Clitic Construct State in Semitic: A Minimalist N-to-Spec Approach

Mohammed Q. Shormani

Assistant Professor of Linguistics, College of Arts, Ibb University, P.O. Box: 70270, Ibb, Yemen

email: drshormanim@gmail.com

الملخص

يتناول هذا البحث تركيب "الاضافة الى الضميرالمتصل" وهو نوع من انواع العبارة الحدية العربية، غاية في التعقيد، ويحاول ابانتها، وكيفية اشتقاقها، وحوسبتها، ويقترح منهاج ادنوي (الرأس-الى-الجذع= ر-الى-ج)، تمتاز هذه الورقة بانها تتناول جانب لغوي لم يتم تناوله من قبل-وتحديدا- باستخدام المنهاج المقترح، مقارنة بتركيب الاضافة الاسمية (تلك التي يكون فيها المضاف اليه اسماً). يتكون تركيب "الاضافة الى ضمير متصل" من ركنين اساسيين: الاول وهو المضاف، وعادة ما يكون اسماً (س)، ومضاف اليه، وهو الضمير (ض)، باختلاف انواعه من حيث النوع (التذكير والتانيث) والعدد (الافراد والتثنية والجمع) والشخص (متكلم، مخاطب وغائب). ولعل ما يميز هذا التركيب عن غيره من تراكيب الاضافة هو تركيبه المعقد، اذ لا يمكن فصل ركنه الثاني عن الاول- اي (ض عن س)، كما هي العادة في غيره من تراكيب الاضافة، ويبدو ان هذا احد الاسباب التي جعلت الباحثين، (وخاصة) التوليديين يفضلون الناي بانفسهم عن البحث و الغور في اسرارهذا التركيب اللغوي البديع. كما ان التركيب نفسه يميز اللغة العربية عن غيرها من لغات العالم، بصفة عامة وشقيقاتها السامية، بصفة خاصة، حيث يمكن الاضافة الى ضميرين،(العنقدة) كمثل قولك "ضَرَبْتُّهُ" وفيه ضميرين (الكاف) و (الهاء)، وهذا ليس غريب على لغة القران، ففيها كلمة واحدة (جملة لها فاعل وفعل ومفعولين)، كقوله تعالى: "زوجناكها"[1]، فبرغم ان العبرية تعتبر الاقرب الى العربية، الا انها لا تمتلك هذه الخاصية، ناهيك عن اللغات الهندواوروبية، كالفرنسية والانجليزية وغيرها. كما ويحاول البحث الاجابة عن عدة اسئلة، كانت ولا زالت غامضة حتى الان ككيفية اضافة (التصاق) الضمير الى الاسم، كيفية اشتقاق وحوسبة هذا التركيب في النحو، ماذا يحدث للراس الحدي، وهل هذا الراس الحدي موجود من حيث المبدأ، واذا لم يكن موجود، فكيف يمكن اشتقاقه في غياب الراس الحدي، وهل يمكن اعتبار الضمير المتصل رأسا حديا...الخ؟ وقد توصل الباحث الى ان الرأس الحدي هو الضمير المتصل بناءا على التشابه الوثيق بين الاخير وعائلته المنفصلة، اضافة الى ان الضمير المتصل "ينحدر" اساساً وتاريخيا من اخيه المنفصل، كلا على حدة. وقد بنى الباحث افتراضاته على عمل نحويين مثل ماتشونسكي (2006) و فيسنت (2007) في استخدام منهاج (ر-الى-ج)، حيث افترض ان عملية اشتقاق هذ التركيب تمر بمرحلتين: الاولى حوسبية نحوية، والثانية صرفية، حيث تكمن الاولى في حركة الراس الى الجذع، والثانية طبيعة الضم (التصاق ض الى س)، والتي تحدث في المكوِّن الصرفي، وفي معرض التحليل، يقدم الباحث انموذج اخر مقترح للمطابقة (اشتراك القيمة) ، بين موكونات هذا التركيب بدلا عن ميكانزمة (تقييم-و- حذف) والمعمول بها، حيث يتميز الاول بقدرته على "تلقيح" كل مكونات التركيب المتطابقة من س +ض وصفاته (ص) ولو تعددت (ص[ن]) في عملية واحدة، ويخلص الباحث الى امكانية تطبيق المنهاج المقترح ليس فقط في اشتقاق وحوسبة التركيب في صيغته البسيطة، بل وفي صيغته المعقدة، والاخيرة تحتوي على ((س+ض) + ص[ن]).

---

[1] (سورة الاحزاب، الاية12، صـ39)

Abstract

Semitic Clitic Construct State (=CCS) is a genitive construction consisting basically of a nominal member and a clitic, where the former functions as a head and the latter as a genitive DP complement (=GDC), having received less attention and research (if any at all), in the generative line of thought to the study of syntax. Questions as to how a noun appears with a pronominal clitic, how is such a CCS is derived in the syntax?, what happens to the head of DP in these structures?, does this head exist?, if not, then how can we have a DP projection in the absence of a D head?, among others, remain to a great extent unclear in the study of construct state (CS). Thus, based on proposals in (Matushansky, 2006; Vicente, 2007), I propose a minimalist N^0-to-Spec approach to accounting for such a construction in Semitic, particularly in Arabic and Hebrew. The analysis I am proposing consists of two operations. The first is syntactic in which the head N raises to Spec-DP and the second is morphological, which is performed by *m-merger* merging the moved lexical head and the clitic (=CL). M-merger is a morphological operation taking place after transfer as a PF operation, which is necessitated by the affixal nature of the CL to be cliticized to its c-commanding host in morphology. Both the syntactic movement and the morphological merger form a complex head as part of the morphological component. To account for agreement among the CCS-internal constituents, I propose *Agree* as a feature sharing mechanism rather than the *value-and-delete* one, known in the previous approaches.

Keywords*:* minimalism, Semitic clitic construct state, N-to-Spec approach, m-merger, feature sharing

1. Introduction

Semitic CS, in general, has been one of the most intriguing areas of much research and much controversy, due to being complex in nature. There are several types of CSs like nominal, adjectival, numeral, clausal, clitic, etc. The first two types have been much investigated, though nominal is much more than adjectival, in the preminimalist and minimalist approaches to generative syntax. Numeral CSs have also been studied but just in relation to the first two types and in what is so called MIO (=Mirror Image Ordering, see Cinque, 1996, 2005; Fassi Fehri, 1999; Shlonsky, 2004; Pereltsvaig, 2006).[2]

---

[2] The following abbreviations are used throughout this article. Sg. Singular, Dl= dual, Pl= plural, F= feminine, =masculine, Nom= Nominative Case; Acc= Accusative Case, Gen= Genitive Case, AGR= agreement, T=tense, V= verb, Card= Cardinal, Ord, Ordinal, Def= definiteness, Dem= demonstrative, (In)def= (in)definite, Lit=literally.

A CCS is a construct state where the head is a nominal element whereas the GDC is a pronominal clitic exemplified in (1a) where *kitaab-u* (book) is the head N and –*hu* (his) is the clitic GDC.

(1a) kitaab-u-hu
　　　book-NOM-his
　　　'His book.'

It has been widely held that clitics are linguistic objects encoding agreement features like ɸ-features. It has also been held that such bound forms, be they inflectional forms, pronominal clitics (and even unattached pronouns) give rise to challenging problems encountering linguistic theory (Fassi Fehri, 1993). The Arabic clitics, for instance, are presented in Table (1) below.

Table (1): Clitics in Arabic

Clitic	Person	Number	Gender
-(n)i	1	SG	F/M
-na	1	DL/PL	F/M
-haa	3	SG	F
-ki	2	SG	F
-hu	3	SG	M
-ak	2	SG	M
-humaa	3	DL	F/M
-kumaa	2	DL	F/M
-hunna	3	PL	F
-kunna	2	PL	F
-hum	3	PL	M
-kum	2	PL	M

It is a well-known fact of Semitic, particularly Arabic and Hebrew, that they are rich in clitics. As can be seen in Table (1), a clitic could simply be defined as a bound morpheme (indicated with the hyphen preceding it) which has special syntactic properties such as being bound, i.e. always affixed to lexical hosts. It is a pronoun bearing ɸ-features (person, number and gender) and Case (inherent).

As far as constructus (or ?idaafa) is concerned, structures like (1a&b) present a real challenge for linguistic theory. In fact, syntactic processes underlying such structures could be viewed as one of the issues that remain unexplored in the study of Semitic construct states up to date.

(1b) ?ax-i
　　　brother-my

'My brother.'

In (1b), *?ax* (brother) is the head N and the clitic possessive pronoun *–i* (my) is its GDC. Such questions as to how a noun appears with a possessive pronoun in the language, i.e. how is *?ax-i*, for instance, derived in the syntax?, what happens to the heads of DPs in these structures?, do these heads exist?, if not, then how can we have a DP projection in the absence of a D head?, among others, remain, to a great extent, unexplored. Hence, seeking answers to these (among other) questions is the major tenet of this article.

Thus, the rest of the article is organized as follows: in section 2, I outline the properties of clitics in general and shed light on those of CCSs. In section 3, I outline the analysis of clitics, in general, as noted in the literature. In section 4, I present my proposal. In section 5, I apply the proposed analysis to Semitic CCSs in relation to MIO, and section 6 concludes the paper.

2. CCS Properties

Before tackling CCS properties, it is necessary to shed some light on the nature of clitics in general as bound pronouns. This concerns such issues as to how such pronouns work, how they could be best handled, and why they are called bound, among others? All these issues are, in principle, related to Semitic clitic properties. These properties have been addressed in the literature of Semitic in addition to Romance languages as outlined in (i-vi) below:

i. They are always right-adjoined.
ii. They are bound elements.
iii. Their host is always the closest c-commanding head.
iv. They appear on all lexical categories and on certain functional ones.
v. They are inherently Case marked.
vi. They can be clustered, i.e. up to three clitics can be clustered.[3]

Some of these properties are instantiated in what follows, and some others, specifically, those related to CCSs, will be tackled later on in this section. Thus, it has been argued that clitics are attached to the closest c-commanding head. However, by way of comparison with Romance clitics, the syntactic category of the hosting head differs. For instance, in Romance, in principle, clitics are adjoined to verbs as in (2) and auxiliaries as in (2) (from Shlonsky, 1997, p. 178).

(2a) Elle *l'*a   cousu.
    she it-has   sewn

---

[3] (cf. Shlonsky, 1997).

'She has sewn it.'

(2b) Elle ***lui***   donne un cadeau
       she 3S-DAT gives a present
       'She gives her/him a present.'

(2c) Donne -***lui*** un cadeau!
        give -3S   a present
        'Give him/her a present!'

However, Semitic CLs are attached to almost all lexical categories as in (3) and even to some functional categories as well, as illustrated in (4).

(3a) daraba-hu
       beat-him.ACC
       'He beat him.'

(3b) fii-hi
      in-him/it
      'In him/it.'

(3c) kitaab-u-haa
       book-NOM-her.GEN
       'Her book.'

(3d) ?afđal-u-haa
       best-NOM-her/it.GEN
       'The best of it.'

(4a) ?inna-hu…
       that-him/it
      'That it is he….'

(4b) kull-u-haa
       all-NOM-her/it-GEN
      'All of it.'

(3a-c) show that in Semitic, clitics can be attached to heads of different syntactic categories. For instance, in Arabic, the clitic –*hu* (he/it) occurs attached to verbs as in (3a), prepositions as in (3b), nouns as in (3c) and adjective as in (3d). Clitics can also be attached to functional categories like complementizers as in (4a) and quantifiers as in (4b) (cf. Shlonsky, 1997, p. 179).

Another difference that could be obtained from (2) and (3), for instance, is that while Romance clitics can be categorized as proclisis and enclisis (i.e. they could be attached to the left or to the right of the heads, respectively), Semitic clitics are always enclisis, viz. attached only to the right of their hosts, which could be traced to a UG (=Universal Grammar) parametric variation between both language families.

According to Shlonsky (1997), clitics in Semitic are not clustered, which, he claims, distinguishes them from those of Romance. Contra this claim, I argue here that clitic clusterization is possible as illustrated in (5&6).

(5a) darab-tu-ka/-hu
 beat-I-you/him.ACC
 'I beat you/him.'

(5b) zawaj-na-ka-haa
 married-we-you-her
 'We married her to you.'

In (5a), two clitics, viz. –*tu* and -*ka*/-hu (I and you/him, respectively) are cliticized. However, in (5b), there are three clitics, namely, -*na, -ka* and –*haa* (we, you and her, respectively) cliticized to the right of the head zawaj (roughly married) (see also Fassi Fehri, 1993).

Another strong piece of evidence comes from Yemeni Arabic (YA) as is illustrated in (6).

(6a) qatal-k-uh (Ibbi Dialect)
 killed-you-him/it
 'You killed him/it.'

(6b) qatal-t-eh (Sana'ni Dieclt)
 killed-you-him/it
 'You killed him/it.'

(6c) qatal-kuu-uh (Ibbi Dialect)[4]
 killed-I-him/it
 'I killed him/it.'

---

[4] As can be seen in Table (1), in SA, –tu (I) is the Nom 1 person singular clitic. In (6c), however, in YA, –kuu (I) represents such features in Ibbi (and Taizi, Zabidi, and possibly Adeni) dialect.

(6d) ʕimil-kum-uuh?　　(Ibbi Dialect)
　　did-you-PL/it
　'You did it?'

However, unlike Classical Arabic (=CLA) or Standard Arabic (SA), it is true, insofar as I can tell, that three-clitic clustering is not possible in YA. Thus, examples of clusterization in (3-6), which are very productive, lend us strong evidence that Shlonsky's claim seems to be not well defined.

In the rest of this section, I outline the most salient CCS properties. By way of comparison with other types of constructus like CSs and ADCs (=Adjective Construct States), I assume that CCSs have the properties presented in (7).

(7)
i) The head N cannot carry the Indef article –n or the Def *al-/ha-*.
ii) There is no definiteness spread.
iii) The clitic is lexically realized.
iv) The head N can be assigned a θ-role of a *possessee, theme*, etc. and the genitive clitic complement a possessor, Agent, etc.
v) The CL is always assigned inherent Gen Case while the head N can be assigned any of the three Cases: Nom, Acc or Gen depending on the assigning head.
vi) The CL is in complementary distribution with a lexical DP.
vii) The CL is base-generated and remains in D.
viii) The head N can be modified while the genitive CL cannot.[5]

Properties (1i-iii) are instantiated in (8).

(8a) kitaab-u-haa
　　book-NOM-her.GEN
　'Her book.'

(8b)*al-kitaab-u-haa
　　DEF.book-NOM-her.GEN

(8c) *kitaab-u-n-haa
　　book-NOM-INDEF-her.GEN

The fact that neither the definite article nor the indefinite one can occur on the heads of Semitic CSs, in general, is, in fact, much controversial.[6] There are some

---

[5] In YA Arabic, it is possible to say kitaab-ak wa ʕali

scholars attributing this to (In)definiteness Spread (=DS/ID) (see e.g. Sichel, 2002, 2003; Danon, 2001, et seq; Siloni, 1997, 2001, 2003; Fassi Fehri, 1993, 1999; Benmamoun, 1998, 2000, 2003; Ouhalla, 1991, 1994, 2009; Longobardi, 1994; 1996, Borer, 1996, 1999; Shlonsky, 1997, 2004, just to name a few). However, as far as CCSs are concerned, it is held that DS does not take place (see e.g. Fassi Fehri, 1993, 1999). However, taking the fact that CLs are inherently definite, no possibility of ID, and for DS, I assume that the definite article *al-* is in complementary distribution with the CL, hence, the ungrammaticality of (9b).[7]

(9a) al-bayt-u
      DEF-house-NOM
     'The house.'

(9b) *al-bayt-u-haa
      DEF-house-NOM-her.GEN

(9c) bayt-u-haa
     house-NOM-her.GEN
     'Her house.'

Regarding the property (1iv), the CL can bear the θ-role of *theme, agent* or *possessor*. These θ-roles are exemplified in (10a-c), respectively.

(10a) baab-u-haa
      door-NOM-it.GEN
       'Its door.'

(10b) taşwiir-u-ka   jayyd-un[8]
      drawing-NOM-you.ACC   good-NOM
      'Your drawing is good.'

(10c) kitaab-u-naa
       book-NOM-our-GEN

---

[6] Somewhere else (see Shormani, in press), I have argued that the definite article can surface not only on the head N of a CS but also on all the multi-embedded head-GDCs as in (i).
(i) al-faqiir-u   r-raθ-i   θ-θyaab-i   ş-şaγiir-u
The-poor-NOM the-dirty-GEN   the-cloth-GEN the-small-NOM
'The small poor with the dirty cloth.'

[7] See also (Alshara'i, 2014; Alanbari, 1997).

[8] This type of CS is known as deverbal CSs in which the head is known as maşdar (gerund).

'Our book.'

The theta relationship manifested between the head N and its GCC covers the spectrum of thematic roles typically assigned by the head N to its GDC, where the theta role can be *agent, theme/patient,* or *possessor* (Siloni, 2001, p. 129f). In (6), for instance, the CL-GDCs *-haa, -ka* and *–naa* (its, your and our, respectively) bear the θ-roles of *theme, agent* and *possessor*, respectively. Regarding the head N, the θ-roles that can be assigned to it are *associate, affected* or *possessee*. These can be identified in (10a-c). In other words, in (10a), the head N *baab* bears the θ-role of *associate*. In (10b), *taşwiir-u* bears the θ-role of *affected*, and *kitaab-u* the *possessee*. Interestingly, there is a matching relation between the θ-role of the head N and that of its GDC that can be identified. For instance, the θ-role of *theme* meets *associate*, *agent* meets *affected* and *possessor* meets *possessee*.

Another property that could be identified in the examples above is (v), i.e. the GDC always bears a Gen Case assigned to it by its head, whereby the GDC gets 'frozen.' However, the head N can be assigned one of three Cases, viz. either Nom, Acc or Gen depending on the external head (the assigner, possibly T, v or P), respectively. This is illustrated in (11a-c).

(11a) qatl-u-naa   laa   yajuuz-u
     killing-NOM-us.GEN not   allowed
     'Killing us is not allowed.'

(11b) ra?ai-tu   kitaab-a-ka
      saw-I   book-ACC-your.GEN
      'I saw your book.'

(11c) marar-tu   bi-bayt-i-hi
      passed-I   by-house-his.GEN
      'I passed by his house.'

The head Ns in (11a-c), namely, *qatl-u, kitaab-a* and *bayt-i* are assigned Nom, Acc and Gen Case, respectively, which depends on the function each has in each sentence. For instance, in (7a), *qatl-u* functions as the subject of a verbless sentence, and hence, assigned Nom Case presumably by a null T, and so on.

Property (vi), i.e. the CL and the lexical GDC are in complementary distribution, is instantiated in (12), hence, the grammaticality of (12c).

 (12a)kitaab-u   l-mudarris-i
    book-NOM   the-teacher-GEN

'The teacher's book.'

(12b) kitaab-u-hu
    book-NOM-his.GEN
     'His book.'

(12c)*kitaabu-hu   l-mudarris-i
     book-NOM-his-GEN the-teacher-GEN

The ungrammaticality of (12c) could also be accounted for in terms of the fact that CL-GDCs "absorb" the structural Gen Case assigned by the head to its GDC (see also Siloni, 1997).[9]

3. Analysis

There are two approaches to analyzing Semitic CLs: inflectional approach and incorporation approach. In the former, it is assumed that pronominal clitics are inflections and generated as such. This view stems from the fact that such forms carry rich agreement specifications which make us able to identify the content of null agreements as *pros* (I return to this point below). In the latter, however, pronominal clitics are *arguments* and generated as such. This view stems from the assumption that such pronouns are said to be incorporated into their governing host (see also Baker, 1988; Fassi Fehri, 1993).

3.1. Inflectional approach

In principle, inflectional approach has been proposed for analyzing clitics in Romance languages like French and Italian. In that, Italian pronominal clitics, for instance, are inflections based on the inflectional nature (i.e. carrying rich

---

[9] A question arises in this juncture: is it possible to generalize Case absorption taking place in CCSs to other similar phenomena in the clausal domain, for instance? Put differently, does a CL absorb the Case assigned by its hosting verb? In fact, this seems not to be the case, consider (i).
(i)darab-tu ʕali-an
  beat-I   Ali-ACC
'I beat Ali'
Though the CL –tu is attached to the verb *darab*, the verb can still assign an Acc Case to its object, namely, ʕali-an, hence, the answer to the question above.
In relation to the nominal domain, another question could be considered here: does a CL absorb any Case assigned by its hosting head, or only Gen Case? Before answering this question, consider (ii) which is deverbal a CCS.
(ii)darb-u-hu   ʕali-an
beating-NOM-his Ali-ACC
'His beating of Ali.'
Though the head N in (ii) is in a CCS, it can assign an Acc Case to the DP ʕali-an. Thus, it seems that only Gen Case is absorbed by the CL, hence, the answer to the above question.

agreement specifications) such pronouns exhibit (see e.g. Rizzi, 1982, 1986; Kayne, 1994).

However, inflectional approach has been criticized for a number of weaknesses, some of which have to do with the nature of inflections. However, since inflectional approach is not very much related to our major concern in this article, I will not delve in examining it any further here. Suffice here to point out that inflections have many things in common with clitics. However, compared to incorporation, the latter is more adequate for both types of bound forms. It might be true that inflectional approach is somehow adequate to licensing AGR, specifically, in relation to nominative *pros* in pro-drop languages like Italian, Arabic, etc. Thus, in principle, some inflectional approach proponents (see e.g. Chomsky, 1982; Rizzi, 1982; Kayne, 1994) argue that in Italian, or French, what indicates that *pro* (for example 3 person singular pronoun) is Agr, manifested in inflections. Thus, in pro-drop languages like Italian, if *pro* is positioned in Spec-AgrP, it follows that Agr is licensed, it also follows that the subject has to be syntactically null, i.e. a null argument. However, this seems to be not the case in non-nominative clitics, i.e. accusative and genitive clitics (when clitics are used as internal arguments (cf. Fassi Fehri, 1993)).

As far as nominative clitics are concerned, (13) exemplifies such a null subject phenomenon in Italian (from Radford, 2009, p. 92).

(13a) Maria e` tornata?
    Maria is returned? ('Has Maria returned?')

(13b) Sı`, pro e` tornata
    'Yes, pro is returned ('Yes, she has returned')

Comparing (13a) to (13b), it is clear, as noted by Radford (2009), that the evidence that the null subject in the Italian example in (13b) is *she* is the agreement, i.e. inflections carried by the Aux *e`* (is) and the participle *tornata* 'returned' in (13b). Just as the form of the (third person singular) auxiliary *e`* (is) is determined, the (feminine singular) participle *tornata* is determined via agreement with the overt subject Maria which is 3, Sg and F in (13a).

To figure out how *pro* is identified in Arabic (as a pro-drop language), compare and contrast (14a) with (14b).

(14a) ðahab-a   ?ila l-madrast-i
    went-3SGM to   the-school-GEN
    'He went to school.'

(14b) ʕali-un ðahab-a   ʔila l-madrast-i
      Ali-NOM went-3SGM to   the-school-GEN
      'Ali went to school.'

In the Arabic example in (14a), the subject is not present in the sentence. As the English translation indicates, the null subject is *hua* (he). The question is how do we know that the subject is *huwa* (he) and not any other pronoun? Indeed, there are several questions regarding such an example. Suffice for now is to only answer this question. Compare (14a) to (14b) and notice the inflection(s) attached to the verb in both. If we look at the verb *ðahab-a* (went) and the agreement features it exhibits, we are likely to find that it carries all φ-features and Tense, which indicate that it is *-hua per se* which is null (i.e. absent). For instance, regarding [Num] feature, it is Sg. As for [Gend], it is M, and it is 3 as for [Pers]. Thus, based on such φ-features carried by the verb *ðahab-a* (went), we could conclude that it is *-hua* (he), and nothing else, which is null in (14a).[10]

However, inflectional approach seems unable to account for non-nominative clitics simply because they are not licensed by inflections. In other words, take the accusative clitic used in (3a), as an example, it is base-generated in head-complement configuration with the verb in Arabic.

The fact that inflections are lost in modern verities of Arabic as in (15a), but not clitics as in (15b) could be considered further significant evidence against the inflectional approach.

(15a) kitaab ʕali
      book   Ali
      'Ali's book.'

(15b) kitaab-uh[11]
       book-his
       'His book.'

Thus, if inflections are lost in modern varieties of Arabic (and I assume this holds true of Hebrew), Agr will not be licensed.

---

[10] In (14a) the suffix *–a* can be called a hybrid category. A hybrid category is a special type of syncretic category which carries more than one feature. In other words, the suffix *–a* indicates or carries φ-features and Tense (see also Giorgi & Pianesi, 1996).

[11] In YA, the clitic *–uh* (his/he/it) differs from that of SA, which is *–hu*.

3.2. Incorporation approach

Incorporation as an approach to analyzing CLs has also been proposed, for Semitic specifically, in Arabic and Hebrew (see e.g. Fassi Fehri, 1993; Siloni, 1997; Shlonsky, 1997), for Breton, (see e.g. Anderson, 1982), for Bantu, see (Bresnan &Mchombo, 1987), for Irish, (see Hale, 1987; Bresnan &Mchombo, 1987), among other authors and languages.

It has been argued that a clitic is a head X^0 (see Shlonsky, 1997, p. 181) cliticized to its governor under adjacency condition on linearization, something like (16) in the case of verbs.

(16)

VP
V⁰   DP
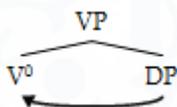
As an example of (16), for instance, in structures like (17a), the verb *ra?a* (saw) is the governing head and the clitic *–tu* is a head cliticized to it as illustrated in (17b).

(17a) darab-a-hu
    beat-him.ACC
  'He beat him.'

(17b)

VP
V⁰   DP
V⁰   Cl
darab-a   -hu
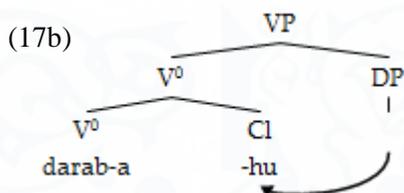
Thus, incorporation provides a principled explanation to several phenomena in relation to clitics as bound pronouns. For instance, it accounts for the ungrammaticality of (18). In other words, it explains why the occurrence of a DP argument is incompatible with that of a bound pronominal on the governor.

(18)*katab-tu-hu   d-dars-a
    wrote-1-it   the-lesson-ACC

Sometimes, even incorporation is obligatory as in (19a) where *?iyyaa* intervenes between the clitic *–haa* and its host, hence, the ungrammaticality of (19a).

(19a)*darab-tu ?iyyaa-haa

beat-I   her.ACC

(19b) darab-tu-haa
        beat-I-her.ACC
        'I beat her.'

However, when –haa is incorporated into its host, the structure is rendered grammatical as in (19b).

As has been noted so far, pronominal clitics, in general and genitive CLs in particular, pose serious problems for syntactic theory. One of the issues that remain controversial concerns where the clitic is base-generated and where it lands. For instance, Shlonsky (1997) notes that while (17b) could be made use of for clitics in Romance languages, he denies it in Semitic.[12] For Semitic, instead, he proposes that clitics are base-generated in Agr^0 having a coreferential null XP, i.e. pro which is base-generated as a complement of Agr and then raises to Spec-AgrP. The analysis he proposes is general, in the sense that it could be applied to the clausal and nominal domains. He provides the schema shown in (20) (Shlonsky, 1997, p.191).[13]
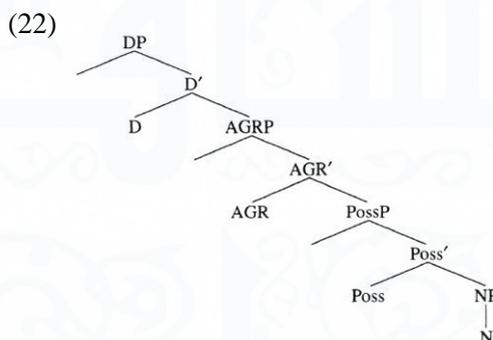
(20)
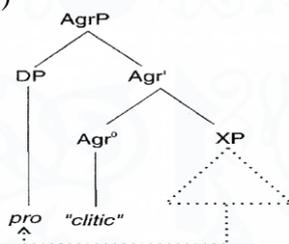
Contra Shlonsky and Siloni, Fassi Fehri (1993, p. 102) considers the CLs in Arabic D^0s. He proposes that CLs originate as Ds at D-structure and then move to their hosting head as in (21) in the case of cliticization to Ps.

---

[12] In fact, Shlonsky considers Semitic CLs Agr elements based on what he assumes as the absence of any similarity between clitics and determiners in Semitic.

[13] It should be noted here that Shlonsky does not deny the DP projection preclusion for the functional projection AGR, be they AgrsPs or AgroPs. He also argues that unlike TP, DP, AspP (=Aspect phrase), or even NegP (=negative phrase), AgrP plays no coherent semantic role, and that AgrP must be deleted at LF.

(21)

```
            PP
          /    \
        P        DP
       / \        |
      P   D        e
      |   |
      bi  –hi
```
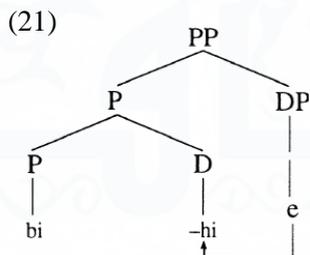
In the nominal domain, in fact, he does not specify a particular derivative mechanism for CCSs. He provides a general derivation for nominal construct states in which he argues that the CS is a DP where the head N is base-generated in N and undergoes a raising movement to Poss, Agr and then finally to D as illustrated in (22).

(22)

```
DP
  \
   D′
  /  \
 D    AGRP
        \
         AGR′
        /    \
      AGR     PossP
               \
                Poss′
               /    \
            Poss      NF
                       |
                       N
```

How case is assigned/checked in CSs, in general, the Gen Case of the GDC is said to be checked in Spec-head configuration with D_{gen} (see Ritter, 1991; Fassi Fehri, 1993, 1999, among many others). For instance, Fassi Fehri (1993) proposes that since D has features, and since agreement checking mechanism takes place as a feature sharing, it is possible that D assigns/checks the Gen Case of the GDC in Spec-head configuration.

Another account is provided by Siloni (1997). She argues that clitics are either inserted where the corresponding full noun phrases are generated, or they are inserted in their surface position. She also argues that clitics, as subcases of agreement, are generated in Agr°, as independent heads, and that they are cliticized in syntax as a product of movement and adjunction. Based on such accounts, she argues, if the head N realizes its structural Case feature as a clitic, the CL has either to undergo checking in Agr (or Agr_{gen}), or undergo head-to head movement.

Thus, though incorporation seems to account for several phenomena of CLs, sometimes it fails to account for certain others. For instance, though government condition is available, incorporation is not possible, consider (23).

(23a) maa samiʕ-tu ʔillaa   ʔiyyaaka
　　　　not heared-I   except you.ACC
　　　　'I did not hear (anyone) but you.'

(23b)* maa samiʕ-tu-ka ʔillaa
　　　　　not heard-I-you   except

Another context in which incorporation is prohibited is coordinated structures like (24) where a CL is coordinated with another DP. Such incorporation is not possible, hence, the ungrammaticality of (24b).

(24a) samiʕ-tu-haa wa ʔayya-ka
　　　　heard-I –her   and   you-ACC
　　　'I heard her and you.'

(24b)*samiʕ-tu-haa wa ʕali-an
　　　　heard-I-her   and Ali-ACC

The incorporation in (24a) violates the Coordinate Structure Constraint (CSC, see Ross, 1967) and/or Empty Category Principle (ECP, see Chomsky, 1981), see also Fassi Fehri (1999).

Another context in which incorporation fails to account for is what I may call "precedence and successiveness." In other words, if there are more than one clitic clustered, incorporation does not state clearly which precedes which as in (25).[14]

(25a) *zawaj-ka-na-haa
　　　　marry-you-we-her

(25b) zawaj-na-ka-haa
　　　　marry-we-you-her
　　　　'We marry her to you.'

Incorporation, moreover, cannot account for the ungrammaticality of (26b).

---

[14] Though it has been solved by Fassi Fehri's (1993, p.104) Person Constraint outlined in (i).
(i) If two non-nominative pronouns *x* and *y* are incorporated onto a governor (in that order), then
PERSx < PERSy (where $1 < 2 < 3$).

(26a) maa ?aɣđaba-nii   ?illaa   ?antum
      not angered-me   except   you-NOM
      'It is only you who get me angry.'

(26b) *maa ?aɣđaba-nii ?antum   ?illaa
      not angered-me   you-NOM   except

Another issue concerning the failure of incorporation approach concerns explaining why there is no consistent pattern of local cliticization of clitics in Romance languages (Shlonsky, 1997). Further, as noted by Shlonsky, there is also another difficulty encountered by incorporation approach to Semitic, i.e. it provides no explanation why the clitic appears always on the right and never on the left of its hosting head in Semitic. This could, in fact, be relating to licensing. In other words, while Romance clitics are licensed only when incorporated into Agrs, it is not the case in Semitic.

What is more is that incorporation as an approach to CLs in general and CCSs in particular employs head movement which is said not to be adequate under minimalist assumptions.[15] I will just briefly review the criticism found in the literature against head movement (known in the nominal domain as N^0-to-D^0 movement). In fact, N-to-D approach has come up with some problems. For instance, in the course of proposing a remnant movement, Shlonsky (2004, p. 1472ff), argues against head movement in Semitic DPs in general, providing some objections to it, stating that it does not take into account the definite article *al-/ha-* (in Arabic and Hebrew, respectively). He adds that due to the fact that both *al-/ha-* are invariably pre-nominal, both languages are, "strictly speaking, not N-initial but $Det_{[+def]}$-initial.[16] But then, one might ask, why doesn't the mere presence of a lexically filled D^0 block HR (i.e. Head Raising) just as the presence of a lexical complementizer in C^0 blocks I → C?" He, in other words, questions "the impossibility of say, I → C in English conditionals in the presence of 'if', ….not extend to the formally similar case of Semitic N→D?" He argues that the relation

---

[15] Head movement dates back to work done in the 60s and 70s (see Chomsky, 1957; McCawley, 1971; Emonds, 1970), making use of it in *Affix Hopping*, Tense-attraction rule and *have/be*-raising. However, only in early 90s did linguists characterize it as an approach (see Koopman, 1984; Travis, 1984), and theoretical hypotheses were postulated, leading to a clear picture of this movement (Roberts, 2011).

[16] However, I do not agree with him in his claim that Arabic and Hebrew are N-initial languages. In fact, Arabic has what I may call "asymmetric (in)definiteness marking" in which it expresses (in)definiteness marking. In other words, Arabic has two patterns, namely, N^D as in kitaab-u-n in which –n comes last, and D^N as in al-kitaab-u, where al-comes first.

between the head N and the definite article is similar to that which exists between inflections (or precisely inflectional prefixes) and verbs, which then must not be ignored. Shlonsky even goes further in claiming that head-movement is not available to nominal, adjectival and non-verbal heads in general. He adds, thus, that its availability for CSs, adjectives, participles, etc. is not expected. In addition, from a minimalist perspective, Roberts (2011, p.196) describes head movement to be subject to the standard well-formedness conditions applying to movement operations and their outputs generally."

Chomsky (2000) argues that in the syntactic component, there is no rule specifying N-to-D movement. Head movement is also counter-cyclic, hence, violating the Extension Condition, which states that trees are extended at the root, i.e. movements must target the roots (Chomsky, 2001). Consequently, he suggests that head movement should be excluded from the core operations of the narrow syntax Chomsky (2001, p. 37f). Earlier than that, he points out that head movement violates Structure Preservation Condition (SPC, see also Emonds, 1970).[17] Furthermore, Chomsky argues against D^0 as the assumed landing site, which the head N is supposed to raise to. He makes use of the clausal domain predications where V raises to the light v and tries to apply this to the nominal domain. He assumes that there is NP split in which a light n of nP c-commands N, and that the head N raises to n in the same way V raises to v, and so "the structure is a nominal phrase headed by $n*$, not a determiner phrase headed by D, which is what we

---

[17] SPC states that "only X° can move to a head position" and "only a maximal projection can move to a specifier position" Chomsky (1986, p. 4). However, in a minimalist perspective, Chomsky (1995, p. 369) argues that there is no difference between a head and a phrase, i.e. a minimal projection and maximal one. In other words, once a node, as a head (i.e. minimal projection), does not dominate any more instances of itself, and as a phrase (i.e. a maximal projection), is not dominated by any instances of itself, it functions as both a head and a phrase. For instance, (i) satisfies both definitions:

(i)

```
        D
       / \
      D   N
     al-  kitaab
```
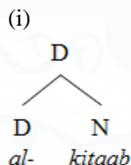
There are, however, two Ds in (13) which, in principle, are different from each other with regard to position, and hence dominance. The upper D is a maximal projection because it does dominate an instance of itself, namely, the lower D. The lower D is a minimal projection for two reasons: 1) it does not dominate any instances of itself and 2) it is dominated by any instances of itself and in this case, the upper D.

intuitively always wanted to say; and D is the "visible" head, just as V is the "visible" head of verbal phrases" (Chomsky, 2007, p. 26).[18]

Some authors argue, in principle, that head movement is at least controversial (Bruening, 2009).[19,20] Further, the severe problem facing this approach has been with regard to Free Genitives (FGs) where D is spelled-out as the definite article *ha-/al-* (see e.g. Ouhalla, 2009; Shlonsky, 2004; Sichel, 2002, 2003, among others). To solve this problem, there have been several proposals as to whether or not having a functional maximal projection headed by a functional head to which the head N moves, but again N-to-D movement is employed.[21,22]

Thus, if we consider head movement an adjunction of a head to another head, and advocating Emonds's (1970) SPC, and if we take into account the X-bar theoretic assumptions (let alone minimalist assumptions), head movement is ruled out, because "heads cannot be base-generated without a maximal projection so that a bare head cannot appear in the specifier position to receive a moved X^o category" (Roberts, 2011, p. 196). And the most severe context in which N-to-D is completely ruled out is in relation to simple indefinite DPs where the indefinite article/marker –n is base-generated in D.

4. Semitic Clitic Construct State: a Minimalist N-to-Spec Approach

N-to-Spec movement has long been proposed (see Marantz, 1984) as a further-step modification to N-to-D movement, in the sense that while in the latter the head N moves from head position to another head position, in the former the head N moves from head position to Spec position, hence, satisfying EC, in addition to overcoming the problems noted in the previous section. In addition, I propose that CL is base-generated in D, which stems from two assumptions: i) AgrP is no longer made use of in minimalism. In fact, in minimalism, AGR is no longer

---

[18] Head movement also violates Anti-Locality Constraint (ALC) proposed by Abels (2003) (see fn. 28).

[19] Bruening (2009, p. 33) advocates that "N-to-D movement is not uncontroversial."

[20] Longobardi (1996) fails to use it in deriving the proper names in Romanian languages, and so, he proposes that proper names in such languages raise to D at LF.

[21] For instance, Ritter (1991) and Siloni (1991, 1997) propose NumP, Fassi Fehri (1993) suggests PossP, Shormani (2014, in press) proposes N-to-Spec movement followed by *M-merger* considering the latter a morphological operation taking place after transfer, and Mohammad (1999) sees intermediate projection as unnecessary.

[22] In the clausal domain, the challenge encountered by head movement concerns language typology, this approach fails to account for certain facts (see e.g. Suranyi, 2005; Mahajan, 2000, 2003; Contreras, 2003; Fanselow, 2004; Bury, 2003; Furthermore, Hankamer & Mikkelsen, 2005). However, discussing this issue further here is not relevant.

tenable. This is so due to the fact that agreement is not a category, but rather a relation, and that AGR features are uninterpretable, which implies that AGR features carried by a head cannot be assigned any interpretation at LF, which results in derivation divergence. Therefore, it has been proposed that Agr heads are entirely eliminated from the UG based on such conceptual grounds (Chomsky, 1995, p. 355; Radford, 2009, p. 339).

And ii) the morphological similarities between CLs in Semitic and their independent pronouns, and the fact that the former are diachronically derived from the latter. Thus, based on such assumptions, and following Fassi Fehri (1993),[23] I propose that the CL is base-generated in D (but not in Agr^0 as assumed by Siloni (1997) and Shlonsky (1997)). However, I follow Siloni's proposal in associating the CL with a null category, namely, *pro*. However, unlike her, and based on thematic grounds, I also propose that in CCSs, the *pro* is base-generated in NP-internal projection, namely, Spec-NP, as an internal argument, the same thing like a nominal GDC. Being in Spec-NP, *pro* must be coindexed with the CL as in (27) (I return to this point below).

(27) rasm-u-hu_i pro_i
     drawing-NOM-his
     'His drawing.'

However, unlike Fassi Fehri, Siloni and Shlonksy, I propose that CL is base-generated in D and "stays" there.

4.1. D-projection
As has been assumed above that the CL is base-generated in D, and following Chomsky (2000,2001), I assume that D is φ-*complete*.[24,25] The D's φ-features are

---

[23] See Fassi Fehri (1993) for the morphological similarities between CLs and their independent pronouns. However, unlike him, I assume that CLs do not move.

[24] There are many proposals as noted in literature. For instance, Ritter (1991) proposes NumP which hosts or is the locus of Num feature. Picallo (1994) proposes GenP which hosts Gender feature. Sichel (2002, 2003) propose AgrP for φ-features, Cingue (1996) proposes multiple agreement functional projections, Fassi Fehri (1993, 1999) and Kremers (2003) propose PossP, all of which host possessive and/or agreement elements, and there are also those (e.g. Mohammad, 1999) who argue for no intermediate projections.

[25] That D is φ-complete stems from some languages like French and German where D exhibits φ-agreement with the head N, though person is not clear. Consider the French example in (i) and the German one in (ii).
(i) la   belle   femme
   the.F.SG. • beautiful.F.SG   woman.F.SG. •
   'The beautiful woman.'

unvalued and those of the head N valued, and the former's are uninterpretable while the latter's interpretable (leaving aside the possible intermediate projections between D and N, concerning number, gender, etc. as discussed by Danon, 2011). Taking the standard assumption that [GEN] is in complementary distribution with [DEF] (see e.g. Ritter, 1991; Fassi Fehri, 1999; Kremers, 2003), and since DS does not take place in CCSs (see Fassi Fehri, 1999), I assume that D does not have the feature [DEF], but has [GEN], and the moment the clitic is introduced into D, it is valued as [+Gen]. Based on the fact that CCSs have theta complex structures, i.e. they have an external argument (the head N can be assigned a θ-role of agent, possessee or theme (cf. examples (10)), I assume that D has an unvalued [EPP] feature. Further, since D has a s-selectional feature [uN], and having all these in mind, I propose that D is projected as [$u\phi$;GEN;uEPP; uN]. Regarding the head N, as pointed out above, in addition to assuming that the head N has valued and interpretable ϕ-features, it has also an unvalued Case feature [uCase]. This is schematized in (28).

(28)
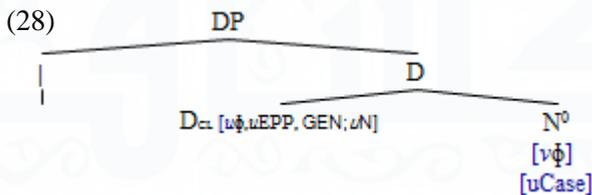
Thus, if my argument above is on the right track, the question to be addressed here is: why is it that the head N has to undergo raising to Spec-DP? In principle, for the possessum to move to the Spec-DP can be said to be necessitated by: i) EPP feature of D which has to be satisfied. This requires the head N to move and target Spec-DP (see Matushansky, 2006; Embick, & Noyel, 2001; Bruening, 2009; Vicente 2007; Assiri, 2011), which entails ii) checking requirement as one of the most substantial requirements for the head N to move to Spec-DP. As has been argued so far, D enters the derivation having unvlued ϕ-features, hence, active. Being active, D probes its c-command domain for a match, which is found in N (by virtue of having these features valued). The result of such an Agree relation is valuing D's unvalued features and consequently deleting them, as well as all the uninterpretable features, at LF. However, for Agree relation to be established

---

(ii) Der　　　　grüner　　　　bus
The.MSG.NOM　green.MSG.NOM　bus.MSG.NOM
'The green bus.'
In French or German, the gender feature of determiners and adjectives, for instance, is said to be lexically *unvalued* (Chomsky, 2000)*,* and gets *valued* as a consequence of Agree with the gender feature of the noun, and hence, determiners and adjectives act as probes for Agree operation(s) (Pesetsky & Torrego 2007).

between D and N, they must be in the local limited research space, a condition which is obtained because locality is satisfied. Since Agree relation established N and D results in valuing all the unvalued features, the question is why is it that the head N raises to Spec-DP. In fact, the movement of the head N to Spec-DP is required by the D's EPP which is satisfied by re-merging the head N in Spec-DP. The fact that since the head N enters the derivation with an unvalued Case feature, it is active and probes its c-commanding domain for a match, but there is no match in this Agree relation. Hence, the head N's Case feature remains unvalued and will be valued/checked via an Agree relation established between the head N and an external head (possibly T/v), depending on the function it does in the sentence. This is schematized in (29).

(29)

4.2. Feature sharing

According to Chomsky (2000, 2001), agreement takes pkace between a probe and goal, and that a head's φ-features have to be checked and then deleted. This, what I may call *value-and-delete* mechanism, may not be tenable with CCSs having AP modifiers. In other words, if we assume that Agree relation is established between the heads N and D, the result of which is valuing the unvalued features and immediately deleting all such ((un)interpretable) features, then, the question is how is it that AP's features, specifically, if A is φ-*complete* (given the fact that APs (normally) agree with the head N in all φ-features), are checked/valued? This is, in fact, an empirical question.

To answer such a question, and following (Pesetsky & Torrego, 2007),[26] I assume that agreement among CCS-internal constituents is a feature sharing property and not a *value-and-delete* mechanism, which takes place as follows: first, in a configuration of probe-goal (say [D;N]), when N, for instance, is valued for a feature (F), replacing the value of the D with the value of the N results in an instance of a valued F. Second, assuming that the valued F on D is not deleted, another *Agree* will be established between D and A constituting the configuration

---

[26] According to Pesetsky & Torrego (2007, p. 4), Agree can be formally defined as in (i).
(i) i. An unvalued feature F (a probe) on a head H at syntactic location $a(Fa)$ scans its
    c-command domain for another instance of F (a goal) at location $a(Fa)$ with which to agree.
   ii. Replace Fa with FB, so that the same feature is present in both locations.

goal-probe [D;A] where D serves as a goal probed by A. The same thing happens with a configuration of [A_1;A_2] (in the case of MIO, for example) in a configuration *probe-goal* where A_1 serves as the goal probed by A_2, and the process iterates. However, iteratation implies that such an Agree operation is complicated and exhausting, specifically, given the fact that AP modifiers in DPs in general are unlimited.

Instead, however, since all probes and goals are ɸ-*complete*, and following Danon (2008) and Frampton & Gutmann (2006), I propose that since ɸ-features are valued on head Ns, but not on D and As, D and As (probes) will constitute a permanent link and form a formal object of one single probe (by virtue of having the same matching unvalued feature), when they enter an *Agree* relation with each other. In other words, if there are two or more nodes sharing a feature F (say, *u*F), they enter an *Agree* relation which results in creating a permanent link, which in turn constitutes a formal object rather than two or more distinct ones. If one of these (agreed) nodes (i.e. one in the link) enters a subsequent *Agree* relation with a node that has this feature valued, this *Agree* will not only value the feature of the node entering unvalued, but also all the unvalued features of all the nodes in the link.

Thus, having the above scenario in mind, and given the assumption that Arabic and Hebrew are prepositional and not postpositional languages, hence, [A-N] (see e.g. Fassi Fehri, 1993, 1999; Cinque, 1996, 2003, 2005; Shlonsky, 1997, 2004; Danon, 2001, et seq; Pereltsvaig, 2006), I assume that AP modifiers are base-generated in Spec-NPs and then raise to Specs of higher functional projections. Therefore, I propose nP as a functional projection whose Spec hosts the raising AP. For the AP to land in Spec-*n*P, it complies with antisymmetrical left-movement (see Kayne, 1994), hence, conforming to the Minimal Link Condition (=MLC, see Chomsky, 1995, p. 311; Fassi Fehri, 1999, p. 106) and the Relativized Minimality (=RM, see Rizzi, 1990). Thus, the proposal I am developing here is schematized in (30).

(30)
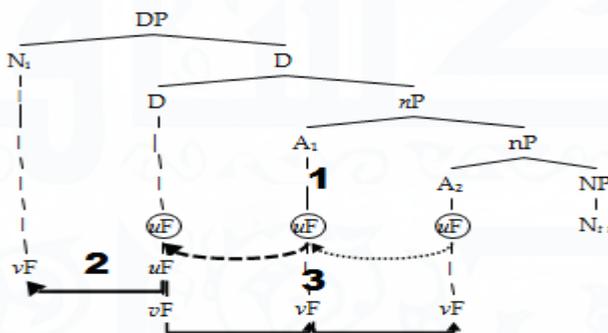
In (30), having an EPP feature, D attracts N to raise to Spec-DP. In addition, for creating the local limited search space with D, A_1 and A_2 raise to Specs of nP1 and nP2, respectively. Having the matching unvalued feature uF each, they enter an *Agree* relation with each other (by virtue of having this uF), the result of which, according to our postulation above, is creating a permanent link (stage1). As a member in the created permanent link, D enters in an *Agree* relation with N (stage2). The result of this Agree is not only valuing the D's uF, but also A_1 and A_2's ones (i.e. vF) (stage3).

Thus, let us assume that uF= [NUM], and vF= [+Num], the D, A_1 and A_2 are merged with [NUM], but N with [+Num]. When D enters an *Agree* relation with the two As, the result is a formal single object with the feature [NUM]. Subsequently, when D enters an *Agree* relation with N, not only its [[NUM], feature is valued but also the As' ones, and so, there are three unvalued features that get valued in one operation. Let [NUM] be singular, it follows that it will be valued as singular on all. The same thing can be said about other features, but not Case.

Case feature has not been checked, because it depends on an Agree relation between the CCS-DP and an external head T/v. Thus, when N raises to Spec-DP, we expect an Agree relation to be established between the head N and such an external head, where both are ϕ-*complete*, and the former's are valued while the latter's are not.

However, there seems to be a problem here, i.e. supposing that the result of the Agree relation established between CCS and T/v is valuing T/v's unvalued features in addition to the head N's Case feature, the question is: how does Case agreement between the DP-head and its AP modifier(s) take place?

In fact, there is one of two possible scenarios: either i) given our proposal of feature sharing in (30), it could also be argued that the head N enters in an Agree relation with A_1, A_2…A_n, the result of which is construing a permanent link (by virtue of having the same matching unvalued feature, i.e. Case feature), and when N enters in an Agree relation with T/v, all As' Case features are valued. Or ii) it takes place after transfer, as a PF operation. One stipulation favoring the scenario (ii) is the fact that it is not necessary that a feature is valued in the narrow syntax (Pesetsky & Torrego, 2007) and that "Agree is known to take place both before and after Spell-Out, and so an operation based on Agree" can be applied after Spell-Out (Matushansky, 2006, p.99). The problem with the scenario (i) is that there is no minimal local search space because of the intervention of D between N, on the one

hand, and As, on the other. I ignore the scenario (i) and take the scenario (ii) as the possible solution.[27]

4.3. The proposal

As has been noted above, the proposal advanced here is just extending the head movement modifying it a step further so that theoretical as well as empirical problems encountered in this approach could be reconciled (see also Citko, 2008a&b; Matushansky 2006; Vicente, 2007). As has been seen above, Shlonsky (2004) and Siloni (1997) claim that *pro* is licensed in Spec-$Agr_{gen}P$ due to the rich agreement Agr has. Contra these views, and based on the standard minimalist assumption that AGR is no more available in the grammar, I assume that *pro* is base-generated in Spec-NP (i.e. inside the lexical NP) for two reasons: i) a thematic-based relatedness which is a property of the position of Merge and its very local configuration, which in turn necessitates that "arguments of heads are merged in the lexical projection of the head and have their θ-roles checked at Merge," and ii) prominence (c-command) relations where *pro* is c-commanded, and is coindexed with the CL in D (Chomsky, 1995, p.313; Pereltsvaig, 2006, p. A18). Thus, having all these in mind, in addition to our argument in (sections 4.1. and 4.2), the proposal I am developing here of N-to-Spec approach is schematized and summarized in (31).

(31)
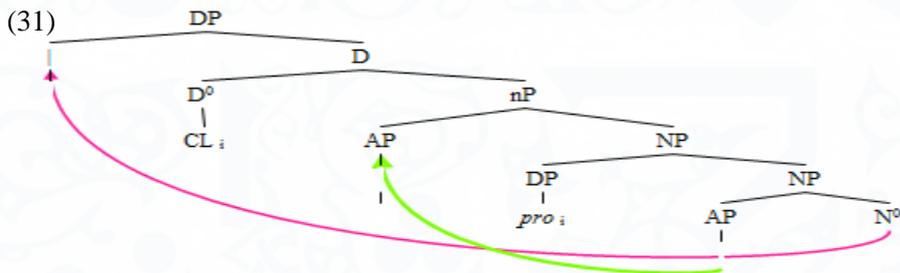
Coindexation (i.e. association) of *pro* with D_{CL} could be argued to be evidence of agreement in all features. Recall that clitics are bound (i.e. they cannot stand alone), and so, they have to be cliticized to the hosting heads. In other words, the GDC-CL has to be affixed to the head N it is associated with. This could be viewed as the real challenge encountering our proposal. Consequently, I propose that there

---

[27] There is also a third scenario possible, viz. when the head N enters in an Agree relation with T, for instance, the Case feature of the head N is valued, and interpreted as Nom. It could be argued that when Case feature is valued, it gets "percolated" into D which then constitutes a goal for A's with which it enters into a subsequent *Agree* relation (see also Chomsky, 2000, 2001). However, since this scenario does not conform to feature sharing mechanism, specifically, in cases involving MIO, I just ignore it.

is a merge operation which (re)merges (linearizes) the CL with the head N in the morphological component.[28] This is the concern of the section to follow.[29]

4.3.1. M-merger

The remerging process referred to above is called m-merger, (morphological merger). M-merger can be understood as an operation which is part of the morphological component that merges the attracted head (i.e. the head N) and the attracting one (i.e. D), forming what is known as a complex head. Thus, following Matushansky (2006, p. 69), I assume that N^0-to-Spec approach is composed of two unrelated operations: "a syntactic one (movement) and a morphological one (m-merger)." This is roughly schematized in (32).[30]

(32).
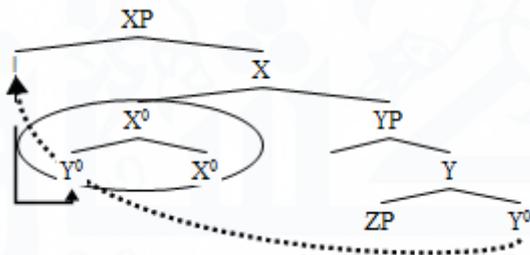
In (32), after N-to-Spec movement takes place, where Y^0 targets Spec-XP, m-merger incorporates, or otherwise linearizes, Y^0 and X^0 (shown by the circle). However, it should not be confused with adjunction which is basically a syntactic operation, where a head adjoins to another. Rather, the configuration $[X^0 [Y^0 X^0]]$ is a result of a morphological operation taking place after transfer, hence, no more a syntactic process (Matushansky, 2006).

---

[28] Another minimalist assumption N-to-Spec movement satisfies is Abels's (2003) ALC, roughly outlined in (i) (Abels, 2003, p. 12):
(i) *$[_{XP} ....[_{X'} [_X Y_i][_{YP} [_{Y'} [t_i][...]]]]]$
Abels (2003) argues that ALC bans head movements where a head X c-commands another head Y. In other words, in (i) it is not possible for the head Y to be attracted and adjoined to X due to resulting in an adjunction being too local. However, (31) above seems to satisfy ALC in that: first, what is moved in (31) is a lexical head N (but not a full NP, i.e. a full XP) to Spec position and not to a head, and second the Spec position hosting the moved head N is not Spec-NP, but rather Spec-DP.

[29] Strong evidence that m-merger is necessitated by the cliticization nature of CCSs is the phonological boundary of Semitic CSs, in general and CCSs in particular. In other words, the fact that the feminine –t is retained in CCSs as in (36a), and that the plural and dual morphemes -na and -ni, respectively, as in (36b) and (36a), respectively, are deleted provides evidence for our claim.

[30] (cf. Matushansky, 2006).

If we look closely at (32), it seems that there is some kind of violation to some minimalist assumptions due to the fact that m-merger involves a movement to a non-c-command position. To overcome such a problem, Matushansky (2006) assumes that a plausible solution could take the form of an additional theory-internal property, i.e. "[t]he landing site of head movement does not c-command the extraction site" (p. 72). Moreover, if m-merger is no longer a syntactic operation, it, then, follows that the head D should not remain accessible in syntax. In fact, this issue has been addressed by Matushansky who argues that "M-merger must involve *partial Spell Out* of the resulting head; ……[A] head created by M-merger is a syntactic phase," adding that after the complex head is formed, its internal structure gets frozen and "must involve Spell-Out as a subcomponent; that is, the head created by m-merger is syntactically opaque." What Matushansky means by "syntactic opacity" is that the complex head created by m-merger is no longer accessible to any further operation as a "full" component. But rather, it is accessible as a subcomponent.

In fact, the term "syntactic phase" indicates that it is no longer accessible to outside operations, but its head and escape hatch are, and since, in our case, the head N still has [*u*Case] feature, it could be argued that complex head involves a head or its escape hatch, i.e. a specifier of the phase, hence, satisfying PIC (=Phase Impenetrability Condition).[31]

4.3.2. Bareness of the head N

One of the striking requirements for proposing N-to-Spec approach is that the head must be bare (Vicente, 2007). As can be seen in (32), m-merger involves adjoining the head Y^0 (which is the nominal head) to the pronominal head X^0, i.e. the clitic in our case. The result of this m-merger is a complex head. According to Vicente (2007), the concept of "bare head" comes as a result of the nature of 'word' where there is some kind of incorporation of more than one morpheme constituting the word in the morphological component of the grammar. For instance, Vicente (2007, p. 24) analyzes the verb "**a-na-umb-ir-a**" in (33) below as containing a complex head, arguing that all the heads surface as suffixes to the root.

(33) Mavuto   **a-na-umb-ir-a**   mpeni   mtsuko
      M   SM.PST.mold.APPL.PERF   knife   waterpot
           "Mavuto molded the water pot with a knife"

---

[31]   PIC   according   to   (Chomsky,   2000,   p.   108)   can   be   outlined   as   in   (i): (i) In a phase *a* with head H, the domain of H is not accessible to operations outside *a*, only H and its edge are accessible to such operations.

For instance, the suffixes i.e. *–ir-* and *–a* (the applicative and the perfective suffixes, respectively) are suffixed to the root *umb.* However, other prefixes encoding tense and subject/object agreement, viz. *a-* and *na-* (representing agreement and past tense, respectively) are not taken to incorporate into the verb. She holds that every affix, be it a prefix or suffix, is base-generated in a functional head, and the verbal root is a lexical one. What is important in Vicente's proposal is two aspects: i) affixes marking agreement are not incorporated into the verbal root, and ii) it is the verbal head which raises, and only then, does m-*merger* apply.

In this juncture, the question is: does the head N in Semitic CCSs count as a bare noun? An answer to this question requires us to consider two unrelated aspects of the structure of the head N: i) the head N in relation to (in)definiteness, and ii) the state of the head N in relation to inflections marking different features (Case and ϕ-features). Regarding (i), consider (34).

(34a) kitaab-u-n
　　　book-NOM-INDEF

(34b)*kitaab-u-n-hu
　　　book-NOM-INDEF-his
　　　'His book.'

 (34c)*al-kitaab-u-hu
　　　DEF-book-NOM-his

The ungrammaticality of (34b&c) is ascribed to the fact that the head N in CSs in general and in CCSs in particular cannot take either the definite article al- as in (34a) or the Indef –n. In addition to that, since no DS takes place in CCSs, it follows that the head N is bare.

In principle, the bareness of the head N of a SA CS is *only* based on (in)definiteness (see e.g. Fassi Fehri, 1993, 1999, 2004; Engelhardt, 2000; Borer, 1996, 1999; Danon, 2001, et seq; Benmamoun, 2000, 2003, Siloni, 1997, 2001, among many others), though Case and ϕ-features are morphologically marked on such a head. However, let us examine bareness in relation to Case and ϕ-features marking. Consider (35).

 (35a)muʕalim-u-hu
　　　teacher-NOM3SG-him.GEN
　　　'His teachers.'

(35b)muʕalim-uu-hu

Teacher-NOM3PLM-him.GEN
'His teachers.'

(35c) muʕalim-aa-hu
Teacher-NOM3DLM-his.GEN
'His teachers.'

As far as Case and ɸ-features are concerned, it is marked on the head N of the CS as is clear from (35a-c) where –u, –uu and –aa in (35a,b&c, respectively) mark Nom Case, and gender (M), person (3) and number (Sg, Pl and Dl, respectively).

Like CSs, the feminine –*t* is retained and surfaces on CCSs, as is illustrated in (36).[32]

(36a) muʕalim-at-u-hu
teacher-3SGF-NOM-him.GEN
'His teacher.'

(36b) muʕalim-aat-u-hu
teacher-3PLF-him.GEN
'His teachers.'

The inflections –at and –aat in (36a&b, respectively, mark gender F, person 3 and number Sg and Pl, respectively), but Case, i.e. Nom is marked by the suffix –u on the head N in both. Note also that the Pl morpheme –na as in (35b) and the Dl one –ni as in (35c) delete in CCSs.

Thus, considering Vicente's (2007) proposal that inflections do not change the bareness of the verb, and taking the existing assumption that the head N in CSs is bare and based-generated in N as such, though having all these inflectional suffixes, by analogy, I extend these assumptions and apply them to CSSs.[33] I also

---

[32] However, in YA (and I think this holds true of all Arabic varieties except MSA) *-iin* marks Nom, Acc and Gen.

[33] Much work has been done in the literature cross-linguistically tackling the basis on which a noun is bare or not, in Arabic (see Fassi Fehri, 1993, 2004, 2012; Mohammed, 1988; Benmamoun, 2000, Kremers, 2003, among many others), in Hebrew (see Shlonsky, 2000, 2004; Borer, 1996, 1999; Siloni, 1997, 2001, Danon, 2001, 2002a&b; Engelhardt, 2000; Doron, 2003; Francez & Goldring, 2012, among many others), in Romance (see Longobardi, 1996, 2001; Dobrovie-Sorin, 2000; Dobrovie-Sorin & Brenda, 1996; Quirk et al, 1985; Alexiadou et al, 2007, among others), in Chinese (see e.g. Cheng & Sybesma, 1999; Krifka, 1995, among others), in Russian and Hebrew (see e.g. Pereltsvaig, 2007), among many other languages. Such extensive work focuses on what counts as a bare noun with respect to referentiality (identification) and existentiality,

claim that the retention of the feminine –*t* and the deletion of dual and plural –*ni* and -*na*, respectively, indicate the phonological boundary of CCSs.

5. CCS-Internal Structure

As is clear so far, in its minimal form, a Semitic CCS consists of a head N and a CL without modification. Still, however, one needs to examine CCSs having modifiers, be they pre- and/or post-nominal. Before doing so, it is presumably necessary to consider the types of the elements that could function as modifiers, both pre-and post-nominally.

5.1. Premodifiers

Here, I briefly examine the elements that can function as premodifiers in both Arabic and Hebrew and the distribution they undergo. It has been held that premodifiers are quantifiers, Dems and numerals (see e.g. Fassi Fehri, 1993, 1999; Cinque, 1996, 2003, 2005, for Arabic; Danon, 2001, et seq; Shlonsky, 1997, 2004, for Hebrew). Quantifiers include *kull/kol, baʕđ/kama, etc.* (all and some, in Arabic and Hebrew, respectively), numerals include Cards like waaħid/wxad, ʔiθnaan/šnaim, etc. (one, two, in Arabic and Hebrew respectively), Ords *ʔawwal/rišona, θaani/šani, θaaliθ/šaloš* (first, second, third, in Arabic and Hebrew, respectively).

The attested number of determiners is four and the order such elements can have in relation to the head N they modify is presented and exemplified in (37).[34]

---

some others consider argumentation vs. predication (argumental and predicational positions), others consider mass vs. count, and some others singularity vs. plurality. All in all, what is relevant to the study at hand is that these studies indicate that number, person and gender do not affect the bareness of the noun, which to a great extent supports what I am arguing for here.

[34] Note that every determiner of these in (36a) can occur alone with the noun it modifies as in (i), two (of different types) as in (ii). However, while Q and Dem can precede each other and other determiners, Card cannot as shown in the ungrammaticality of (iv&v).
(i)Q …> N
 kull-u   s-sayyaraat-i
all-NOM   the-cars-GEN
'All the cars.'
(ii)Dem …> Card …> N
haaðihi   l-xams-u   s-sayyaraat-u
these   the-five-NOM   the-cars-NOM
'These five cars.'
(iii)Q …> Card …> N
 kull-u   l-xams-i   s-sayyaraat-i
 all-NOM   the-five-GEN   the-cars-GEN
'All the five cars.'
(iv)Card …> Q …>N
*l-xams-u   kull-u   s-sayyaraat-u

(37a)Q …> Dem …> Ord…> Card …>N

(37b) kull-u   haaðihi ?awwal-i xams-i   sayyaraat-in
    all-NOM these   first-GEN five-GEN   cars-GEN
    'All of these first five cars.'

Fassi Fehri (1999) argues that (37a) is the only attested order of determiners in prenominal position (see also Cinque, 1996). However, I claim here that (38) is also a possible combination.

(38a)Ord…> Q …> Dem …> Card …>N

(38b) ?awwal-u   kull-i   haaðihi l-xams-i   s-sayyaraat-i
    first-NOM all-GEN   these   the-five-GEN the-cars-GEN

In fact, Fassi Fehri argues for (37) in relation to (or including) AP as a premodifier as in (39).[35]

(39) kull-u haaðihi ?awwal-i xams-i   ?afđal-i   s-sayyaraat-i
  all-NOM these   first-GEN five-GEN better-GEN the-cars-GEN
  'All of these first five of the better cars.'

However, if AP is included in (38), nothing happens to the combination. In other words, the grammaticality of (40), where the AP *jamilaat-i* (beautiful) is included indicates that (41) is also a possible order of prenominal modifiers, and it is also strong evidence for our claim.

(40) ?awwal-u   kull-i   haaðihi l-xams-i   jamilaat-i   l-wajh-i
    first-NOM all-GEN   these   the-five-GEN beautiful-GEN the-face-GEN
    'First of all these five of the beautiful face.'

The-five-NOM all-NOM the-cars-NOM
(v)Card …> Dem …>N
*l-xams-u   haaðihi s-sayyaraat-u
The-five-NOM these   the-cars-NOM
(vi) Q …> Dem …> Card …> N
(vii)kull-u haaðihi l-xams-i   s-sayyaraat-i
 All-NOM these   the-five-GEN the-cars-GEN
  'All these five cars.'
(viii) Dem …> Q …> Card …> N
(ixb)*haaðihi kull-u l-xams-i   s-sayyaraat-i
    these   all-NOM the-five-GEN   the-cars-GEN

[35] Fassi Fehri's (1999) proposed order is given in (i) below.
(i) Q > Dem > Ord > Card> A > N

(41)Ord…> Q …> Dem …> Card …>A…>N

However, no other combination is possible as is clear from the ungrammaticality of (42) below.

(42a)Q …> Dem …> Card …> …>Ord…> N
(42b) *kull-u haaðihi l-xams-i   ?awwal-i s-sayyaraat-i
      all-NOM these   the-five-GEN first-GEN the-cars-GEN

It seems that the only way out to explain the reason for the ungrammaticality of (42) has to do with scope relation. Fassi Fehri (1999) argues that there is direct hierarchical prominence observed by premodifiers. In that, Q has scope over Dem which in turn has scope over Card and so on, which seems to be mainly a reflection of c-command effect observed by scope, i.e. the latter is likely to be stipulated by c-command.

However, whether such combinations can be used as modifiers of the CCSs is not clear. So, let us consider (43).

(43b) *kull-u   ?awwal-i haaðihi sayyaraat-i-hi
        all-NOM first-GEN these   cars-GEN-his

(43b)*kull-u   haaðihi   l-xams-i   sayyaraat-i-hi
      all-NOM these   the-five-GEN cars-GEN-his

Let us also try two determiners as in (44a), and one determiner as in (44b&44c).

(44a) *?awwal-u   haaðihi sayyaraat-i-hi
        first-NOM   these   cars-GEN-his

(44b) *haaðihi   sayyaraat-u-hu
        these   the-cars-his

(44c)*xams-u   sayyaraat-i-hi[36]
      five-NOM   cars-GEN-his

---

[36] Interestingly, there is some kind of "sounding dependency" between the CL –hu/-hi and the final sound of the word it is attached to. In other words, when the head N ends in –u (i.e. the nominative marker, and possibly –*a*, i.e. the accusative marker), the 3, SG and M CL must be –hu. However, when the head N ends in –i (i.e. the genitive marker), it must be –hi. The same thing could also be observed regarding –hum (i.e. the 3, PL and M CL). In fact, I have no explanation for this now, specifically if only these two CLs behave as such, hence, I leave it for future studies.

That two or even one determiner cannot surface as a premodifier in a CCS as is clear from the ungrammaticality of (44) seems to suggest that CCSs cannot be premodified. However**,** consider CCSs like (45).[37]

(45a) ?awwal-u   sayyaraat-i-hi
　　　first-NOM　　cars-GEN-his
　　　'First of his cars.'

(45b) kull-u　　sayyaraat-i-hi
　　　all-NOM　　cars-GEN-his
　　　'All of his cars.'

Thus, unlike (43&44), (45) gives us a clue that it is possible that Ord alone or Q alone can premodify a CCS. However, as is clear in (44b&c), Dem or Card cannot premodify a CCS even alone. Thus, it seems that CCSs do not allow a combination of premodifiers of any type. It is true, though, in (45a&b), Q and Ord are premodifiers, the reality is that these two elements enter in a genitive relation with the head N in CCSs. In other words, when Q or Ord occur in the premodifier position, they each constitute what is so-called embedded CSs, having multiple heads.

5.2. Postnominal Modifiers
As has been concluded with in the above section, only Q or Ord can be used as a premodifier in CCSs, and even there, they enter into a genitive relation with the head N of the CCS. Whether CCSs allow such elements to occur postnominally can be figured out in (46).

 (46a) kutub-u-hu   l-xamsat-u   l-?uulaa   haaðihi
　　　books-NOM-his the-five-NOM   the-first   these
　　　'His first five books.'

(46b) kutub-u-hu   l-?uulaa   l-xamsat-u   haaðihi
　　　books-NOM-his the-first   the-five-NOM   these
　　　'His first five books.'

(46c) ??kutub-u-hu   haaðihi l-xamsat-u   l-?uulaa
　　　books-NOM-his   these the-five-NOM   the-first[38]

---

[37] I ignore applying (37-41) because the impossibility of using three members implies the impossibility of four members.

'His first five books.'

In (46a-c) where three determiners co-occur in postnominal positions, the determiners are *l-xamsat-u, l-ʔuulaa* and *haaðihi* (Card, Ord and Dem: the five, the first and these, respectively). Note that Dem can also co-occur with numerals but only as the last element, and hence, the marginality of (46c) (see also fn.38). Recall that when we considered prenominal modifiers (determiners), the Ord obligatory occurrence as the first element in the complex is presumably not the case when it occurs as a postmodifier (where it freely occurs in several positions).

Now, consider how an AP, as a postmodifer, can occur in combination with numerals and Dem in (47a-d), where it occurs immediately after the CCS as in (47a), following the Card as in (47b), after Ord as in (47c) and finally as the last member as in (47d).

(47a) kutub-u-hu   l-jadiidat-u   l-xamsat-u   l-ʔuulaa haaðihi
      books-NOM-his the-new-NOM the-five-NOM the-first these
      'All these first five new books.'

(47b) kutub-u-hu   l-xamsat-u   l-jadiidat-u   l-ʔuulaa haaðihi
    books-NOM-his the-five-NOM the-new-NOM   the-first these
    'All these first five new books.'

(47c) kutub-u-hu   l-xamsat-u   l-ʔuulaa l-jadiidat-u haaðihi
    books-NOM-his the-five-NOM the-first the-new-NOM these
  'All these first five new books.'

(47d) kutub-u-hu   l-xamsat-u   l-ʔuulaa haaðihi l-jadiidat-u
     books-NOM-his the-five-NOM the-first these   the-new-NOM
     'All these first five new books.'

As can be seen, elements in (47) seem to be in free variation in Cinque's (1996, 2005) sense. In other words, the grammaticality of the structures in (47) indicates that there is no direct hierarchical prominence or scope restriction when determiners are used postnominally, even if AP is included. This implies that such

---

[38] The marginality of (46c) and the ungrammaticality of structures like (i&ii below) make it clear that when accompanying Ord and Card, Dem must be the last member in the complex.
(i) *kutub-u-hu   haaðihi l-ʔuulaa   l-xamsat-u
   books-NOM-his these   the-first   the-five-NOM
(ii) *kutub-u-hu   l-ʔuulaa   haaðihi l-xamsat-u
   books-NOM-his the-first   these   the-five-NOM

modifiers are in free variation in the postnominal positions. For instance, Cinque (2005) proposes that such free variation of postnominal modifiers is related to asymmetric relations with the premodifiers, which are severely constrained in SA. However, it should be noted here that modifiers in (47b-c) have non-attributive interpretation (cf. Fassi Fehri, 1999). This, in a way or another, indicates that the only attributive interpretation is (47a).[39]

Further, note that examples in (47) do not involve Q. Whether the same free ordering is also allowed when Q is included is still unclear. Consider (48).

(48a) kutub-u-hu   l-jadiidat-u   l-xamsat-u l-ʔuulaa   haaðihi kull-u-haa
     books-NOM-his   the-new-NOM   the-five-NOM the-first-NOM these   all-NOM- it
   'All these first five new books.'

(48b) *kutub-u-hu   l-jadiidat-u   l-xamsat-u   l-ʔuulaa kull-u-haa   haaðihi
     books-NOM-his   the-new-NOM the-five-NOM the-first all-NOM-it   these

The ungrammaticality of (48b) indicates that Q can only occur as the final element in the complex. It should also be noted that whatever position the Q can take, it results in ill-formed structures, which means that only (48a) is the correct order. Thus, given this, it seems that when AP, Card, Ord, Dem and Q constitute a combination, they must reflect (49), which in turn conforms to MIO (cf. Fassi Fehri, 1999).[40]

(49) N…>AP ….>Card…>Ord….>Dem….>Q

5.2.1. Mirror Image Ordering
In this section, I will try to examine MIO only in relation to AP modifiers. However, before that, we need to consider the types of adjectives in relation to the head N they modify. In other words, according to the function an AP has in a phrase, there are two types of APs immensely discussed in the literature: attributive and predicative, though there are several terminologies commonly used like

---

[39] Other combinations in (47) may presumably have identificational or predictional interpretation (see Fassi Fehri, 1999).

[40] Fassi Fehri (1999, p. 109) observes that only those orders that comply with MIO have attributive interpretation. Those which do not comply with MIO have predicative or focus interpretation, (i) and (ii) represent the former and the latter, respectively:
(i) al-qalam-u   l-ʔazraq-u   s-saɣiir-u   ➔ MIO
   the-pen-NOM   the-blue-NOM   the-small-NOM
   'The little blue pen.'
(i) al-qalam-u   s-saɣiir-u   l-ʔazraq-u   ➔ nonMIO
   the-pen-NOM the-small-NOM   the-blue-NOM
   'The little blue pen which is green.'

restrictive vs. non-restrictive, intersective vs. non-intersective, heavy vs. light, simple vs. complex, direct vs. indirect (see e.g. Pereltsvaig, 2006; Fassi Fehri, 1999; Sproat & Shih, 1990; Hawkins, 1983; Quirk et al, 1985). In this relation, it has been held that depending on the relevant discourse class, order varies such as how 'small brown dogs' differs from 'brown small dogs,' thus, consider (50).

(50) al-qalam-u   l-fiđđi-u   ş-şiini-u   l-?azraq-u
      the-pen-NOM   the-silver-NOM the-Chinese-NOM the-blue-NOM
       l-kabiir-u   l-jayyd-u
      the-big-NOM   the-good-NOM
      'The good big blue Chinese silver pen.'

As far as AP modifiers are concerned, it is argued that they have to strictly respect MIO. If the order of APs does not conform to MIO, the result is an ungrammatical structure as in (51).

(51a) psalim   gvohim yafim
      sculptures   tall   beautiful
      'Beautiful tall sculptures.'

(51b) * psalim   yafim   gvohim
         sculptures beautiful   tall

The ungrammaticality of (51b) is ascribed to the fact that it violates MIO by placing the opinion adjective *yafim* (beautiful) after the size one *gvohim* (tall) (Pereltsvaig, 2006, p. A10). In fact, MIO is postulated in relation to English AP ordering. In other words, it has been postulated that Semitic APs are ordered as a mirror image of English one. This is shown in (52).

(52a) English: opinion…>size…> color…> origin…>material[41]
(52b) MIO: material…>origin…> color…>size…>opinion

Though (52b) applies to Arabic and Hebrew, it has been argued that similar modification phenomena are spread cross-linguistically (see Fassi Fehri, 1999; Cinque, 1996, 2003, 2005; Shlonsky, 2004; Pereltsvaig, 2006, among many others).

―――――――――――――――

[41] Fassi Fehri (1999, p. 108) postulates another order as in (i) specific to event nominals. It will be referred to in our subsequent discussion.
(i) event nominals: speaker oriented>subject oriented>{manner, thematic}

The fact that APs are Specs of NPs comes from Kayne's (1994) antisymmetric linearization, and its algorithm, i.e. LCA. Kayne argues that LCA concerns the ordering Spec(s) of a Head (H) and its complement (Comp) take as Spec>H>Comp. Taking Cinque's (1996) extension of Kayne's (1994) antisymmetric linearization in relation to Semitic DPs that APs are Specs of NPs (see also section 4.3),[42] let us apply our proposals to the CCS in (53) where there are three APs, namely, *l-fiđđi-u, ş-şiini-u* and *l-jayyd-u* (silver, Chinese and good, respectively) modifying *qalam-u-hu* (his pen).

(53) qalam-u-hu l-fiđđi-u ş-şiini-u l-jayyd-u
    pen-NOM-his the-silver-NOM the-Chinese-NOM the-good-NOM
    'His good Chinese silver pen.'

Omitting details, and given our postulations in (29-31), the derivation of (53) will proceed as follows: the head N *qalam-u* is first selected from the lexicon as bare and the three APs *l-fiđđi-u ş-şiini-u l-jayyd-u* are merged as Specs to the NP conforming to Multiple Spec hypothesis (see Chomsky, 1995; Cinque, 1996; Fassi Fehri, 1999). Note that in their base-generation positions, the order of the APs does not reflect MIO; they presumably reflect the order of English, i.e. if we read them in relation to the head N from right-to-left, we will find them in the order *qalam-u l-fiđđi-u ş-şiini-u l-jayyd-u*. (54a) illustrates their base.

(54a)
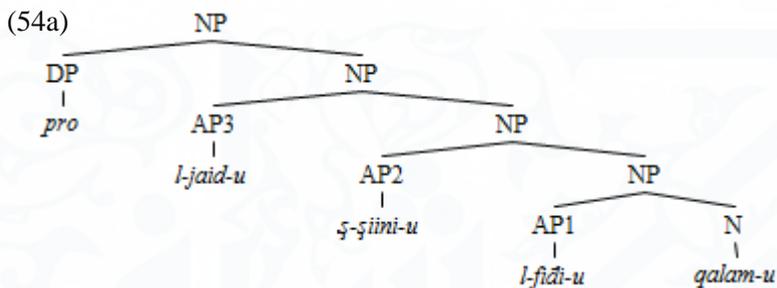
However, the question is why do these multiple APs have to occur in that order with respect to their base? In fact, answering such a question requires us to take into account two interrelated requirements: i) MIO and ii) hierarchical prominence. The former concerns the output structure of APs in relation to the head N and the latter concerns their base. In their base, APs originate as multiple Specs. Thus, I assume that the most prominent must occur closely to the head N within NP projection, and MIO is derived from such a base order, conforming to

---

[42] Some scholars (see e.g. Fassi Fehri, 1993, 1999) consider them full DPs for the features they carry. In other words, due to the full agreement features they carry (similar to the head Ns they modify), APs are considered DPs.

antisymmetrical left movement (see Kanye, 1994; Cinque, 1996), MLC and RM (see also section 4.2). In other words, APs locally moved to Specs of nPs, where they create 'standard minimal links' in the sense of (Fassi Fehri, 1999).

Thus, taking all this in mind, and since *n*Ps constitute a minimal domain, no minimality violation is expected. Thus, if this is on the right track, it follows that in a bottom-up fashion, the highest AP, i.e. AP1, raises and lands in Spec *n*P1, AP2 in Spec-*n*P2 and so on, and consequently, the derivation will proceed as follows. The highest AP *l-jayyd-u* will move to Spec-*n*P1, the immediately below AP, namely, *ş-şiini-u* will raise to Spec-*n*P2, and the lowest AP *l-fiđđi-u*, i.e. will move and land in Spec-*n*P3 as shown in (58b), thus, giving us the desired MIO.

(54b)
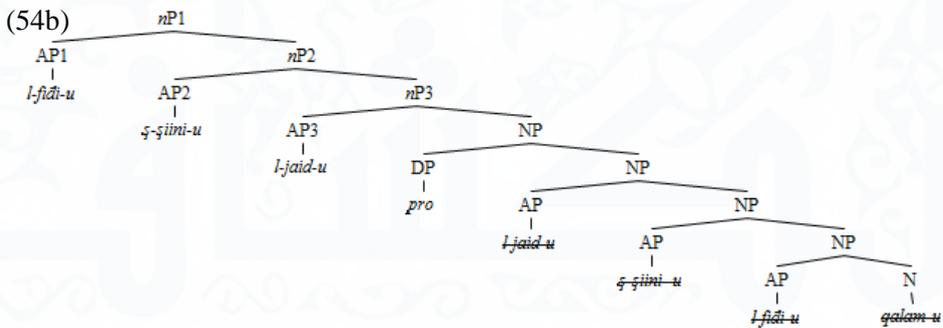
Now, *n*P will merge with D projecting into DP. The CL –hu is merged in D$_{CL}$ and the moment it is base-generated, it is coindexed with *pro*. Finally, the head N *qalam-u* will move to Spec-DP and the resultant structure is illustrated in (54c).

(54c)
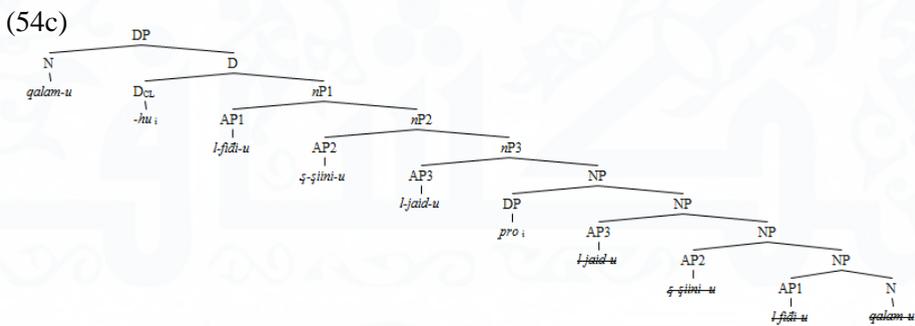
There are two issues to consider here: i) the fact that *pro* is base-generated in Spec-NP stems from the assumption that since it is a genitive construction, the head N has to have a GDC, which is *pro* here. For why only when the CL –hu is merged, pro is coindexed with it, it could be argued that it stems from the fact that an empty category has to have an overt category to be associated with (or otherwise bound

by, though this does not always hold, see examples (13&14), having all the properties of the associating category. These properties could be said to be agreement in ϕ-features presumably by virtue of having the same coindexation. And ii) it is at this point of derivation feature sharing mechanism takes place. In other words, an Agree relation is established, creating the permanent link of AP1, AP2, AP3, on the one hand, and D_{CL} on the other, (by virtue of having the same matching unvalued feature(s)). D_{CL} now is ready to enter an Agree relation with N. Since both are ϕ-*complete*, and since the former's are unvalued and the latter's valued, the result of such an Agree relation is valuing all D_{CL} and As' unvalued features.

As far as narrow syntax is concerned, the derivation is now complete, and the output structure is N^CL, which might seem to be presumably possible. However, recall that CLs are bound forms, which means that they need to be cliticized to their hosts. Consequently, m-merger comes to play, and hence, (54d) is obtained.

(54d)
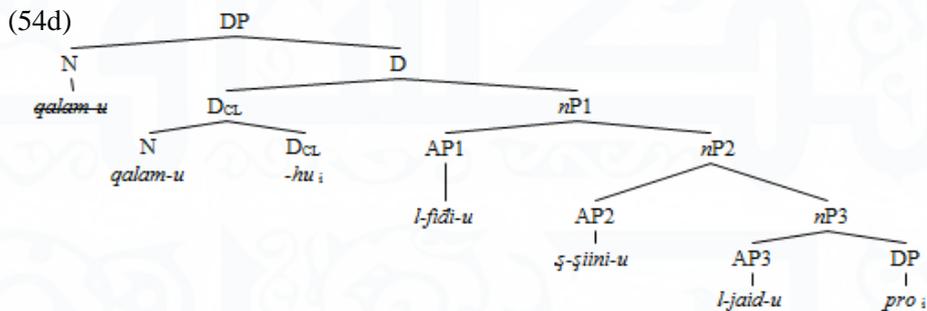
As has been assumed that DS does not take place in CCSs, and since the AP modifiers show agreement with the head they modify, the question is why is that APs are syntactically definite (by virtue of having al-)?[43] This is in fact an empirical question the answer to which requires us to walk through the following discussion.

In fact, to account for the occurrences of the definite article al- on the APs in (53), one possible scenario, and following Kayne's (1994) proposal of IP/CP as a complement of D, is that the head N along with its AP modifiers constitute a small clause having an identificational function, but not predictional (see also Fassi Fehri, 1999). To see how idenitificational hypothesis works, consider Dem structures like (55) (from Fassi Fehri, 1999, p. 38).[44]

---

[43] See Danon (2008) for the notion "semantically definite" DPs.

[44] Note that the inflectional huwa's optional presence is meant only for clarifying the intended meaning. In fact, Fassi Fehri (1999) also recommends appropriate intonation break in (55) examples.

(55a) haaða　(huwa)　t-taalib-u
　　　this　　(he)　　the-student-NOM
　　　'This (is) the student.'

(55b) haaða　(huwa)　l-masʔuul-u
　　　this　　(he)　　the-responsible-NOM
　　　'This (is) the responsible.'

Fassi Fehri (1999) argues that when interpreted as a DP in (55a), *t-taalib-u*, with the definite article, can by no means be interpreted as operating like the 'nominalized' AP in (55b). Though (55a) is a DP while (55b) is a sentence, *t-taalib-u* and *l-masʔuul-u* are of an identificational origin.[45] This interpretation is also possible in structures like (56).

(56a) r-rajul-u　　　(huwa)　l-qaʂiir-u
　　　the-man-NOM　(he)　　the-short-NOM
　　　'The man (is) the short.'

(56b) r-rajul-u　　　qaʂiir-un
　　　the-man-NOM　short-NOM
　　　'The man is short.'

Thus, if our argument above is true, it follows that the subject *r-rajul-u* and its predicate *l-qaʂiir-u* are saturated categories by virtue of being definite and that "one saturated category is 'identified' with the other, rather than 'predicated" (Fassi Fehri, 1999, p. 138).

Thus, if Dems are used as subjects (qua inherently definite), their predicate must be indefinite, and if this is true, the nominal CS in (57), used as a predicate, is indefinite.

(57) haaða　taalib-u　　　l-ʕilm-i
　　　this　　student-NOM　the-knowledge-GEN
　　　'This is a student of the knowledge.'

---

[45] Arabic and Hebrew seem to differ from Romance languages in this particular aspect. In other words, while the former allow the definite article the latter do not as in (i) and (ii) representing English and French ii), respectively.
(i) this (*the) book
(ii)ce (*le) livre
Thus, it is clear that while for a DP interpretation the definite article in Semitic structures like the Arabic ones in (56) must be lexically realized, it is an option in Romance.

Now, if, as claimed, the DS is indicated by the agreement shown by their definite AP modifiers, it is difficult to account for the grammaticality of (58), where the CS is modified by the definite AP l-mujtahid-u and the whole construction functions as a predicate.

(58) haaða ṭaalib-u l-ʕilm-i l-mujtahid-u
    this student-NOM the-knowledge-GEN the-hardworking-NOM
    'This is a hardworking student of the knowledge.'

In addition, partial agreement between a head N and its AP modifier(s) in (in)definiteness is also evident that DS does not take place, consider (58a).

(58a) al-maraʔat-u jamiilat-u l-wajh-i
    the-woman-NOM beautiful-NOM the-face-GEN
    'The woman with a beautiful face.'

In (58a), the head A of the ADC *jamiilat-u* (beautiful) does not agree with the head N *al-maraʔat-u* (the woman) in definiteness. The fact that (58a) is indefinite comes from structures like (58b) where the adjectival head, if definite, has to have the definite article (cf. Fassi Fehri, 1999).[46]

(58b) al-maraʔat-u l-jamiilat-u l-wajh-i
    the-woman-NOM the-beautiful-NOM the-face-GEN
    'The woman with the beautiful face.'

What examples in (58) suggest is that since ADCs occur in AP positions, DS is not expected to take place in such structures (see Fassi Fehri, 1993, 1999).

This is also evident even in CCSs as in (59).

---

[46] See also partial agreement in Hebrew similar constructions as in (i).
(i) ha-n'ara [yefat ha-eynayim]
   the-girl pretty the-eyes
    'The girl with the beautiful eyes.'
In (i), there is no full agreement. This is clear if we consider the agreement in definiteness between AP *yefat* (beautiful) and the head N *ha-n'ara*, where there is no agreement in definiteness between them. However, there is actually partial agreement holding between them in gender, person and number. Partial agreement is also possible in DPs with numerals as premodifiers as in (ii) from YA, for instance, where *θlaθiin* (thirty) is Pl whereas *rajul* (man) is Sg.
(ii) θlaθiina rajul-in
   thirty man-GEN
    'Thirty man.'

(59a) kitaab-u-hu   jadiid-u   l-ɣilaaf-i
    book-NOM.his   new-NOM   the-cover-GEN
    'His book of a new cover.'

(59b) kitaab-u-hu   l- jadiid-u   l-ɣilaaf-i
    book-NOM.his   the-new-NOM   the-cover-GEN
    'His book of the new cover.'

where the head N is modified by the adjective *jadiid-u* (new) which occurs as definite in (59a) and indefinite in (59b).

In the above argument, what I want to suggest is that the claim that DS takes place in CSs in general and CCSs in particular seems to be questionable still. Thus, following Fassi Fehri (1999), I assume that APs in structures like (53) are attributive, and they are presumably generated in Spec-NPs as `inverse' identificational clauses, and if this is true, it follows that we expect such APs to occur with definite articles (Fassi Fehri, 1999, p. 138), but not because of DS. Thus, I would conclude this section stating that the claim that the agreement between the head N and its AP modifiers in (in)definiteness may not always hold.

6. Conclusion

Thus, in this article, I have tried to seek answers to such questions as to how a noun appears with a pronominal clitic, how is such a CCS is derived in the syntax?, what happens to the heads of DPs in these structures?, do these heads exist?, if not, then how can we have a DP projection in the absence of a D head?, among others. I have proposed that a CCS is a construction where the nominal head raises to Spec-DP, and the CL is a D head, building on the morphological similarities between independent pronouns and clitics and also based on the fact that the former are diachronically derived from the latter. I have also briefly tackled clitics in general and CLs in CCSs in particular, trying to account for their syntactic properties. Applying our analysis, deriving CCSs consists of two operations: syntactic and morphological. I have also shown how D-CL is projected in such constructions, and how agreement takes place in the CCS-internal structure, applying such proposals to Semitic CCSs, particularly, Arabic and Hebrew, concluding that N-to-Spec approach better accounts for the syntactic and morphological properties of CCSs simply, but in an elegant, straightforward and principled fashion. Still, however, there remains applying the approach developed here to clustered CCSs, I leave this for future research.

References

Abels, K. 2003. Successive cyclicity, anti-locality, and adposition stranding. Ph.D Dissertation, University of Connecticut, Storrs.

Alexiadou, A., Haegeman, L., & Stavrou, M. 2007. *Noun phrase in the generative perspective*. Mouton de Gruyter, Berlin.

Anderson, S. 1982. Where's morphology, *Linguistic Inquiry, 13*(4), 571-612.

Assiri, A. 2011. Arabic adjectival phrases: An Agree-based approach. Memorial University of Newfoundland.

Baker, M. 1988. *Incorporation: A Theory of Grammatical Function Changing*. Chicago: University of Chicago Press.

Baker, M. 2008. *The Syntax of Agreement and Concord*. Cambridge University Press.

Benmamoun, E. 2003. Agreement parallelism between sentences and noun phrases: A Historical Sketch. *Lingua 113*(8), 747-764.

Borer, H. 1988. On the morphological parallelism between compounds and constructs. In G. Booij van J. Marle (eds.), Yearbook of Morphology . Dordrecht: Foris, 45–65.

Borer, H. 1996. The construct in review. In J. Lecarme et al. (eds.), Studies In Afroasiatic Grammar. Holland Academic Graphics, The Hague, 30–61.

Borer, H. 1999. Deconstructing the construct. In K. Johnson & I. Roberts (eds.), *Beyond Principles and Parameters: Essays in Memory of Osvaldo Jaeggli*, 43–89. Dordrecht: Kluwer Academic Publishers.

Bresnan, J. & Mchombo, S. 1987. Topic, pronoun, and agreement in Chichewa', *Language 63*(4), 741-782.

Bruening, B. 2009. Selectional asymmetries between CP and DP suggest that the DP hypothesis is wrong. University of Pennsylvania Working Papers in Linguistics, 15, 27-35.

Bury, D. 2003. Phrase structure and derived heads. Ph.D Dissertation, University College, London, London.

Cheng, L. & Sybesma, R. 1999. Bare and not-so-bare Nouns and the Structure of NP. *Linguistic Inquiry* 30, 509-542.

Chomsky, N. 1957. Stntactic Structures.

Chomsky, N. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.

Chomsky, N. 1982 *Some Concepts and Consequences of the Theory of Government and Binding*. Cambridge, MA: MIT Press.

Chomsky, N. 1995. *The Minimalist Program*. Cambridge, MAA MIT.

Chomsky, N. 2000. Minimalist inquiries: The framework. In R. Martin, D. Michaels, & J. Uriagereka, (eds.), *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, 89–155. Cambridge, MAA MIT Press.

Chomsky, N. 2001. Derivation by phase. In M. Kenstowicz (ed.), *Ken Hale: a life in language*. MIT Press, Cambridge, MA, 1-52.

Chomsky, N. 2007. Approaching UG from below. In U. Sauerland & H.-M. Gartner, (ed.), Interfaces + recursion = language?, Berlin: Mouton de Gruyter, 1–31.

Cinque, G. 1996. The Antisymmetric programme: theoretical and typological implications, *Journal of Linguistics*, 32, 447-464.

Cinque, G. 2003. Greenberg's universal 20 and the Semitic DP. In Grammatik ifokus/ Grammar in Focus. Festschrift for Christer Platzack, II, Lars-Ol of Delsing.

Cinque, G. 2005. Deriving Greenberg's universal 20 and its exceptions. *Linguistic Inquiry,36*(3), 315-332

Danon, G. 2001. Syntactic Definiteness in the grammar of modern Hebrew. *Linguistics,* 39(6), 1071-1116.

Danon, G. 2002. Case and Formal Definiteness: the Licensing of Definite and Indefinite Noun Phrases in Hebrew,' unpublished Ph.D dissertation, Tel Aviv University.

Danon, G. 2008. Definiteness spreading in the Hebrew construct state. *Lingua*, *118*(7), 872–906.

Danon, G. 2011. Agreement and DP-internal feature distribution. *Syntax*. 14*(4)*, 297–317.

Dobrovie-Sorin, C. & Brenda, L.1996. Generic bare NPs, ms. Université de Paris 7 and Université de Strasbourg.

Dobrovie-Sorin, C. 2000. (In)definiteness spread: from Romanian genitives to Hebrew construct state nominals. In V. Motapanyane, (ed.), Comparative Studies in Romanian Syntax. Elsevier, Oxford, 177–226.

Dobrovie-Sorin, C. 2002. From DPs to NPs: A Bare phrase structure account of Genitives, Coene, M. & D'Hulst, Y. (eds.) *From NP to DP, 2*: *The expression of possession in noun phrases*. Amsterdam/ Philadelphia John Benjamins (Linguistik Aktuell/Linguistics Today).

Doron, E. 2003. Bare singular reference to kinds. In R. Young and Y. Zhou (eds), SALT XIIl 7, 3 -90, Ithaca, NY: Cornell University.

Embick, D. & Noyel, R. 2001. Movement operations after Syntax. *Linguistic Inquiry*, *32*(4), 555–595.

Emonds, J. 1970. Root and structure preserving transformations. Ph.D Dissertation, MIT.

Engelhardt, M. 2000. The projection of argument-taking nominals. *Natural Language & Linguistic Theory*, *18*(1), 44-88.

Fassi Fehri, A. 1988. Agreement, binding, and coherence. In *Agreement in Natural Language,* M. B. & Charles Ferguson (eds.), 107-158. Stanford CAA CSLI.

Fassi Fehri, A. 1989. Generalized IP structure, case, inflection and VS word order. *MIT Working Papers in Linguistics*, 10, 75–113.

Fassi Fehri, A. 1993. *Issues in the Structure of Arabic Clauses and Words*. Dordecht: Kluwer Academic Publishers.

Fassi Fehri, A. 1999. Arabic Modifying Adjectives and DP Structures. *Studia Linguitica*, 53.2.

Fassi Fehri, A. 2004. *Nominal Classes, Reference, and Functional Parameters, with Particular Reference to Arabic.* Linguistic Variation Yearbook, 4.41–108.

Fassi Fehri, A. 2012. *Key Features and Parameters in Arabic Grammar*. John Benjamins B. V.

Frampton, J. & S. Gutmann. 2006. How sentences grow in the mind. In *Agreement systems*, (ed.) C. Boeckx, 121–157. Amsterdam: John Benjamins.

Francez, I. & Goldring, K. 2012. Quantifiers in modern Hebrew. Available at *home.uchicago.edu/~ifrancez/QMH.pdf.*

Georgi, D. & Müller, G. 2010. Noun-Phrase Structure by Reprojection. *Syntax* 13(1), 1–36.

Giorgi, A. & Pianesi, F. 1997. *Tense and Aspect: from semantics to morphosyntax*, New York/Oxford: Oxford University Press.

Hale, K. 1987. Incorporation and the irish synthetic verb forms. ms., MIT, Cambridge, Mass.

Hankamer, J. and Mikkelsen, L. 2005. When movement must be blocked: A reply to Embick and Noyer. *Linguistic Inquiry*, 36,85–125.

Hawkins, R. 1983. *Word order universals*. New York: Academic Press.

Kayne, R. 1994. *The antisymmetry of syntax*. Cambridge, MAA MIT Press.

Koopman, H. & Szabolsci, A. 2000. Verbal complexes, Cambridge, Mass.: MIT Press.

Kremers, J. 2003. *The Arabic Noun Phrase*. Netherlands: LOT.

Kremers, J. 2009. Recursive linearization. *The Linguistic Review,* 26, 135–166.

Krifka, M. 1 995. Common Nouns: a Contrastive Analysis of Chinese and English. In G. Carlson & J. Pelletier (eds.).

Longobardi, G. 1994. Reference and Proper Names: a theory of N-movement in Syntax and Logical Form. *Linguistic Inquiry*, 25, 609–65.

Longobardi, G. 1996. On the typological unity of Indo-European and Semitic genitive case. In J. Lecarme (eds.), Studies in Afroasiatic Grammar. HAG, The Hague, 179–214.

Longobardi, G. 2001. The Structure of DPs: some Principles, Parameters, and Problems. In M. Baltin, C. Collins (eds.), The Handbook of Contemporary Syntactic Theory. Blackwell, Oxford, 562–603.

Mahajan, A. 2000. Eliminating head movement. *GLOW Newsletter,* 44, 44–45.

Mahajan, A. 2003. Word order and (remnant) VP movement. In S. Karimi (ed.), *Word Order and Scrambling*. Blackwell, Oxford, 217–237.

Matushansky, O. 2006. Head movement in linguistic theory. *Linguistic Inquiry*, 37, 69–109.

McCawley, J. 1971. Tense and time reference in English. In C. Fillmore & D. Langendoen (eds.) *Studies in Linguistic Semantics*. New York: Holt, Rinehart and Winston, 95-113.

Mohammad, M. 1988. On the parallelism between IP and DP. In H. Borer (ed.), Proceedings of WCCFL VII. CSLI Publications, Stanford, 241–254.

Mohammad, M. 1999. Checking and licensing inside DP in Palestinian Arabic. In E. Benmamoun (ed.), Perspectives on Arabic Linguistics XIII Papers from the Twelfth Annual Symposium on Arabic Linguistics, 27–44. Amsterdam: John Benjamins Publishing Company.

Müller, G. 2004. Verb-Second as vP-First. *Journal of Comparative Germanic Linguistics,* 7, 139-274.

Marantz, A. 1984. *On the Nature of Grammatical Relations,* MIT Press, Cambridge, Mass.

Ouhalla, J. 1991. *Functional Categories and Parametric Variation*. Routledge, London.

Ouhalla, J. 1994. Genitive subjects and the VSO order in Berber (Unpublished Manuscript). Queen Mary and Westfield College, London University.

Ouhalla, J. 2004. Semitic relatives. *Linguistic Inquiry,* 35, 288–300.

Ouhalla, J. 2009. Variation and change in possessive noun phrases: the evolution of the analytic Type and Loss of the Synthetic Type. Brill's Annual of Afroasiatic Languages and Linguistics 1(1), 311–337.

Pereltsvaig, A. 2006. Head movement in Hebrew nominals: A reply to Shlonsky. *Lingua,* 116, A1–A40.

Pereltsvaig, A. 2007. The universality of DP: A view from Russian. *Studia Linguistica,* 61, 59-94.

Pesetsky, D. & Torrego, E. 2007. The Syntax of Valuation and the Interpretability of Features. In Karimi, S., Samiian, V. & Wilkins, W. (eds). *Phrasal and Clausal Architecture*. Amsterdam: John Benjamins, 262-294.

Quirk, R., Greenbaum, S., Leech, G. & Svartvik J. 1985. *A Comprehensive Grammar of the English Language*. London: Longman.

Radford, A. 2009. *Analyzing English Sentences*. Cambridge University Press.

Ritter, E. 1991. Two Functional Categories in Noun Phrases: Evidence from Modern Hebrew. *Perspectives on Phrase Structure: Heads and Licensing. (Syntax and Semantics,* 25.*)*, London: Academic Press, 25, 37–62.

Rizzi, L. 1982. *Issues in Italian Syntax,* Faris, Dordrecht.

Rizzi, L. 1986. Null Objects in Italian and the Theory of pro, *Linguistic Inquiry, 17*(3), 501-557.

Rizzi, L. 1990. *Relativized Minimality,* MIT Press, Cambridge, Mass.

Roberts, I. 2011. Head Movement and the Minimalist Program. In Cedric Boeckx (ed.), *The Oxford Handbook of Linguistic Minimalism.* Oxford: Oxford University Press, 195-219.

Shlonsky, U. 1997. Clause Structure and Word Order in Hebrew and Arabic: An Essay in Comparative Semitic Syntax. Oxford University Press, New York.

Shlonsky, U. 2004. The Form of Semitic Noun Phrases. *Lingua,* 114, 1465–1526.

Shormani, M. 2014. Structural Ambiguity in Arabic DPs: A Minimalist n N-to-Spec Approach. *Al-Qalam Journal*, *1*(1), 1-35.

Shormani, M. (in press). (In)definiteness Spread in Semitic Construct State: Does It Really Exist?

Shormani, M. (in press). Semitic Construct State: A Phase Approach.

Sichel, I. 2002. Phrasal movement in Hebrew adjectives and possessives. In A. Alexiadou et al. (eds.), Remnant Movement, Feature Movement and the T-Model. John Benjamins, Amsterdam, 297–339.

Sichel, I. 2003. Phrasal movement in Hebrew DPs. In J. Lecarme (ed.), Research in Afroasiatic Grammar, II. John Benjamins, Amsterdam, 447–479.

Siloni, T. 1991. Noun raising and the structure of noun phrases. In J. Bobaljik & T. Bures (eds.), Papers from the Third Student Conference in Linguistics. *MITWPL,* 14, 255–270.

Siloni, T. 1997. Noun phrases and nominalizations. The Syntax of DPs. Kluwer, Dordrecht.

Siloni, T. 2001. Construct states at the PF interface. Linguistic Variation Yearbook 1, 229–266.

Sproat, R., Shih, C., 1991. Prenominal adjectival ordering in English and Mandarin. Proceedings of NELS 18, 465–489.

Suranyi, B. 2005. Head movement and reprojection. Annales Universitatis Scientiarum Budapestinensis de Rolando Eo¨tvo¨s Nominatae. Sectio Linguistica. ELTE Tomus, 26, 313–342.

Travis, L. 1984. Parameters and effects of word order variation. Ph.D Dissertation, MIT.

Vicente, L. 2007. The syntax of heads and phrases: A Study of Verb (Phrase) Fronting. Ph.D Dissertation, Netherlands Graduate School of Linguistics.