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Move and Agree in Arabic Construct State: A Phase-based Analysis

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Abstract

This paper investigates the internal structure of Arabic Construct State in light of the latest advances within the Minimalist Program. It adopts a phase-based Agree model to account for how word order and Case value are determined within the structure of the Construct State which is represented as a DP phase within which the head noun undergoes N to D movement. The derivation of the Construct State structure does not involve any unnecessary PF linearization process to ensure that the surface word order is achieved. Instead, the paper shows that the surface word order is the outcome of movement of the head noun to D, the head DP phase. Since the head noun is the head of the lexical core and locus of φ -features, it receives Case under Agree with an external probe; the Case value it receives is spread within NP and copied on the modifying attributive adjectives.

Keywords: Phase Theory, Agree Theory, Minimalism, Arabic, Construct State, DP.

1. Introduction

Construct State (CS henceforth) is a possessive construction that is widely attested in Modern Standard Arabic (MSA henceforth) and other Semitic languages such as Hebrew (see Ritter 1988, 1991; Fassi Fehri 1993; Benmamoun 2000; Shlonsky 2004, 2012; Almansour 2012; and Jarrah et al. 2020 among many others). Consider the MSA example (1a) and the Hebrew example (1b) below.

(1)	a.	kitab-u	ı al-walad-i		
		book-r	om the-boy-gen		
		'The b	'The boy's book.'		
	h	hevt	ha-mora		

 beyt ha-mora house the-teacher 'The teacher's house.'

(Ritter 1991, 40)

This construction, which is referred to in Arabic as *Idhafa* 'addition' or 'annexation', is a DP composed of two nominals: a head noun (possessum) which constitutes the lexical core of CS and an associate DP which forms the source of in/definiteness to the head noun (see Shlonsky 2012 and Jarrah et

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al. 2020, for example); therefore, the associate DP is in complementary distribution with the definite marker, as (2) below illustrates:

(2) *al-kitab-u al-walad-i The-book-nom the-boy-gen 'The boy's (*the) book.'

As the translation of (1a) above for example suggests, CS is analogous to the possessive structure in English. However, the main point of departure between the two structures is the word order; while the head noun in CS is in an initial position preceding the associate DP, the head noun in the possessive structure in English appears in a final position. A further significant difference is that the possessive structure in English has an overt morphological possessive marker (i.e. 's) that does not exist in Arabic CS. The existence of 's in the English possessive structure and its absence in CS seem to have implications for the use of attributive adjectives. In English, the possessive marker 's forms a clear-cut line between the head noun and the possessor. Therefore, the use of attributive adjectives is straightforward because these adjectives are adjacent to the nouns they modify. In other words, the adjective appears where it belongs and it precedes the modified noun, be it the head noun (the possessum) or the noun within the structure of the possessor DP, as (3a) below illustrates. In MSA, on the other hand, the modifying adjective follows the modified noun, whether it is the head noun or the noun contained within the structure of CS, as can be seen in (3b) below (cf. Fassi Fehri 1999 and Shlonsky 2012).

(3) a. The new teacher's blue book

b. kitab-u al-mudaris-i al-jadeed-i al-azraq-u book-nom the-teacher-gen the-new-gen the-blue-nom 'The new teacher's blue book.'

These differences between the two constructions are summarized as follows:

(4) a. English Possessive Structure:

(Adjective + Possessor) 'S poss. Marker (Adjective + Possessum) b. MSA Construct State:

Possessum

(Possessor + Adjective) Adjective

The linear word order within the structure of CS admits discussion under the latest assumptions (Phase Theory, in particular) of Minimalist Program (MP henceforth). Any decent analysis should account for how this word order is achieved, and how agreement in φ -features and Case feature value on both the head noun and the associate DP are obtained. In this paper, I investigate the DP structure of CS in MSA and argue building on Case, use of adjectives and word order facts that this construction is a phase that has a protected domain. The associate DP has a structural genitive Case that is maintained irrespective of the CS grammatical function because this DP exists within the boundaries of the phase; therefore, it is inaccessible to higher heads in conformity with the Phase Impenetrability Condition (see section 2 below). The paper also shows that the DP structure parallels the vP structure in that it is derived

in a similar way. The paper is organized as follows: the next section introduces the theoretical framework. Section 3 reviews some of the minimalist analyses of CS while the proposed analysis is introduced in section 4. Section 5 concludes the paper.

2. The Minimalist Framework

Since its introduction in Chomsky (1993) as a mode of inquiry within the linguistic theory, MP has sought to simplify the theoretical assumptions and narrow syntax operations to the greatest possible extent. The language faculty under the minimalist assumptions, in Chomsky's words, "provides no machinery beyond what is needed to satisfy minimal requirements of legibility and that it functions in as simple way as possible" (Chomsky 1998, 27). This framework, which is represented in Chomsky (1995) as "*a program, not a theory*", is a research program that has been subject to improvement. Chomsky (2021, 17: 38-17: 48) clarifies that "the Minimalist Program is a natural extension of the work that preceded"; he asserts:

[MP] is a stage in the study of language which has finally reached the point where you can begin to see how there could be an answer simultaneously to [problems concerning language diversity and complexity of language faculty]. It is beginning to find mechanisms so simple that they could have evolved within the conditions of human evolution but when they are integrated with principles of computational proficiency that are basically laws of nature then you can begin to account for some of the remarkable properties of language. That is the stage we are in now (Chomsky 2021, 23:50-24:41).

Chomsky's clarification suggests that MP is stable, and its conditions, rules and apparatus are applicable and capable to capture various structures in different languages. Phase Theory is the recent model of derivation within MP. According to Chomsky (2001, 2008), phase is a level of computation where syntactic operations to derive structures take place. As Chomsky assumes, the derivation proceeds phase by phase which means that once a phase is derived it is transferred to the interface levels where it becomes inert and unavailable for further syntactic operation except its head and its left peripheral edge as a requirement of the Phase Impenetrability Condition in (5) below.

(5) Phase Impenetrability Condition:

In a Phase α with head H, the domain of H is not accessible to operations outside α , but only H and its edge.

(Chomsky 1998, 22)

The condition in (5) above is a cyclicity condition that ensures the locality of syntactic operations and that they should take place at the phase level. Chomsky (2004) assumes that two syntactic operations are available to construct the structure of the phase. The first operation is Merge which is classified into two subtypes: External Merge that combines two syntactic objects after they are selected from the numeration, and Internal Merge that operates at the phase level and displaces a syntactic object from one position to another.¹ The second operation is Agree that operates to match the features of a probe and a goal. Agree Theory is entirely dependent on the feature system. φ -features are classified as interpretable

and uninterpretable depending on whether they are interpreted semantically or not. In other words, φ -features on phase heads (i.e. functional heads such as v, C and D) do not have semantic interpretation, therefore, they are uninterpretable. By contrast, these features contribute to the interpretation of nominals, so they are interpretable. Case feature on nominals, on the other hand, is uninterpretable because it has no semantic interpretation.

While the interpretable features are introduced in the derivation as valued, the uninterpretable features are introduced as unvalued. They are required to be valued and deleted before they reach the LF and PF interfaces as required by the Interpretability Condition (Chomsky 1998) which allows only interpretable features at the interfaces. Since the phase head is endowed with unvalued uninterpretable φ -features, it functions as a probe that initiates the derivation to value these features. The probe searches within its c-commanding domain for a nominal as a matching goal with valued interpretable φ -features. The goal is active by virtue of having an unvalued Case feature. Once the features of the two syntactic objects are matched, Agree relation is established and the unvalued features of the probe are valued and deleted. Likewise, the unvalued Case feature of the goal is valued and deleted. If Agree fails to reach this result, the derivation crashes (see Chomsky 2001). Chomsky (2008) pursues a suggestion he made earlier in Chomsky (2004) and assumes that CP and vP are phases.² TP, according to his view, is not a phase because T lacks φ -features and tense feature in the lexicon; it shows these features only when it is selected by C, the head of CP phase, from which it inherits these features. Regarding DP, Chomsky (2008) speculates that it is a phase building on the similarities between the structures of DP and CP. However, he does not provide any discussion of the DP structure.

3. Previous Analyses

In the literature, CS is analyzed as a DP (see Ritters 1991; Benmamoun 2000; Kremers 2009 and Shlonsky 2012 among others). Since its introduction in Abney (1987), the DP hypothesis has generally been accepted in the field of syntactic theory and adopted by many generative linguists to account for different nominal structures in different languages. Abney's hypothesis is based on the idea that the nominal expression is a complement to a functional head (i.e. a determiner); the noun phrase appears as a complement to the determiner as in (6) below:



The DP hypothesis was adopted by Ritter (1988, 1991) to account for the noun phrases and CS in Modern Hebrew. Ritter argues that the structure of the DP is similar to the structure of the clause in that it

involves N to D movement (which parallels V to T movement). She assumes that CS is a DP headed by a genitive determiner D_{gen} that assigns Case assigning to the phrase to its right. The associate DP is in the specifier position of NP that is headed by the head noun. She argues that an intermediate projection NUMP exists between the NP and the main DP that is headed by D_{gen} . The head noun, according to her view, undergoes cyclic movement that takes it from N to NUM and then to D_{gen} . The associate DP moves from Spec, NP to Spec, NUMP. This cyclic movement creates a configuration in which the associate DP appears adjacent to the Case assigning D_{gen} . Consequently, structural Case is assigned to the associate DP under government. The structure (7) below depicts Ritter's proposal.



Benmamoun (2000) observes that CS constitutes a prosodic unit that has adjacent members with the second member (i.e the possessum) being marked for in/definiteness. He assumes following Ritter (1991) that the head noun in CS structure undergoes N to D movement to be adjacent to the DP possessor. The DP hypothesis is widely accepted under the recent minimalist assumptions, and noun phrases are treated as DPs. In this study, I argue in favor of the idea that DP is a phase. I propose that agreement, movement and genitive Case assignment are realizations of a DP internal feature-based Agree operation. However, before we proceed to the proposed analysis, a review of some prominent minimalist analyses is represented in the following section.

3.1. Kremers (2009)

Kremers (2009) argues for a PF linearization analysis to account for word order within the structure of Arabic and English noun phrases. In his analysis of Arabic CS, Kremers assumes that definiteness in such constructions is linked to possessiveness because the head noun in CS lacks the in/definiteness marker. Accordingly, he claims that the associate DP appears as a complement of the head noun. The resulting projection (i.e. NP) is then selected by a special D head which he identifies as D/Poss. He further argues the D/Poss has unvalued DEF (definiteness) feature, unvalued φ -features and a valued poss (possessive) feature. This view of CS structure is represented in (8) below (see Kremers 2009, 14).



Kremers argues that since D/Poss head has unvalued DEF and φ -features it acts as a probe that finds the associate DP as a matching goal with valued φ -features and unvalued Case feature which renders the

associate DP an active goal that is available for Agree. When Agree relation is established between D/Poss and the associate DP, it results in valuation and deletion of all unvalued features on both items. This means that the valued Poss feature on the head D/Poss values (and subsequently deletes) the Case feature on the associate DP as genitive. In return, the valued DEF feature and φ -features on the associate DP value and delete their unvalued counterparts on D/Poss. This analysis, as such, does not capture CS word order facts when adjectives are used to modify the head noun as in (3b) above. To evade this problem and ensure that his analysis accounts for the superficial word order, Kremers argues extensively that a Linearization procedure operates at the PF level and targets the terminal nodes and rearrange them in accordance with a principle that he calls Principle P' (where P' stands for nonprojecting subnode). This principle demands that a nonprojecting element, the specifier, be linearized first. However, Kremers realizes that this principle is inadequate when it is applied to the projection consisting of the head and its complement because the principle predicts that the complement as a nonprojecting element is linearized first. To overcome this obstacle, Kremers postulates that the principle has a head parameter with two settings H+ and H-; the former requires the immediate linearization of the head (i.e. it is linearized first) and the latter requires the nonimmediate linearization of the Head (i.e. the complement is linearized first). Regarding the attributive adjective that modifies the head noun in CS, Kremers argues that it is left adjoined to the projection of the head noun and its complement, i.e. the associate DP. The Linearization Principle, according to him, has an adjunct parameter that allows the adjective to equally linearize first or second in its node. Kremers' PF linearization process is represented as follows, where the second tree diagram shows the structure of CS after it has been linearized.



While Kremers' version of the linearization procedure gives an insight that helps understand some complex structures, it seems to be unrestricted as its underlying principle can be applied to any syntactic structure as long as its parameters allow any node of that structure to linearize first, thus they can appear in any order. In fact, the linearization procedure overlooks the syntactic operations at the narrow syntax which are sufficient to derive the surface word order. This suggests that adding an unnecessary ordering procedure at the PF level places a burden on the computation, a situation that is supposed to be avoided if we must observe the standard minimalist assumptions. Such a line of analysis does not capture agreement facts, nor does it account for how Case feature on the modifying adjective is valued. Apparently, agreement and Case valuation do not take place at the PF level. One empirical challenge besting Kremers' analysis is that the attributive adjective carries all the features of the modified noun. This means that the noun and the modifying adjective must be in a configuration in the narrow syntax that allows sharing the features of the noun by the adjective. Furthermore, Kremers' assumption that the head D/Poss in CS is a

combined head with combined unvalued definiteness and valued possessive features cannot be taken for granted based on theoretical grounds. Because these two features are of different types and have different values, they should probe separately which would complicates the process of derivation. Definiteness should therefore be analyzed as a functional head not a feature, as it is typically analyzed in the literature.

3.2. Almansour (2012)

Almansour (2012) proposes a phase-based analysis and argues that CS is composed of two DPs; He argues that CS is a phase which he terms as KP (Kase Phrase). He assumes that the two constituents within CS (as KP) are DPs: the head noun is an indefinite DP while the possessor (i.e. the associate DP) is a definite DP. According to his view, the head noun originates as NP1 with valued indefiniteness feature and unvalued Case feature. Then, NP projects into nP (a light functional phrase) which is selected by D that has unvalued indefiniteness feature (-DEF using his terms). This unit of computation is represented as follows:



(11)

Almansour argues that at this level of the derivation the head D as an active probe with an unvalued DEF feature locates NP1 as a matching goal which is active by virtue of having an unvalued Case feature; because the goal has a valued DEF feature it enters in Agree relation with D that results in the valuation and deletion of its DEF feature. However, the Case feature of NP1 remains unvalued; therefore, it is delayed and valued later during the course of the derivation. After this stage, the indefinite DP1 is merged with the definite possessor (NP2) which has a structure that develops in a similar fashion to DP1. In other words, the possessor starts as NP2 with valued definiteness (+DEF) feature and unvalued Case feature. Then, it projects into nP that is selected by D2 with unvalued definiteness feature in addition to a valued genitive feature (+GEN).

An Agree relation is established between D2 and NP2 and it results in valuation of the DEF feature of D. The +Gen feature values the unvalued Case feature of the possessor (NP2) as genitive. Almansour clarifies why D2 has a GEN feature that does not exist with D1 by assuming that "D2 lacks this feature in the lexicon. But when D2 is selected by K, it inherits the genitive Case feature from K in the syntax" (Almansour 2012, 31). This line of analysis is schematized in (11) below:



Adopting Richards' (2010) Distinctness condition which prohibits the existence of two similar functional projections within the phase domain, Almansour claims that once (11) above is derived, one of the DPs should exit the phase KP. DP1 is forced to move to the specifier of KP achieving the linear word order we have in MSA. Such a movement guarantees that the head noun (DP1) and the associate DP2 are away from each other. He further stipulates that DP1 in specifier of KP receives Case under Agree with a higher functional head. Although I agree with Almansour that CS is best analyzed as a phase, I must take issue with him on a number of points. First, the assumption that CS is introduced as a KP is an ad hoc stipulation that is not justified theoretically; its sole function here is to solve the issue of the linear word order within CS. Minimalism seeks to reduce the number of projections and the derivational steps; KP does not seem to be consistent with this idea as it contains unnecessary multiple functional projections that complicate the process of the derivation. Second, DP1 (the head) is contained within the structure of DP2; if DP structure proves to be a phase, extraction of DP1 would not be possible. In fact, it is unclear why DP1 moves to the specifier of KP. Under the standard assumptions of Phase Theory, Case feature does not derive movement and once this feature is probed by a higher head it is valued and deleted in situ, so the Phase is transferred to LF and PF interfaces, otherwise, the derivation crashes. Third, if we accept, for the sake of argument, that the head noun in CS is an indefinite DP, we find that the behavior of the attributive adjectives as in (3a) above refutes this analysis. If the head noun is analyzed as a DP that undergoes movement to a left peripheral position (see (11) above), an attributive adjective modifying the head noun is expected to move with it because it is part of the DP structure. However, the data shows that movement of the attributive adjective is not allowed. The ill-formedness of (12) below strongly suggests that the head noun in CS is not a DP.

(12) *kitab-u al-azraq-u al-mudaris-i al-jadeed-i book-nom the-blue-nom the-teacher-gen the-new-gen 'The new teacher's blue book.'

The use of the adjective in (12) above provides a further argument against the indefinite DP analysis of the head noun in CS and it reveals that such a noun should be analyzed as a bare N. Adjectives in MSA show full agreement with the nouns they modify in in/definiteness, φ -features, and Case feature. The use of the definite adjective in (3b) above to modify the head noun implies that the latter is definite. This is true as the head noun receives in/definiteness from the associate DP as mentioned earlier. This view is confirmed by (13) below where the head noun has indefinite interpretation as it is associated with an indefinite possessor. Therefore, the agreeing modifying adjective is indefinite.

(13)	kitab-u	mudaris-in	qadeem-un
	book-nom	teacher-gen	old-nom
	'A teacher's o		

I will clarify in section 4 below that CS is a DP with a lexical core within which the features of the head noun are copied on the modifying adjectives. Building on these observations, I argue that Almansour's indefinite DP analysis of the head noun is unattainable, and it does not capture CS structure.

3.3. Jarrah et al. (2020)

A recent, and more consistent with the minimalist assumptions, analysis of CS is found in Jarrah et al. (2020) who investigate CS in Jordanian Arabic and assume that its D head has a set of unvalued φ -features which are valued under Agree between D and the associate DP that stands in the specifier position of NP. They observe that when the associate DP is referential it is coindexed with a bound morpheme (homophonous with the possessive pronoun) attached to the head noun. This morpheme does not exist, however, if the associate DP is not referential as the contrast between (14a) and (14b) below shows.

(14)	a.	galam-ha _i ?il-binit _i pen-her DEF-girl 'The girl's pen'	(Jarrah et al 2020, 3)
	b.	*barbii∫-uh _i ?il-ʁaaz _i pipe-SG.M DEF-gas Intended: 'gas pipe'	(Jarrah et al 2020, 4)

Jarrah et al. argue that the pronoun-like element attached to the head noun in (14a) above should not be analyzed as a pronoun, as this analysis is ruled out based on Binding Theory. Rather, they assert that this element is "an inflection that results as byproduct of the morphosyntactic valuation of D's uninterpretable features by the DP associate of CS" Jarrah et al (2020, 14). Therefore, they draw a distinction between what they call φ -inflectional CS and non- φ -inflectional CS. In the former type, the existence of the inflectional element is strongly associated with the referentiality of the co-indexed associate DP, as in (14a). By contrast, in non- φ -inflectional CS, as in (14b), the use of the inflectional element is not allowed because the associate DP is not referential. Jarrah et al propose different analyses for the two types of CS. On the one hand, in φ -inflectional CS, the associate DP is referential by virtue of having a person feature among its φ -features. Therefore, this referential DP is dubbed as φ -complete. In non- φ -inflectional CS, on the other hand, the associate DP is non-referential and it is considered as φ *incomplete* because it lacks person feature. Accordingly, they argue that only a φ -complete DP can value and delete the uninterpretable φ -features of D under Agree. By contrast, the φ -incomplete DP cannot be part of Agree to value the D's features. To solve this problem, Jarrah et al assume following Epstein et al (2010) that the unvalued uninterpretable φ -features that are not valued during the course of the derivation need not be valued and deleted and they therefore are ignored at LF and PF interfaces. Regarding Case feature of goal DP, they claim that it "has inherent Case, which needs no valuation whatsoever" (Jarrah et al. 2020, 19). Under the basic assumptions of Agree Theory as discussed in Chomsky (2008), assuming that the DP can be probed even if it does not have unvalued Case is not well-worked out within the minimalist framework. Agree operation takes place between a probe and a goal providing that they both are active. A DP qualifies as an active goal that is available for Agree if it has valued φ -features and unvalued Case feature. Case feature is, as Chomsky (1995) argues, a formal feature the derives the computation. I shall argue below, contra Jarrah et al. (2020), that this feature is structural genitive Case that is valued under Agree. Another possible drawback of this line of analysis is the claim that the nonreferential DP is introduced with an incomplete set of φ -features. A DP with incomplete φ -features

and Case feature that does not need valuation suggests the absence of Agree operation as they argue. This would imply that the derivation crashes even before it reaches the LF and PF interfaces.³

4. The Analysis

The analysis that this paper puts forward is straightforward and attempts to avoid the problems of the previous analyses pointed out in the previous section. It builds on Abney (1987), Ritter (1991) and Jarrah et al. (2020) and assumes that CS is a DP with a structure that involves N to D movement and that its derivation is feature-based. This analysis, in fact, contradicts Shlonsky's (2004, 2012) view that the structure of CS involves NP movement to Spec, DP. Shlonsky (2012) argues against N to D movement and assumes that the head of CS moves as NP and that this movement takes place to bring φ -features to the edge of the DP so they can be probed by external heads. Shlonsky concludes his (2004) analysis by asserting that "[f]or reasons that remain unclear, nouns fail to move as heads in the grammars of Hebrew and Arabic" (Shlonsky 2004, 1521). However, he clarifies later that "phrasal snowballing movement trumps head movement in Semitic DP" (Shlonsky 2012, 283). I propose that CS has the structure (15) below where the head noun originates as the head of NP forming a lexical core with a specifier position in which the associate DP is base generated. This NP is then merged with D creating a DP projection.



The functional head D requires lexical support in the same way as the functional head v in the vP phase does.⁴ In the vP phase, the lexical core VP is a projection of the lexical head V which undergoes movement to the functional head v. The Spec, vP position hosts the external argument of the verb while the internal argument appears as a complement of V (see Radford 2004 for a simple and easy to follow explanation of VP shells and split VP structure). To clarify, the derivation of the simple sentence in (16a) below proceeds as follows: after the lexical V is merged with its internal argument (the object), the resulting projection VP is merged with the functional head v. V moves to v to lexically support it and consequently enable the functional head T which in turn initiates Agree with the DP subject that is in spec, vP. The structure (16b) below depicts this unit of computation.

(16) a. qa:bal-a al-walad-u al-mudarris-a met.3ms the-boy-nom the-teacher-acc 'The boy met the teacher.'



This similarity strongly suggests that DP has a phasal status and that its structure is closer to vP structure than to CP structure as Chomsky (2008) postulates. I assume that D, the head of CS in the structure (15) above, has unvalued φ -features in addition to a valued Poss feature (cf. Kremers 2009). This head serves as a probe that searches its domain for a matching active goal to value its features. It locates the associate DP as a goal that is active by virtue of having an unvalued Case feature. Agree is established and it results in the valuation and deletion of the probe's φ -features and the goal's Case feature. I suggest here, contra Abney (1987) and Jarrah et al. (2020), that the associate DP Case is structural genitive that is assigned by syntactic means. In Chomsky (1981) structural Case is distinguished from Inherent Case; the former is the outcome of structural configuration while the latter is dependent on thematic relations. Since Case value on the associate DP results from the configurational Agree relation, it should be analyzed as structural Case.⁵ The DP-internal Agree relation between D, the head of CS, and the associate DP is schematized as follows:



The head N of the lexical core NP has its own valued φ -features and unvalued Case feature which renders the whole DP (i.e. CS) an active goal that is available for Agree with a higher probe that is external to the structure of CS. In other words, CS as a DP has a grammatical function at the clause level as a subject or an object. When CS functions as a subject in (18a) below, the head noun bears nominative Case. When it functions as an object as in (18b) it has accusative Case.

- (18) a. jaa' wa:lid-u at-ta:lib-i came father-nom the-student-gen 'The student's father came.'
 - b. qa:bal-tu wa:lid-a at-ta:lib-i met-I father-acc the-student-gen 'I met the student's father.'

The contrast between (18a) and (18b) above confirms that CS as a DP has unvalued Case feature that is valued by different c-commanding heads. Being a subject in (18a), CS receives nominative Case under Agree with T. In (18b) on the other hand, CS as an object receives accusative Case under Agree with v.

This analysis captures adequately the order in which the attributive adjectives appear with respect to the modified noun, as in (3b) above. The adjective that modifies the head noun exists within the structure of NP; N movement leaves behind the modifying adjective, therefore, N in D and the modifying adjectives are apart from each other. I follow the standard assumption in the minimalist literature as in Chomsky's work that the whole DP has the valued φ -features and the unvalued Case feature of N the head of the lexical core NP, which is the locus of φ -features and Case feature. The DP projection is a φ complete goal that is available for Agree with an external head; when Agree relation takes place, the unvalued uninterpretable φ -features of the external head as well as the unvalued Case feature of the DP are valued. The valued Case feature of the DP is projected morphologically on the head noun. I tentatively assume in the sense of Pesetsky and Torrego (2007), Danon (2010) and Fakih (2017) that Case feature in addition to φ -features of the head noun are spread (or shared) within NP and copied on the modifying attributive adjectives.⁶ The associate DP has its own internal structure where the modifying adjective follows the modified noun; the structural genitive Case it receives is copied on the modifying adjective. Despite the superficial adjacency of the attributive adjectives in (3b) above, they belong structurally to different projections.

5. Conclusion

The notion of phase is central to MP as the syntactic operations Move and Agree (and Case valuation as a product of Agree) are Phase-based. This paper has shown that CS is a DP phase which has a protected domain. The Internal structure of CS is built by head movement of the head noun from N to D. This head movement is then followed by Agree relation that applies between D and the associate DP to value and delete all their unvalued features. The paper has shown that D, the head of CS, has a set of unvalued uninterpretable φ -features in addition of valued Poss feature; however, this D requires lexical support. Therefore, N moves from its base position to D. With these features, D probes the associate DP as a matching active goal with which it agrees. The outcome of this agreement is the valuation and deletion of D's feature and Case feature of the associate DP which is realized as structural genitive. CS as a DP enters Agree with external heads as a normal DP with φ -features and unvalued Case feature that are carried by the head noun, the locus of these features. The paper has also shown that the attributive adjectives remain in their positions within the NP projections. The proposed analysis is straightforward, and it captures the word order facts without the need for any subsequent PF linearization process to ensure that the surface word order is achieved. Move and Agree in Arabic Construct State: A Phase-based Analysis

النقل التركيبي والمطابقة في بنية الإضافة في اللغة العربيَّة: تحليل أدنوي

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الملخص

تهدف هذه الدراسة إلى تحليل البنية الداخلية لشبة الجملة "الإضافة" في اللغة العربية وفقاً لنظرية الطورالمرحلي المستحدثة ضمن برنامج تشومسكي الأدنوي وتبيان الآلية التي يتم بواسطتها ترتيب المضاف والمضاف إليه وتحديد الحالة الإعرابية لكل منهما. لا تتطلب عملية بناء شبه الجملة من المضاف والمضاف إليه أي خطوات ترتيبية للمكونات اللفظية في مرحلة لاحقة للاشتقاق، وإنما يتم تحديد الترتيب الظاهري لتلك المكونات نتيجة لعملية نقل نحوية تستهدف المضاف الذي يشكل رأساً لعبارة اسمية هي مركز السمات التأويلية فتنقله إلى موقع رأس بنية الطورالذي يحوي كلاً من المضاف والمضاف إليه، وهذا الرأس هو المسؤول عن تحديد حالة الجر للمضاف إليه، أما المضاف فتحدد حالته الإعرابية بناء على علاقته بعنصر خارج إطار شبه الجملة.

الكلمات المفتاحية: نظرية الطور المرحلى، نظرية المطابقة، البرنامج الأدنوي، بنية الإضافة، مركب حدي.

Endnotes

¹ Internal Merge was introduced in Chomsky (2004). It corresponds to Move in Chomsky's (1998, 2001) work.

- ² In Chomsky (2008), vP phase is refined to v*P where the functional head v* is associated with argument structure.
- ³ An improvement of this analysis to capture the existence of the inflectional element in (14a) might be obtained by postulating that it has a null preposition. The data support this conclusion; some speakers of Jordanian Arabic would use the following sentence in different contexts:

(i)	um-ha	li-l-bent	zarat	al-madrasah
	mother-h	eri of-the-girli	visited.3ms	the-school

'The mother of the girl visited the school.'

- Assuming that a preposition exists, the inflectional element should be analyzed as a possessive pronoun and the structure does not pose a challenge. Binding Theory allows it and there would be need for assuming that Case need no valuation. Referentiality/nonreferentiality of the associate DP is pragmatic in nature; its interpretation is dependent in the context.
- ⁴ It is worth mentioning here that N to D movement also derives the structure of the simple definite DP in Arabic as assumed in Travis (1984) and Fassi Fehri (1993) among others. The definite article which occupies D position is affixial (i.e. a bound morpheme) that requires lexical support. Due to this affixial nature of the definite article, N to D movement takes place (Fassi Fehri 1993, 1999).
- ⁵ In Chomsky (1986), it is assumed that Inherent Case is dependent on Theta role assignment as a requirement of the Uniformity Condition. I claim in this paper that Structural Case may coexist with inherent Case if the latter is only treated as thematic relationship that holds between the possessum and the possessor.
- ⁶ Note that the adjectival agreement in MSA noun phrases is beyond the scope of this paper and is left for further research. For the sake of consistency, I suffice here to claim that the noun features are spread in the NP projection.

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