvalued phi features and valued case feature to undergo Agree operations in the lexical V-cycle and the light v-cycle locally as well as cyclically.

If we assume that the light v keeps its phi features, it will undergo multiple Agree operation with the goal in its immediate domain and with the two goals within the lexical V’s domain, which will violate the locality condition claimed by Chomsky (2001, p.13). If it is argued by us that the light v donates its features to the lexical V, the light v cannot undergo an Agree operation with its local goal as a result of not having unvalued phi
features. That is why we decide to apply the feature sharing mechanism between the phase head, light v, and its closest lower non-phase head, the lexical V. This leads the lexical V and the light v to carry the unvalued phi features and valued case feature.

In order to value the unvalued case features of the active c-commanded goals, the DPs, munṭaliq (i.e. free) and ūmr by the lexical V, ūlama (i.e. thought), they enter in a multiple Agree operation with it. This multiple Agree mechanism, assumed by Hiraiwa (2000), between them, results in assigning an accusative case to these c-commanded goals, the DP, munṭaliq (i.e. free), and the DP, ūmr, at the same time. This leads also to the deletion of the unvalued case features of these DPs after being checked, as the valuation and the deletion of the unvalued feature are simultaneous operations (Chomsky, 2001; Richards, 2007; Citko, 2014). This multiple Agree operation also values the unvalued phi features of the active probe, the lexical verb, ūlama (i.e. informed) (Hiraiwa, 2000; Citko, 2014). Accordingly, its unvalued phi features are valued overtly as claimed by Citko (2014), and then deleted after being checked in one-step.

Since the light verb is a strong affix that triggers the movement of its closest c-commanded lexical verb from its position to it (Larson, 1988; Hale & Keyser, 1993, p.56); therefore, the lexical verb, ūlama (i.e. thought), is triggered to move to it (light v) leaving behind a null copy of itself in its extraction site in accordance with the copy theory of movement (Chomsky, 1995). This movement leads to the attachment of the root of the verb, ūlama (i.e. thought), with its CA causative morpheme, ?, to form the CA three-place predicate, ūʾašlama (i.e. informed). After adjoining this causative morpheme to the two-place predicate verb (the root verb), ūlama (i.e. consider), it turns it to a three-place predicate verb (Fehri, 1981). This A-movement results also in the c-commanding of the active goal, the DP, Zayd, by its active probe, the light verb.

If the embedded copular (- tense) CP and the embedded predicate phrase are phases in CA, the lexical V is prevented to undergo the multiple Agree operation with constituents within their domain. Nevertheless, according to our discussion mentioned above, the lexical V is allowed to Agree with these constituents in the scope of the
embedded predicate phrase and the CP. They serve as transparent constituents. Accordingly, we can consider this structure in CA as a second piece of evidence to our assumption that copular CPs and embedded predicate phrases are not phases in CA.

After finishing all the syntactic operations within the light vP, the domain of it undergoes transfer (Chomsky, 2006, p.17; Richards, 2007, p.560), and it is sent to the phonological and the semantic representations. This results in undergoing a transfer of the VP to the phonetic and semantic representation, as it is the domain of the light verb, ʔašlama (i.e. informed). The two DPs, ʔamr and munṭaliq (i.e. ʔamr and free), are represented on the phonetic form by adding a suffix -an to each one of them to be ʔamr -an (i.e. ʔamr -acc) and munṭaliq-an (i.e. free-acc), as in Classical Arabic the accusative case is represented phonologically by a case marker, -an, that is pronounced as /an/.

The consequences of the multiple Agree and the movement syntactic operations occurring in (13) are mirrored in the tree diagram (13b) shown below:

(13b)
The crucial role of the locality condition (Chomsky, 1995; Richards, 1997; Rizzi, 1990) is also considered if we assume that there is a complementizer which acts as a barrier that blocks the multiple Agree operation between the lexical V, "salima (i.e. thought), and its two c-commanded active goals, ŕamr-an munṭaliq-an (i.e. ŕamr-acc free-acc). If we assume to add the complementizer ŕanna (i.e. that) to (13), then (14) is generated:

(14) ŕāšam-tu Zayd-an ŕanna ŕamr-an munṭaliq-un.

informed-I Zayd-acc that ŕamr-acc free-nom

‘I informed Zayd that ŕamr is free’.

In (14), the complementizer ŕanna (i.e. that) is closer to the two DPs, ŕamr and munṭaliq (i.e. free), than the lexical V. As a result, it blocks the occurrence of the multiple Agree operation between this lexical V and its goals. In this case, the nominative case of the DP, munṭaliq (i.e. free), is assigned by the tense feature carried by the head T, whereas the complementizer ŕanna (i.e. that) functions as the case assigner that assigns the accusative case to the DP, ŕamr, via Agree between each active probe and its local active goal. This works with the intervention condition (Chomsky, 2005). These Agree operations are represented by tree diagram (14a):
Throughout our analysis in this section, it is concluded that, according to Chomsky’s theory, the verb ʕalima (i.e. thought) in (14) is a di-transitive verb. It simultaneously enters into a multiple Agree with its two c-commanded active goals, ʕamr-an (i.e. ʕamr -acc) and munṭaliq-an (i.e. free-an), in its position as an active probe lexical verb. This applied multiple Agree operation corroborates our assumption that the copular CPs and the embedded predicate phrases are not phases in CA. This verifies that case assignment occurs locally and cyclically, according to Chomsky’s theory. The following section exhibits our third piece of evidence of our assumption by explaining the mechanism by which the case is assigned to the constituents within the modifying secondary predicate in CA.

4. Non-phase secondary predicate phrase

Our analysis, according to Chomsky’s theory, claims that the adjunct of a given verb is assigned a case locally and cyclically. There are some examples that are represented to mirror the structure of a modified transitive verb by an adjunct in the form of a secondary predicate in Classical Arabic:

(15) a- qaraʔ-tu ?al-kitaab-a maṭbuʔan.
read-I the-book-accc printed-accc.
‘I read the book printed’.

(Al-ʔafyaanii, 2003, p.296)

b- qaraʔ-tu al-kitaab-a wa huwa maṭbuuʕ-un.
read-I the-book-acc while it printed-nom.
‘I read the book while it is printed’.

Here in (15 a), the verb qaraʔa (i.e. read) is a transitive verb that requires an internal argument to function as its complement. This internal argument is the DP, ʔal-kitaab (i.e. the-book). It requires also an external argument, which is the prn, t (i.e. I). It is called taaʔ al-faaʕil by Arabic syntacticians. There is also an adjunct, maṭbuuʕ (i.e. printed), in the form of a secondary predicate. The two sentences in (15 a) and (15 b) have the same meaning, but sentence (15 a) is derived from (15 b). The deep structure of (15 a) is (15 b). (15 a) is formed as a consequence of deleting the complementizer wa, which is called waw al-ḥaal, according to Arabic grammarians, Ibn ʕaqiil (1980), Al-Jurjaanii (1988), and Sibawayh (1988). It introduces a nominal clausal ḥaal (i.e. secondary predicate) in CA. Ibn ʕaqiil (1980), Al-Jurjaanii (1988) and Sibawayh (1988) mention that the secondary predicate must be indefinite, and it only follows a definite DP. Here the DP, maṭbuuʕ (i.e. printed), is an indefinite DP that follows a definite one, ʔal-kitaab (i.e. the-book). Tree diagram (16a) is drawn to capture the deep structure of (15a):
Since the DP, ʔal-kitaab (i.e. the-book), is a sister with the lexical head V, therefore, it is a complement of the verb qaraʔa (i.e. read). However, the CP, maṭbuuʕ (i.e. printed), is an adjunct of the verb qaraʔa (i.e. read), because it is a sister with the lexical V`, qaraʔa l-kitaab (i.e. read the-book), and is immediately dominated by another lexical V`. This adjunct is called a ḥaal (i.e. secondary predicate) according to Arabic grammarians.

Tree diagram (16a) manifests that the DPs ʔal-kitaab (i.e. the-book), maṭbuuʕ (i.e. printed), and the PRO enter the derivation with valued phi features and unvalued case feature (Chomsky 1998, 1999, 2001). By contrast, the light verb enters the derivation with unvalued phi features and valued case feature because they are phase heads, as Chomsky (2005) explains, “vP and CP are the locus of determinations of structural case and agreement for object and subject” (p.21).

The non-phase head, the lexical V, as well as its higher phase head, the light v, have to carry unvalued phi features and valued case feature, because each one of them c-commands (an) active nominal goal/s whose case feature must be valued. Consequently, we assume that there is a feature sharing process between the light v and its lower non-phase head, the lexical V, that allows both probes to be active to undergo an Agree
operation with their c-commanded active goals (Ouali, 2008). If we assume that the light v hands over (donates) its features to the lexical V, it cannot undergo the multiple Agree operation with the DPs occurring within the predicate phrase. If we suppose that the light v keeps its features, the lexical V, would carry no features, which prevents it to enter into an Agree operation with its internal complement to assign the accusative case to it.

In this case, the lexical verb, qaraʔa (i.e. read), is an active probe due to carrying unvalued phi-features as a consequence of its feature sharing operation with its higher phase head (the light v). It c-commands the active goal by virtue of its unvalued case feature: the DP, ʔal-kitaab (i.e. the-book). As a result of this local c-commanding of the lexical verb to its complement, there is an Agree operation that takes place between them. Subsequently, the verb, qaraʔa (i.e. read), assigns an accusative case to its c-commanded complement, ʔal-kitaab (i.e. the-book). The valued phi features of the DP, ʔal-kitaab (i.e. the-book), are copied to the lexical verb, qaraʔa (i.e. read), in order to value this verb’s unvalued phi features overtly (Citko, 2014, p.44). The unvalued features of both categories are valued through Agree relation between them.

The lexical verb, qaraʔa (i.e. read), moves from its position to the light verb to satisfy the strength of the light verb (Hale & Keyser, 1993, p.56). It leaves a trace of itself in the position out of which it is moved (Chomsky, 1995). This head-to-head movement leads to the c-commanding of the adjunct, maṭbuuṣ (i.e. printed), by the light verb, qaraʔa (i.e. read).

Within the embedded copular (-tense) CP₂, there is a predicate head according to Hornstein and Lightfoot (1987), Bowers (1993), and Svenonius (1996), who claim that small clauses contain a functional predicate head. It includes also a complement of the predicate head, and an external argument of it, which is PRO. This functional predicate head takes a complement (Partee, 1987; Svenonious, 1996). It is explicated also by Svenonius (1996) that the small clause constituent, which functions as a predicate, requires a PRO as an external argument, and that this small clause is within the domain of CP projection. Since the predicate head does not assign an instrumental case to its nominal predicate, as in other Slavic languages, therefore, it is not a phase and it does not
carry any unvalued features in order to probe for other active goals (Citko, 2014, p.128). Accordingly, these two active goals, by virtue of carrying unvalued case feature, are c-commanded by the light v that acts as a probe, due to carrying unvalued phi features. This leads to the multiple Agree application (Hiraiwa, 2000) between this c-commanding probe and its two c-commanded goals to value their unvalued case feature (Citko, 2014, p.129; Hiraiwa, 2000). It assigns a null case to the PRO in the light of the assumption claimed by Chomsky and Lasnik (1993), which states that the null PRO is assigned a null case by a non-finite T in a tense less clause. They mention also that it can be assigned a null case only.

Martin (2001) mentions that “non-finite T can check null case” to this PRO (p.141). He states that “PRO can only be the subject of a non-finite clause” (Martin, 2001, p.141). This light v also assigns an accusative case to the DP, matbuus (i.e. printed), simultaneously. The unvalued phi features of this active probe are also valued. This multiple Agree operation leads to the deletion of all the unvalued features of the active probe and the two goals after being checked (Hiraiwa, 2000; Chomsky, 2000; Richards, 2007) in one-step. This statement offers another evidence to our assumption that embedded predicate phrases and copular CPs in CA are not phases. It is given because the light v is allowed to Agree concurrently with its multiple goals without any intervening active constituent between them. In this case, the copular CP and the embedded predicate phrase serve as transparent constituents.

Tree diagram (16b) captures the results of the multiple Agree and movement operations occurring in (15a):

(16b)
This analysis proves that case assignment of the active goals is applied cyclically and locally. The DPs, PRO and maṭbuuṣ (i.e. printed), are assigned accusative cases in the light v-cycle by its c-commanding probe, the light v, qaraʔa (i.e. read) concurrently. The accusative case of the DP, ʔal-kitaab (i.e. the-book), is assigned in the lexical V-cycle by the c-commanding probe, the lexical verb, qaraʔa (i.e. read). All these case assignment processes occur through an Agree and Multiple Agree operation between these goals and their c-commanding probes. Agree also results in valuing all the unvalued phi features of the three c-commanding active probes (T, light v and lexical V).

The domain of the light v (the lexical VP) becomes frozen after finishing all the feature valuation processes and the movement operations inside it, as the light vP is a phase. The lexical VP undergoes transfer at this point of the derivation (Chomsky, 2006, p.17; Richards, 2007, p.560), which leads to sending the lexical VP to the phonetic and semantic components. It becomes inaccessible syntactically to undergo any further syntactic operations. The DPs, ʔal-kitaab (i.e. the-book), and maṭbuuṣ (i.e. printed), are represented on the phonetic form by the suffix (–a) and (–an) respectively as a result of
being assigned an accusative Case by their probes. These suffixes are pronounced as /a/ and /an/.

According to this analysis, it is concluded that there is a multiple Agree operation between the light v and its two c-commanded goals in the light v-cycle. The lexical verb assigns an accusative case to its complement in the lexical V-cycle. This analysis sustains our assumption that the embedded copular CPs and embedded predicate phrases in CA are not phases.

4.1 Suppressing or allowing the multiple Agree by the locality condition:

In the preceding sections, we attempted to analyze the embedded copular CP that functions as an adjunct of a given transitive verb in CA in which the complement of the predicate and the external argument get their cases valued from a probe outside the two non-phases phrases, the CP2 and the embedded PrP. We try also to analyze the deep structure of (15 b) and examine the case assignment of the complement and the external argument of the predicate within a tensed CP (phase CP) in (15 b). Tree diagram (17) views this secondary predicate CP:

(17)

As shown in (17), the head C is filled by the complementizer, wa (i.e. while). It is a phase head, due to carrying unvalued phi features and valued tense feature. These
features are handed over to its local non-phase head, the head T, through the feature inheritance process (Chomsky, 2005, p.10). As a result, it (head T) can enter in a multiple Agree process with the two DPs within the secondary predicate phrase, the DP, huwa (i.e. he), and the DP, maṭbuṣ (i.e. printed). This is affirmed by Citko (2014) who mentions that the nominal predicate (complement of the predicate), and the external argument of the predicate enter into a multiple Agree operation with their active probe, the head T, in order to get their unvalued case feature valued (pp.128-129). Their valued phi features also value the unvalued phi features of their c-commanding active probe in one-step. This simultaneous operation leads to the deletion of all these unvalued features of the probe as well as its two c-commanded goals. Consequently, this supports our assumption that the secondary predicate phrase is not a phase in CA.

The complementizer, wa (i.e. while), serves as a barrier that blocks the Agree relation between the light v and the external argument and the complement of the predicate within the CA copular CP in respect of the intervention condition claimed by Chomsky (2005). If we delete this complementizer, wa (i.e. while), there would be no longer any barrier between this light v and these two DPs. In this case, the external argument and the complement of the predicate are assigned their accusative case through their multiple Agree operation with their c-commanding active probe, light v, simultaneously. This confirms our assumption that the copular CP and the embedded predicate phrases are not phases in CA. This proves that the locality condition (Chomsky, 1995; Richards, 1997; Rizzi, 1990) has a crucial role in preventing or allowing a given verb to assign an accusative case to the two DPs within the copular CP and the embedded predicate phrase.

5. Conclusion

The conclusion which emerges from our discussion in this paper is that the Classical Arabic embedded predicate phrases and copular CP are not phases. It is proved as a consequence of the application of the multiple Agree operation between the single active c-commanding lexical V/light v with its two active c-commanded DP constituents, originating in the scope of the embedded CA predicate phrase and the copular CP,
simultaneously. This multiple Agree process is applied to the structure of CA Hearts verbs, the structure of CA three-place predicate and the construction according to which a transitive verb is modified by a secondary predicate. There are no intervening constituent blocks in the occurrence of this relation, because, in this case, the predicate head and the head C act as transparent constituents. It is proved also how the locality condition is a crucial constraint on which the Agree and multiple Agree operations are grounded. It is a condition that can prevent or allow the occurrence of the case assigning of an active goal by a given active probe.
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جمل الخبرية الصغرى و الموصولة في اللغة العربية الفصحى ليست بعائق في عملية الإعراب

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ملخص


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