ANALYZING ARABIC DEMONSTRATIVES IN THE EXTENDED NOMINAL PROJECTION

by
Kamel Abdelbadie Elsaadany
Salwa Muhammed Shams

Arabic demonstratives can appear in prenominal or postnominal positions. This paper suggests a unified analysis for this different word order. It proposes that Arabic demonstratives are generated in a low position inside the extended nominal projection, and they can be realized at PF either prenominally or postnominally. It adopts the antisymmetry hypothesis proposed by Kayne (1994) and the internal structure and movement hypothesis of nominals proposed by Cinque (1994). The demonstrative existence in the prenominal position is accounted for by moving the demonstrative from its base position to [Spec, DP] before Spell-Out. The study concluded that: a) the postnominal demonstrative is realized in the specifier of a functional projection lower than all other functional projections, b) the functional projection that contains the postnominal demonstrative immediately dominates either the functional projection containing the postnominal possessive or the NP projection, and c) a noun modified by a demonstrative behaves like a referential nominal expression, and a noun modified by a postnominal demonstrative is subject to the same referential interpretation that characterizes the noun when the demonstrative appears in [Spec, DP] at PF.

KEYWORDS: Arabic Demonstratives, Antisymmetry, Extended Nominal Projection, Syntax

1. Introduction

Demonstrative modifiers in Arabic can appear either in prenominal position as shown in (1), or in postnominal position as shown in (2).

(1) a. haδa / δalika ʔal-walad
this / that the-boy
'this/that boy'

b. ha?ula:?i / ?ula:?ika ?al-?awla:d
these / those the-boys
'these/those boys'

(2) a. ?al-walad-u haδa / δalika
the-boy this / that
'this/that boy'

b. ?al-?awla:d-u ha?ula:?i / ?ula:?ika
the-boys these / those
'these/those boys'

In this paper, we suggest a unified analysis for the two different word orders in (1) and (2). The paper is organized as follows. Section 2 provides the theoretical framework upon which the unified analysis of demonstratives is based. It discusses the principles of antisymmetric syntax as developed by Kayne (1994). It also discusses the structure of nominals as proposed by Cinque (1994). In Section (3), we discuss Arabic demonstratives and propose that the demonstrative modifier in Arabic is always generated in a low position inside the extended nominal projection. At the Phonological Form (PF), the demonstrative can be realized as either in a postnominal position as in (2), or in the prenominal position as in (1). The existence of demonstrative modifier in the prenominal position is due to the movement of such demonstrative from its base position to [Spec, DP] before Spell-Out. This section also shows how the demonstrative modifier is generated in the specifier of a functional projection lower than all the other functional projections containing the different classes of adjectives and immediately superior either to the functional projection whose specifier is occupied by the postnominal possessive or to the NP projection.

In Section 4, we try to extend our unified analysis of demonstratives to other languages. We show that in those languages in which the demonstrative always appears in [Spec, DP] at PF, the demonstrative is generated in the same position as argued by Brugè and Giusti

(1996) for Spanish. We also propose that cross-linguistic variation regarding the obligatoriness, the optionality, or the impossibility for the demonstrative to raise to [Spec, DP] before Spell-Out can be accounted for by suggesting that the referential feature on the demonstrative has to be checked already at PF in the first case, either at PF or at Logical Form in the second case, and has to be delayed until Logical Form in the third case. Finally, Section 5 discusses the results of study and relevant conclusions are drawn.

2. Theoretical Framework

There are many different studies and approaches that deal with the structure of nominal clauses and demonstratives both in Arabic and other languages. Some of these studies are Fassi Fehri and Vinet (2008), Khalfaoui (2009, 2004), Shlonsky (2004), Benmamoun (2000), Diessel (2006, 1999), Dixon (2000), and Strauss (2002). In this paper, we adopt both the antisymmetric approach proposed by Kayne (1994) and the analysis of the structure of nominals proposed by Cinque (1994). This section provides some details of the two approaches upon which our unified analysis of demonstratives is based.

2.1 The Antisymmetry Approach

Kayne (1994) has proposed in his theory of antisymmetry of syntax, which was originally formulated to derive the effects of X-bar theory, the following notions. First, he proposes the antisymmetry Linear Correspondence Axiom (LCA) which is supported with a particular definition of antisymmetric c-command to allow only VSO and OVS as underlying word order. Secondly, he also proposes an abstract beginning node that asymmetrically c-commands all other nodes, and which is supposed to further exclude OVS as a possible word

order so that one can conclude that SVO constitutes the universal underlying word order.

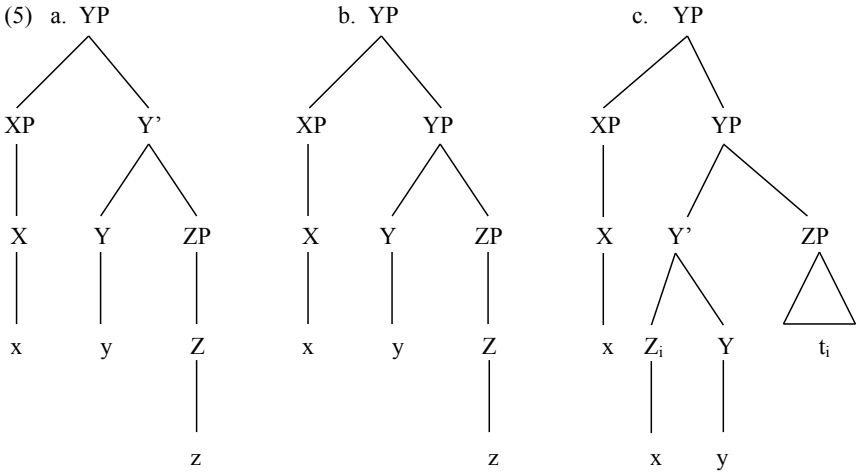
The major assumption of Kayne's (1994) approach is that of "*asymmetric c-command*". Before defining Kayne's asymmetric c-command, it is worthy to mention Chomsky's (1986) definition of c-command as compared to Kayne's (1994) definition of c-command and asymmetric c-command. The definitions in (3-5) show these contrasts of definitions.

(3) *C-Command*:

a. α c-commands β if α does not dominate β and every γ that dominates α dominates β. (Chomsky 1986:8)

b. X c-commands Y iff X and Y are categories and X excludes Y and every category that dominates X dominates Y. (Kayne 1994:9)

(4) *Asymmetric C-Command*:
X asymmetrical c-commands Y iff X c-commands Y and Y does not c-command X. (Kayne 1994:2)



From the above definitions of c-command, one can see that Kayne's definition of c-command in (3b) differs from Chomsky's definition of c-command in (3a). Such difference lies in Kayne's reference to categories (i.e. the sum of all segments of a node) and exclusion (where X excludes Y if no segment of X dominates Y). The difference becomes more relevant when we reconsider the role that asymmetric c-command plays in LCA. Basically, asymmetrical c-command in (4) states that in the case of any two terminals, one is dominated by a non-terminal which asymmetrically c-commands a non-terminal dominating the other, but not vice versa.

Regarding the trees in (5), both c-command definitions yield equivalent results for the specifier-head-complement structure in (5a). According to Kayne's c-command, XP asymmetrically c-commands Y and Y' asymmetrically c-commands X, so that each of the terminals *x* and *y* are dominated by a non-terminal dominating the other terminal. On the other hand, according to Chomsky's c-command definition, the lower YP-segment asymmetrically c-commands X and XP asymmetrically c-commands Y in (5b), a situation which is similar to the one in (5a). Things are different in (5c). Neither of the terminals *z* and *y* is dominated by a non-terminal that asymmetrically c-commands a non-terminal dominating the other terminal, since Z_i and the lower *y*-segment (symmetrically) c-command each other. According to Kayne's c-command definition, XP still asymmetrically c-commands Y in (5b). There is now no non-terminal dominating *y* which asymmetrically c-commands a non-terminal dominating *x*: since only categories may c-command and since no segment of the c-commander may dominate the c-commandee, neither the lower YP-segment nor YP as a whole c-commands X. For the same reasons, neither does the lower Y-segment nor y as a whole c-command Z_i in (5c). Z_i ends up asymmetrically c-commanding Y (both are dominated by the same categories, YP and Y'). Such approach will play a major role in forming our proposed unified analysis of demonstratives in this paper.

In order to refer to the set of terminals that a non-terminal dominates, Kayne (1994) introduces the concept of an image under the dominance of the non-terminal category X, d(X), as defined in (6a). The dominance images of non-terminals in (5a, b) are listed in (7a, 8a) respectively. Kayne extends the image concept from single non-terminals to ordered pairs of non-terminals as in (6b). If we assume that the ordering relation of <X,Y> is "X asymmetrically c-commands Y", then the dominance images of pairs of non-terminals ordered by asymmetric c-command in (5a, b) are listed in (7b, 8b), respectively. Finally, the image concept can be extended from ordered pairs of non-terminals to sets of ordered pairs of non-terminals as in (6c). If we then assume that *A* is the maximal set of pairs of non-terminals <X,Y> where X asymmetrically c-commands Y, then the dominance images of the sets of pairs of non-terminals ordered by asymmetric c-command in (5a, b) are given in (7c, 8c) respectively.

(6) a. d(X) = the set of terminals that the non-terminal category X dominates

b. d<X,Y> = the Cartesian product of d(X) and d(Y) = the set of all ordered pairs {<a,b>} such that *a* is a member of d(X) and *b* is a member of d(Y).

c. d(A) = the union of all d<X,Y> for <X,Y> ∈ A

(7) a. d(YP) = {x,y,z}
d(Y') = {y,z}
(Y) = {y}
d(XP) = d(X) = {x}
d(ZP) = d(Z) = {z}

b. d<XP, Y> = {<x,y>}
d<XP, ZP> = d<XP, Z> = {<x,z>}
d<Y',X> = {<y,x>}
d<Y,Z> = {<y,z>}

c. d(A) = {<x,y>,<x,z>,<y,x>,<y,z>}

(8) a. d(YP) = {<y,z>}
d(Y) = {Y}
d(XP) = d(X) = {x}
d(ZP) = d(Z) = {z}
b. d<XP, YP> = {<x,y>,<x,z>}
d<XP, Y> = {<x,y>}
d<XP, ZP> = d<XP, Z> = {<x,z>}
d<Y,Z> = {<y,z>}
c. d(A) = {<x,y>,<x,z>,<y,z>}

Kayne (1994:2) also provides the concept of linear ordering, which is an essential concept for understanding the LCA. Kayne's proposal of linear ordering is that it is determined by hierarchical structure, such that different linear orders must be associated with different hierarchical structures. According to Kayne (1994:2), the linear ordering of terminal elements in a phrase marker has three defining properties as shown in (9), where L is the ordering relation in question and S is the set of elements under consideration (L linearly orders the elements in S iff (9a-c)).

(9) a. It is *transitive*, i.e. xLy ∧ yLz ⇒ xLz (i.e. if *x* precedes *y*, and *y* precedes *z*, then *x* precedes *z*.)
b. It is *total*, i.e. x ∈S ∧ y ∈S ⇒ xLy ∨ yLx (i.e. for all pairs of elements *x* and *y* in a linearly ordered string, either x precedes *y* or y precedes *x*.)
c. It is *antisymmetric*, i.e. ¬ (xLy ∧ yLx)(i.e. it is impossible for *x* to precede *y* and y to precede *x*.)

To illustrate Kayne's concept of linear ordering, the ranking teams of the last 2008 African Nations Soccer Cup is a good example. The ranking or ordering of the winning teams was as follows: Egypt (first), Cameroon (second), and Ghana (third). A formal representation of this competition winning order would be {<Egypt,

Cameroon>,<Cameroon, Ghana>,<Egypt, Ghana>}. This ordering is linear since it is *transitive* (given that Egypt was better than Cameron and Cameroon was better than Ghana, Egypt was better than Ghana), *total*, and *antisymmetric* (for any two of the three teams, one was better than the other but not vice versa). This linear ordering can be illustrated in Figure (1).

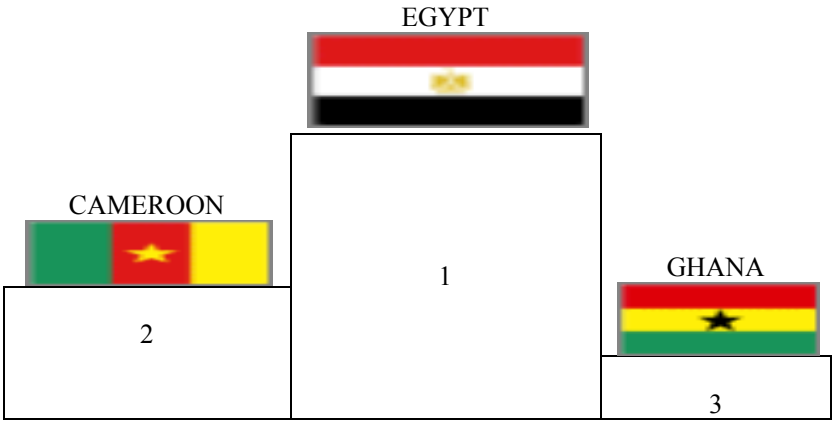


Figure 1: A Linear Ordering

It is essential to note that a linear ordering based on a hierarchical relation such as "*x* was a better soccer team than *y*" does not impose any restriction on its representation in time and space. At the cup ceremony (cf. Figure 1), the best team is located high and in the middle, with the runner-up lower to its left and the third-placed contestant lowest to its right, but this arrangement is conventional and any other agreed upon order would do just as well. To put it differently, the pair <Egypt, Cameroon> translates into 'Egypt was a better soccer team than Cameroon", but not into e.g., "Egypt spatially (or temporally) precedes (or follows) Cameroon".

2.2 The Linear Correspondence Axiom

After explaining his assumptions of asymmetric c-command, dominance image, and linear ordering, Kayne (1994) provides his main concept of the Linear Correspondence Axiom in (10).

(10) *Linear Correspondence Axiom (LCA)*
Let P a phrase marker, T the set of P's terminals and A the maximal set of ordered pairs {<X,Y>} such that X and Y are non-terminals in P and X asymmetrically c-commands Y. Then d(A) is a linear ordering of T.

As seen from the above stipulation of LCA in (10), (5a) is excluded as a phrase structure whereas (5b) is a possible phrase structure. This can be confirmed if we reconsider the images of their maximal sets of pairs of non-terminals ordered by asymmetric c-command in (7c) and (8c). The d(A) of (5b) in (6c) is not a linear ordering of the set of (5a)'s terminals, because it is not antisymmetric: it contains both <x,y> and <y,x>. The d(A) of (5b) in (8c) on the other hand is a linear ordering of the set of (4b)'s terminals, because it is transitive, total, and (due to the absence of <y,x>) antisymmetric.

An immediate consequence of the LCA is that all specifiers (including subjects) must be adjuncts to XP instead of sisters of X' under XP. This will help us in arguing for our proposed unified analysis of demonstratives. Still, this result is welcome in the sense that all categories are now either heads or phrases, and problematic in the sense that the D-and S-structure positions of subjects cannot be straight-forwardly distinguished from those of adjuncts. The LCA has some other consequences for clause structure. It positively supports the derivation of X'-theory, structure preservation, and the head movement constraints; three notions that need to be illustrated in some detail in the next sub-sections.

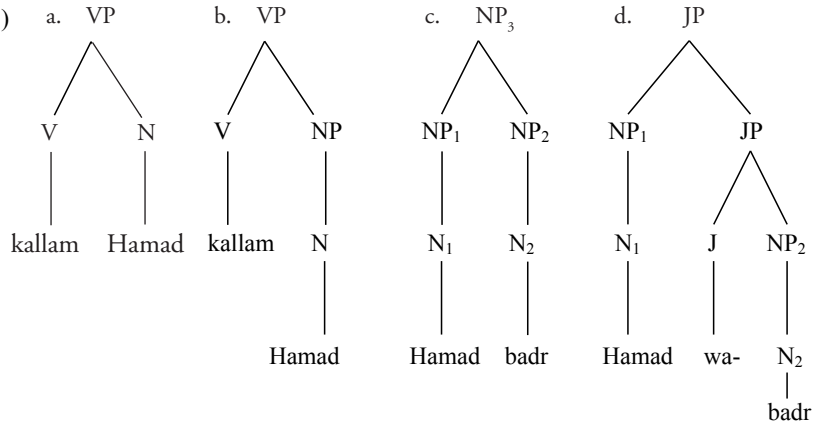
2.2.1 The LCA and Clause Structure

This section shows that the LCA derives significant properties of clause structure. The LCA excludes both double-headed and headless phrases. It prohibits both head-adjunction to maximal projections other than the root-node and phrase-adjunction to heads. It also blocks circumventing the Head Movement Constraint (Travis 1984) by adjoining a skipped-over head to the target of long head-movement. These results are discussed next.

2.2.1.1 The LCA and X'-theory

The X'-theory requires that every maximal projection to directly dominate exactly one head. The LCA goes a long way towards this stipulation in deriving X'-theory. To illustrate this point, consider the trees in (11) and their projections in (12).

(11)



(12) a. A = Ø d(A) = Ø

b. A = {<V,N>} d(A) = {<kallam,Hamad>}

c. A = {<NP_1,N_2>,<NP_2,N_1>} d(A) = {<Hamad, badr>, <badr, Hamad>}

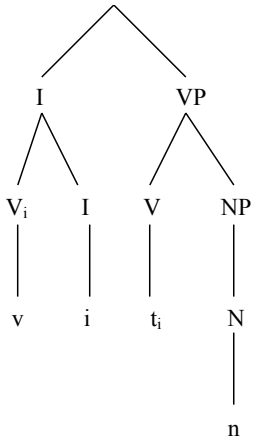
d. A = {<NP_1,JP>,<NP_1,J>,<NP_1,NP_2>,<NP_1,N_2>,<J.N_2>}
d(A) = {<Hamad, wa->,<wa-, badr>,<Hamad, badr>}

2.2.1.2 The LCA and Structure Preservation

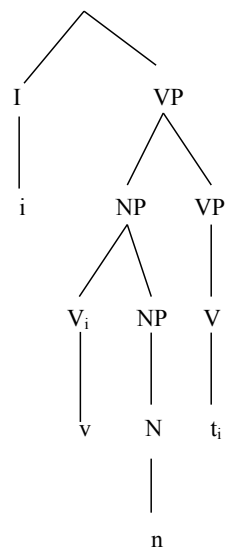
The LCA allows heads to adjoin to other heads but not to maximal projections and maximal projections to adjoin to other maximal projections but not to heads. This is called "structure preservation".

Adjunction of a head to a head leads to a well-formed tree as shown in (13a) whose d(A) is a linear ordering of its terminal as illustrated in (14a). Adjunction of a head to a maximal projection that is c-commanded by another head is illicit whether that maximal projection is the [Spec] of the complement of the higher head as shown in (13b) or the complement of the higher head itself as

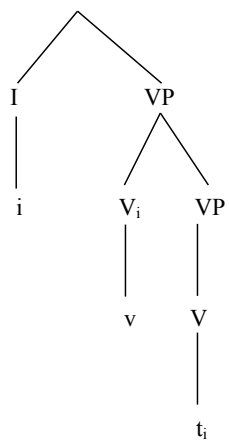
(13) a.



b.



c.



illustrated in (13c). The problem in either case is that because I and V_i symmetrically c-command each other, the d(A) does not establish a ranking between the two heads (cf. the fact that neither <i,v> nor <v,i> is contained in the d(A)'s of (13b, c) in (14b, c). This violates the LCA consequence of being non-total, thus d(A) is not a linear ordering of the terminals.

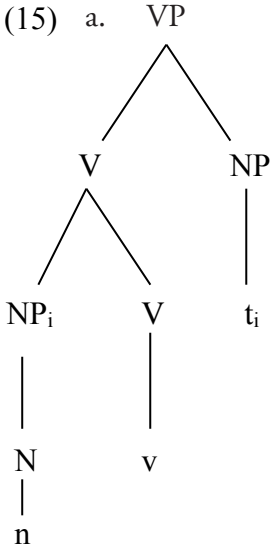
(14) a. A= {<V_i,I>,<V_i,V><V_i,NP>,<V_i,N>,<I,V>,<I,NP>,<I,N>, <V,N>}
d(A) = {<v,i>, <v,t_i>,<v,n>,<i,t_i>,<i,n>,<t_i,n>}

b. A = <I,N>,<I,V><NP,VP>,<NP,V>,<V_i,NP>,<V_i,N>,<V_i, VP>,<V_i,V>}

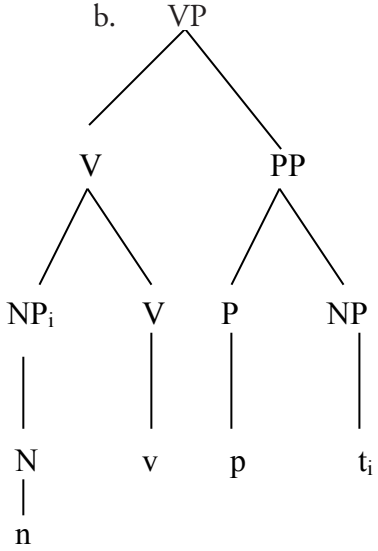
c. A = {<I,V_i>, <V_i,VP>,<V_i,V>}
d(A) = {<i,t_i>, <v,t_i>}

Adjunction of a maximal projection to a maximal projection leads to a well-formed tree as shown in (5b, 11d) whose d(A) is a linear ordering of its terminals (cf. 8, 12d). Adjunction of a maximal

(15) a.



b.



projection to a head is illicit, regardless of whether the adjunct is the complement of the head as in (15a) or a phrasal part of that complement as in (15b). The d(A) of the first case is not total since it contains neither <v,t_i> nor <t_i,v> as in (16a) due to the fact that V and NP symmetrically c-command each other. As for the d(A) in the second case, it is not antisymmetric since it contains both <n,p>, <t_i,n> and <p,n>, <n,t_i> because NP_i asymmetrically c-commands P and NP and PP asymmetrical c-commands N.

(16) a. A = {<NP_i,V>,<NP,N>} d(A) = {<n,v>,<t_i,n>}
b. A = {<NP_i,V>,<NP_i,P>,<NP_i,NP>,<V,P>,<V,NP>,<PP, N>}
d(A) = {<n,v>,<n,p>,<n.t_i>,<n,p>,<v,p>,<v,t_i>,<p,n>,<t_i, n>}

2.2.1.3 The LCA and Head Movement Constraint

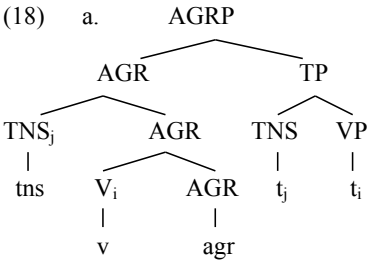
The Head Movement Constraint stated in (17) has been proposed by Travis (1984:131). It requires head-to-head movement to be strictly cyclical without any leaps over intermediate heads.

(17) *Head Movement Constraint* (HMC)
An X^0 may only move into the Y^0 which properly governs it.
(Travis 1984:131)

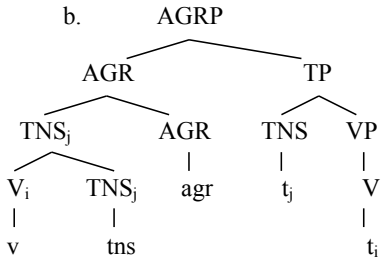
For Travis, the HMC follows from the Empty Category Principle (ECP). Other scholars such as Johnson (1992) and Rohrbacker (1993) do not support the assumption that the HMC follows from the ECP. They show that a head can skip over another head and still govern its trace if the intervening head is adjoined to the target of long head movement as illustrated in (18a), which is ruled out by the LCA.

(18a) is ruled out by the LCA since neither of the two terminals *tns* and *v* is dominated by a non-terminal that asymmetrically c-commands a non-terminal dominating the other terminal. This is shown in (19b) where (18a)'s d(A) does not contain either <tns,v> or <v,tns>. Thus it is nontotal and not a linear ordering of (18a)'s terminals. By contrast, cyclic head movement results in the well-formed tree in (18b) with the d(A) in (19b), which is a linear ordering of (18b)'s terminals.

(18) a.



b.



(19) a. A = {<TNS$_j$,AGR>,<TNS$_j$,TNS>,<TNS$_j$,VP>,<TNS$_j$,V>,
<V$_i$,AGR>,
<V$_i$,TNS>,<V$_i$,VP>,<V$_i$,V>,<AGR,TNS>,<AGR,VP>,<AGR,V>,<TNS,V>}

d(A)= {<tns,agr>,<tns,t$_j$>,<tns,t$_i$>,<v,agr>,<v,t$_j$>,<v,t$_i$>,<agr,t$_j$>,<agr,t$_i$>,<t$_j$,t$_i$>}

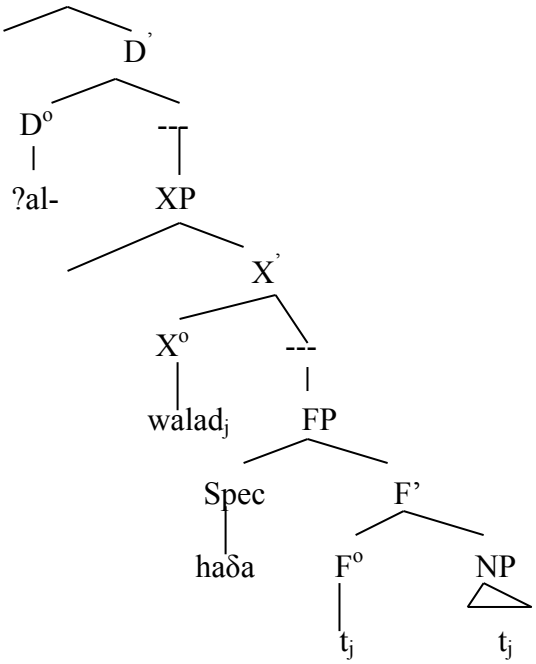
b. A = {<V$_i$,TNS$_j$>,<V$_i$,AGR>,<V$_i$,TNS>,<V$_i$,VP>,<V$_i$,V>,
<TNS$_j$,AGR>,
<TNS$_j$,TNS>,<TNS$_j$,VP>,<TNS$_j$,V>,<AGR,TNS>,<AGR,VP>,<AGR,V>,<TNS,V>}

d(A) = {<v,tns>,<v,agr>,<v,t$_j$>,<v,t$_i$>,<tns,agr>,<tns,t$_j$>,<tns,t$_i$>,<agr,t$_j$>,<agr,t$_i$>.<t$_j$,t$_i$>}

2.3 The Structure of Nominals

In our analysis, we adopt the analysis of nominals proposed by Cinque (1994). According to this analysis, Cinque (1994) proposed that only head nouns move to higher functional heads, while modifiers stay in their base positions unless they need to check some features in higher specifies. Thus the order *Noun* > *Demonstrative* as illustrated in (2) before is accounted for by the movement of the noun to a higher head position as shown in (20).

(20)



As shown in (20), the low [Spec, FP] position occupied by the demonstrative must be taken to the base position as illustrated in (2), which has the order *Demonstrative* > *Noun*. This can be accounted for by moving the demonstrative to [Spec, DP] in order to check

some feature that is present in this landing site. Accordingly, this movement is triggered by feature checking as shown in (21).

(21) $[_{SpecDP}$ haδa$_i$ $[_{D^o}$ …$[_{XP}$ $[_{X^o}$ ʔal-walad$_j$ $][_{FP}$ t$_i$ $[_{F^o}$ t$_j$ $][_{NP}$ $[_{N^o}$ t$_j$ $]]]]]]]$

Such nominal structure will be crucial in forming our proposed unified analysis of demonstratives.

3. Arabic Demonstratives

3.1 Movement of Demonstratives

As shown in (2) and (22), Arabic demonstratives can be realized postnominally. We propose that the demonstrative in this case occupies the specifier of a functional projection (AgrP) which is immediately dominated by DP. To illustrate this, let us observe the following data in Arabic:

(22) a. ʔal-kita:b haδa /δalika ʔallaδi: nušira fi: 2008
the-book this/that that was-published in 2008
'This/that book was published in 2008.'

b. haδa /δalika ʔal-kita:b nušira fi: 2008
this/that the-book was-published in 2008
'This/that book was published in 2008.'

As proposed earlier, the Arabic demonstrative is generated in the specifier of an FP. According to this proposal, the demonstrative in (22a) appears after Spell-Out in the same position in which it is generated whereas the noun raises before Spell-Out to a higher X^o position. In contrast to (22a), the pronominal position the demonstrative occupies in (22b) is a derived position due to the movement of the demonstrative itself from [Spec, FP] to [Spec, DP] before Spell-Out.

Because of the grammaticality of (22a-b), we can propose that the movement of the demonstrative in Arabic to [Spec, DP] is optional before Spell-Out. This can be justified by adopting Chomsky's (1995) Minimalist framework which enables the demonstrative to move before Spell-Out. Accordingly, we can assume that the common noun that is modified by the demonstrative can be interpreted as a referential nominal expression. This means that the common noun which is modified by the demonstrative designates the entity which it refers to. Thus this noun can receive neither an existential nor a generic interpretation, as it is the case with proper names and pronouns.

On the basis of the above observations, we can propose that the demonstrative in Arabic makes the common noun it modifies behave like a proper name or a pronoun. Accordingly, the following assumption can be formulated in (23).

(23) The demonstrative is specified for the features [+Referential] and [+Deictic].

The assumption in (23) can be syntactically accounted for by the fact that a nominal in Arabic that is identified by a demonstrative cannot be further modified by a restrictive relative clause as illustrated in (24).

(24) a. haða / ðalika ʔal-kita:b ʔallaði: našara-hu fi: 2008 ,
this / that the-book that he-published-it in 2008
lamm yandʒaH
didn't succeed
'This/that book that he published in 2008 did not succeed.'

b. ʔal-kita:b haða / ðalika ʔallaði: našara-hu fi: 2008
the-book this / that that he-published-it in 2008
lamm yandʒaH
didn't succeed
'This/that book that he published in 2008 did not succeed.'

The sentences in (24) are considered well-formed provided that the relative clause is interpreted as 'appositive'. The restrictive interpretation of the relative clause is excluded.

As stated earlier, the D^o contains the referentiality feature [± REF] which can be checked by some element in the structure according to the following assumption following Longobardi (1994, (97), p. 659):

(25) All D positions are universally generated with an abstract feature ± R (suggesting "referential"), which must be checked with respect to at least one of its value.

According to (25), we can propose that in Arabic the [± REF] feature in D^o must be checked by the demonstrative. Such checking can take place either before or at Logical Form as suggested earlier. If the demonstrative movement is carried out before Spell-Out, then the [± REF] feature in D^o is checked already at this level of the Spec-Head agreement process. This will give constructions such as (22b). In such constructions, the head D cannot be lexically filled. On the other hand, if the movement of demonstrative is not carried out before Spell-Out, as in (22a), then the demonstrative movement rule must apply at Logical Form to satisfy the referential interpretation that the nominal must receive, which can be obtained in [Spec, DP] through the Spec-Head agreement process. In such cases, the head D has to be realized at PF.

This leads us to propose the following assumption for the demonstrative in Arabic:

(26) The demonstrative in Arabic can raise to [Spec, DP] optionally before Spell-Out, but it must raise to [Spec, DP] obligatorily at Logical Form.

The assumption in (26) can be accounted for by the fact that the interpretation of Arabic nominals modified by a demonstrative is

always referential, even in cases in which the movement process has not taken place before Spell-Out. One argument to support this assumption is given by the interpretation of (24b). The ungrammaticality of (27) below is another argument that supports the assumption provided by the interpretation of (24b).

(27) a. *ba9D ha?ula:?i ?al-ridʒa:l la-hum nadʒa:H saGi:r
some these the-men for-them success little
'Some these men have little success.'

b. *ba9D ?al-ridʒa:l ha?ula:?i la-hum nadʒa:H saGi:r
some the-men these for-them success little
'Some men these have little success.'

Example (27a) could be excluded since the DP *ha?ula:?i ?al-ridʒa:l* 'these men' cannot receive either the existential reading or the partitive case. These two interpretations are neither required nor assigned by the existential quantifier *ba9D* 'some' to its complement. According to our proposal, this can be accounted for by the presence of the demonstrative, which gives the DP itself the referential interpretation. Also, we can say that (27b) is excluded because of the presence of the demonstrative in postnominal position which makes the DP incompatible with the existential interpretation and the partitive case. However, if the existential quantifier is realized as a "definite partitive" PP, the presence of the demonstrative is possible either in prenominal or in postnominal position as shown in (28).

(28) a. ba9D min ha?ula:?i ?al-ridʒa:l la-hum nadʒa:H saGi:r
some of these the-men for-them success little
'Some of these men have little success.'

b. ba9D min ?al-ridʒa:l ha?ula:?i la-hum nadʒa:H saGi:r
some of the-men these for-them success little
'Some of these men have little success.'

For additional information about the incompatibility of partitive case with nonexistential nominal expressions, see the argumentations presented in Brugè and Brugger (1996).

The case in example (27) supports the hypothesis that there exists a strict relation between the low position in which we propose the demonstrative is generated and the position inside DP where the referential interpretation takes place. Accordingly, the [Spec, DP] is considered a derived position for the demonstrative in Arabic, to which it raises at least at Logical Form.

Another argument that supports the assumptions in (23) and (26) can be shown in the cases in (29).

(29) a. *haða ʔal-kita:b-i: 9an ʔal-muškilat-i nušira munð 9a:mayn
this the-book-my about the-problem was published from two years

a. *ʔal-kita:b-i: haða 9an ʔal-muškilat-i nušira munð 9a:mayn
the-book-my this about the-problem was published from two years

The case in (29a) is ill-formed since both the specifier and the head appear lexically filled in the DP projection. Likewise, the case in (29b) is ungrammatical even if only the head is filled by the possessive at PF. This leads us to conclude that at Logical Form the demonstrative must be interpreted in [Spec, DP]. In such cases, the demonstrative, which must raise to [Spec, DP] to check its [± REF] feature by Spec-Head Agreement, cannot satisfy this requirement since the same feature has been already checked by the possessive which has moved to D^o before Spell-Out. Thus, the [± REF] feature is no longer available for the demonstrative.

In the next section, we can see that the crucial empirical evidence for our hypothesis is the position the demonstrative occupies in the structure in relation to the other categories such as adjectives that belong to the extended nominal projection.

3.2 Order of Demonstratives and Adjectives in Arabic:

Abney (1987) and Bošković (2005) argue that the adjectives in languages with DP are outside an NP and that they have AP-over-NP structure. As we have argued before and as endorsed by Giusti (1997) and Brugè (2002), the position of demonstratives is in specifier position of a certain functional projection between DP and NP. Following Brugè (2002), we can argue that the base position of demonstratives in Arabic is lower than other functional projections that contain nominal modifiers such as adjectives as shown in the parameter in (30).

(30) The demonstrative in Arabic is generated in the specifier position of a functional projection intermediate between the DP and NP and lower than all the functional projections containing Adjective phrases (APs).

As can be seen from (30), both manner and thematic adjectives precede the postnominal demonstrative as illustrated in (31a) and (32a).

(31) a. ʔar-raD ʔal-baTi:ʔ Haða / ðalika sa-yuz9idʒ ʔal-mudaris
The-reply the-slow this / that will-bother the-teacher
'This/that slow reply will bother the teacher.'
b. *ʔar-raD Haða / ðalika ʔal-baTi:ʔ sa-yuz9idʒ ʔal-mudaris
The-reply this / that the-slow will-bother the-teacher
'This/that slow reply will bother the teacher.'

(32) a. ʔar-raD ʔal-ʔarabi: haða / ðalika yu9tabar Da9i:f-an
The-reply the-Arabic this / that is-considered weak
'This/that Arabic reply is considered weak.'
b. *ʔar-raD haða / ðalika ʔal-ʔarabi: yu9tabar Da9i:f-an
the-reply this / that the-Arabic is-considered weak
'This/that Arabic reply is considered weak.'

In contrast to the APs in (31) and (32), the genitive PP follows the demonstrative like all other complements of the noun in Arabic. The examples in (33) illustrate further this point.

(33) a. ʔar-raD (ʔal-baTi:) haðа / ðalika lil-ʔarab yu9tabar
The-reply (the slow) this / that of-the-Arab is-considered
Da9i:f-an
weak
b. *ʔar-raD (ʔal-baTi:) lil-ʔarab Haða / ðalika yu9tabar
the-reply (the-slow) of- the Arabs this / that is-considered
Da9i:f-an
weak

We can conclude that the nominal modifiers such as the adjectives and the demonstratives in Arabic are closer to the head than its complements, and hence, the elements outside NP precede complements of a noun which are assumed constituents internal to NP. This can be possible by moving the N to higher functional head. This conclusion is supported by the parameter in (30).

4. Cross-linguistic Variation on the Positions of Demonstratives

According to our analysis of Arabic demonstratives, we can say that the base position for the demonstratives is identical in all languages, which is a low functional position following the head N. We can then claim that the different realizations of demonstratives in various languages is due to the strength of the [+Referential] as illustrated in the parameter in (25) above. For example, languages such as Spanish, French, German, and Albanian, whose demonstratives always appear in [Spec, DP], are to have a *strong* feature that has to be checked before Spell-Out as shown in (34).

(34) French demonstratives (*Strong* feature: Move to [Spec, DP] before Spell-Out)
ce livre-ci / ce livre-là
this book-here / that book-there
'This book here / that book there.'

The French locatives in (34), *ci* 'here' and *là* 'there', marks the base position of the demonstrative as the Spanish construction (Brugè (2002:15) also shows in (35b).

(35) a. este / ese / aquel libro
This/that/that book
b. el libro este / ese / aquel
the book this / that / that
'This/that book'

The [+REF] feature of the demonstrative is *weak* in languages such as Hebrew and Irish, and thus the checking via movement must be realized in its base, i.e. in its postnominal position as shown in (36).

(36) Hebrew demonstratives (*Weak* feature; Checking takes place at LF)
(*ha-ze / ha-hu) ha-sefer (ha-ze / ha-hu)
(this (MASC) / that (MASC)) the-book (MASC)
(this (MASC) / that (MASC))

As can be seen from (36), the demonstrative in Hebrew must be realized in a postnominal position at LF. It can never raise to [Spec, DP] before Spell-Out. The crucial evidence for our hypothesis in Arabic is the position the demonstrative occupies in the structure related to the other categories that belong to the extended nominal projection.

Irish is another language in which the demonstrative must appear in a low position at LF. While (37a) shows that the demonstrative

forms *seo* 'this' and *sin* 'that' must be realized in postnominal position, (37b) shows that the demonstrative in Irish can never precede the adjective and can never follow a complement of a noun. The data in (37) comes from Ernest (1992).

(37) a. an fear seo/sin an leabhar seo/sin
The man this/that the book this/that
b. an leabhar (*seo) nua (seo) faoi teangolaíocht (*seo)
the book (*this) new (this) on linguistics (*this)
'This new book on linguistics'

As can be seen from the data in Hebrew and Irish, the movement of the demonstrative to [Spec, DP] is neither optional nor obligatory before Spell-Out. Contrary to languages such as Spanish, the demonstrative in Hebrew and Irish must move to [Spec, DP] only at LF in order to check its [+REF] feature.

4.1 The Demonstrative Parameter

As discussed so far, the cross-linguistic variation of the position of the demonstrative either in Arabic or in other languages referred to in the previous section assumes that the demonstrative is generated in a low position inside the extended nominal projection, i.e. in the [spec, DP] position as suggested in this paper. Furthermore, in the languages in which the demonstrative can appear only in the base position, the demonstrative must move to [Spec, DP] at LF in order to check its [+REF] feature.

This type of variation across languages depends on, as Chomsky (1995) argues, whether a particular feature is *strong*, i.e. the checking process occurs at PF, or *weak*, i.e. the checking process must occur only at LF. If the [+REF] feature is *strong* and the demonstrative is moved, this movement must take place before Spell-Out. On the

other hand, if the same [+REF] feature is *weak* and the demonstrative is moved, this movement must take place at LF, i.e. after Spell-Out. Following Brugè (2002:41), we can suggest the following demonstrative parameter in (38).

(38) Checking the [+REF] feature in [Spec, DP] is obligatory by LF.
   a. The demonstrative checks its [+REF] feature in [Spec, DP] before Spell-Out when this feature is *strong*.
   b. The demonstrative checks its [+REF] feature in [Spec, DP] after Spell-Out when this feature is *weak*.

The parameter in (38) can account for the different syntactic realization of the demonstrative in many languages referred to in this paper and many others. For example, (38a) accounts for the demonstrative behavior in languages such as Arabic, Italian, French, German, and Albanian in which the [+REF] feature is *strong* and thus the demonstrative appears in [Speck, DP] before Spell-Out. On the other hand, the parameter in (38b) accounts for other languages, such as Hebrew and Irish in which the [+REF] feature is *weak* and the demonstrative must check its movement to [Spec, DP] at LF, i.e. after Spell-Out.

5. Discussion and Conclusions

In this paper, we have shown that demonstratives can occur prenominally and postnominally. We have suggested that inside the extended nominal projection, there exists another functional projection in which the demonstrative is generated. The demonstrative occupies the [Spec, DP] of this functional projection.

Our major claim in this paper is to provide a unified analysis of Arabic demonstratives which can occur in prenominal and post-

nominal constructions. In other words, we have tried to account for the the following pairs in (39) and (40).

(39) a. haða ʔal-Hal li-l-muškilati
this the-solution to-the-problem
'This solution to the problem'

b. ʔal-Hal haða li-l-muškilati
the-solution this to-the-problem
'This solution to the problem'

(40) a. haða ʔal-kitab ʔal-dʒadi:d 9an ʔat-ta:ri:x
this the-book the-new about history
'This new book about History'

b. ʔal-kitab ʔal-dʒadi:d haða 9an ʔat-ta:ri:x
the-book the-new this about history
'This new book about History'

As we have explained in Section 2, we adopt the fundamental assumptions of both the antisymmetric hypothesis proposed by Kayne (1994) and of Cinque's (1994) proposed hypothesis on the internal structure of nominals and the movement of the noun (cf. the nominal structure 20). By adopting these hypotheses, we can conclude the following. Firstly, the postnominal demonstrative is realized in the [spec, DP] of a functional projection which is lower than all other functional projections that contain the different classes of adjectives. Secondly, the functional projection that contains the postnominal demonstrative immediately dominates either the functional projection containing possessive, if any, or the NP projection, provided that the postnominal demonstrative has to precede the postnominal possessive, the PP subject of the noun, and all other PPs complements of the noun as shown in (39b) and (40b). Finally, a noun modified by a demonstrative behaves like a referential nominal expression, and a noun modified by a postnominal demonstrative is subject to the same referential

interpretation that characterizes the noun when the demonstrative appears in [Spec, DP] at PF.

Accordingly, we have proposed that the demonstrative is specified for the features [+REF] and [+Deictic]. We have also suggested that if the referential interpretation occurs inside the DP, then the demonstrative must check its [+REF] feature in [Spec, DP] through Spec-Head Agreement (cf. Travis 1984:131) stated in (17). This has led us to claim that the demonstrative is generated in the [Spec, FP] of the suggested functional projection and that it must move from [Spec, FP] to [Spec, DP] for checking reasons. Thus the [Spec, DP] is considered a derived position for the demonstrative.

In Arabic, the demonstrative can appear either in its base position in (39a) and (40a), or in [Spec, DP] at PF as in (39b) and (40b). This leads us to conclude that the movement of demonstrative can apply optionally before Spell-Out and obligatorily at LF. If the demonstrative does not move to [Spec, DP] before Spell-Out in (39b) and (40b), the definite article *ʔal-* 'the' must be realized in D^o in order to show at PF that this position contains the [+REF] feature, which prevents it from being interpreted as existential.

The paper has extended its claims about Arabic demonstratives to include other languages such as Spanish, French, Irish, and Hebrew. Cross-linguistic variations reveal that the demonstrative is generated in the same position found in Arabic, i.e. [Spec, FP]. In order to account for the differences among languages, a parameterized principle stated in (38) provides accounts for the different positions the demonstrative can occupy at PF in these languages. This principle is based on Chomsky's (1995) terms of *weak/strong* properties of the [+REF] feature. In those languages in which the [+REF] feature is *strong*, the demonstrative must raise to [Spec, DP] before Spell-Out. However, if the same [+REF] feature is *weak* in these languages, the demonstrative does not have to move before Spell-Out, but it must move at the LF. Finally, in some languages such as Spanish, the demonstrative can optionally raise from its base position to [Spec,

DP] before Spell-Out where the [+REF] feature of the demonstrative has both the *weak* and *strong* properties.

Kamel Abdelbadie Elsaadany
Department of English
Gulf University for Science and Technology,
P.O. Box 7207
Hawally 32093
Kuwait

Salwa Muhammed Shams
English Department, Faculty of Education
Damanhour University
Damanhour
Egypt.

Bibliography

Abney, Steven. 1987. The English noun phrase in its sentential aspect. Doctoral dissertation, MIT, Cambridge, Mass.

Benmamoun, Elabbas. 2000. *The feature structure of functional categories*. Oxford & New York: Oxford University Press.

Bošković, Źeljco. 2005. Left branch extraction, structure of NP and scrambling. In Joachim Sabel and Mamoru Saito (eds.), *The free word order phenomenon: Its syntactic sources and diversity*. Berlin: Mouton de Gruyter. 13-73.

Brugè, Laura. 2002. The position of demonstratives in the extended nominal projections. In G. Cinque (ed.), *Functional structure in DP and IP: The cartography of syntactic structures,* Volume 1: 15-53. Oxford: Oxford University Press.

Brugè, Laura & Brugger, Gerhard. 1996. On the accusative *a* in Spanish. *Probus 8*: 1-51.

Brugè, Laura & Giusti, Giuliana. 1996. On demonstratives. Paper presented at *The 19th GLOW Colloquium*, April 17-18, Athens.

Chomsky, Noam. 1986. *Barriers*. Cambridge, Mass: MIT Press.

Chomsky, Noam. 1995. *The Minimalist program*. Cambridge, Mass: MIT Press.

Cinque, Guglielmo. 1994. On the evidence for partial N-movement in the Romance DP. In G. Cinque, J. Koster, J-Y. Pollock, L. Rizzi, and R. Zanuttini (eds.), *Paths towards Universal Grammar*, 85-110. Washington, D.C.: Georgetown University Press.

Diessel, Holger. 2006. Demonstratives, joint attention, and the emergence of grammar. *Cognitive Linguistics* (17-4): 463-89.

Diessel, Holger. 1999. *Demonstratives, function, and grammaticalization*. Amsterdam: John Benjamins.

Dixon, R.M.W. 2003. Demonstratives: A cross-linguistic typology. *Studies in Language* 27, (1): 61-112.

Ernest, Thomas. 1992. Phrase structure and directionality in Irish. *Linguistics* 28: 415-443.

Fassi Fehri, Abdelkader & Vinet, Marie-Thérèse. 2008. Nominal and verbal classes in Arabic and Chinese. *Revue Linguistique de Vincennes* 37: 55-83.

Giusti, Giuliana. 1997. The categorical status of determiners. In L. Haegeman (ed.), *The new comparative syntax*. London & New York: Longman. 95-123

Giusti, Giuliana. 2002. The functional structure of noun phrases: A bare phrase structure approach. In G. Cinque (ed.), *Functional structure in DP and IP: The cartography of syntactic structures*, Volume 1. Oxford: Oxford University Press. 54-90.

Johnson, Kyle. 1992. Head movement, word order and inflection. Unpublished manuscript, U Calif., Irvine.

Kayne, Richard S. 1994. *The antisymmetry of syntax*. Cambridge, Mass: MIT Press.

Khalfaoui, Amel. 2009. A cognitive approach to analyzing demonstratives in Tunisian Arabic. Doctoral dissertation, U Minnesota.

Longobardi, Giuseppe. 1994. Reference and proper names: A theory of N-movement in syntax and Logical Form. *Linguistic Inquiry* 25: 609-665.

Rohrbacker, Bernhard W. 1993. The Germanic languages and the full paradigm: A theory of V to I raising. Doctoral dissertation, U Mass, Amherst.

Shlonsky, Ur. 2004. The form of Semitic noun phrases. *Lingua* 114, (12): 1465-526.

Travis, Lisa. 1984. Parameters and effects of word order variation. Doctoral dissertation, MIT, Cambridge, Mass.