Evidence for DP-internal Remnant Movement

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0.   Introduction

The goal of the paper is to show that a heterogeneous class of nominal fronting movements produce N-initial orders in Hebrew, and to examine the properties of the different phrasal movement operations involved. In particular, while construct state nominals (in 1) are derived by N° movement (as previously argued in Ritter (1991), and Siloni (1994)), attributive adjectival constructions (in 2) are derived by pied-piping an NP constituent across an adjectival head, and free state genitive constructions (in 3) are derived by raising a remnant NP from which the genitive argument has been extracted:

(1)   a.   tmunat ha-xamaniot   b.   be'ayot ha-plitim
              picture-CS the-sunflowers   problems-CS the-refugees
              'the picture of the sunflowers'   'the problems of the refugees'

(2)   a.   ha-mexonit ha-amerika'it ha-aduma   b.   ha-mexonit ha-aduma ha-gdola
              the-car the-american the-red   the-car the-red the-big
              'the red American car'   'the big red car'

(3)   a.   ha-tmuna Sel ha-xamaniot   b.   ha-be'ayot Sel ha-plitim
              the-picture of the-sunflowers   the-problems of the-refugees
              'the picture of the sunflowers'   'the problems of the refugees'

The remnant movement derivation proposed for (3), however, does not pattern neatly either with remnant VP-topicalization of the German type, or Kaynian remnant movement observed in English (Kayne, 1998)[1]:

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[1]See Muller (1999) for detailed discussion of similarities and differences between German 'primary' remnant movement, as in (4a), and English 'secondary' remnant movement, as in (4b).

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(4)   a.   [$_{VP}$ t_1 Gelesen]$_2$ hat [$_{IP}$ [das Buch]$_1$ keiner t_2]
                        read   has   the book   no-one
            'No-one has read the book'
       b.   John [$_{VP}$ reads t_1]$_2$ [no novels]$_1$ t_2

On the one hand, like VP topicalization, the nominal phrase appears to target an A-bar position, but on the other hand, similar to Kaynian remnant movement, it is not attested independently of prior extraction from within it. And in contrast to both remnant movement types, nominal raising in (3) is obligatory and seems to be triggered by the very features which attract head movement in (1).

In addition, the derivations of (2) and (3), both involving phrasal movement of NP to spec DP (by pied piping and remnant movement, respectively), exhibit substantial differences. Most significantly, pied piping of NP across an adjectival head cannot proceed successive cyclically; further raising of NP requires pied piping of the DP within which NP is contained. In contrast, a remnant NP in spec DP may undergo further movement to higher specifier positions.

The paper is organized as follows. In the first section attributive adjectives are compared with DP-internal predicative adjectives and it is argued that the former are positioned as heads on the main projection line between DP and NP; N-initial order is derived by phrasal movement of NP across the adjective. In the second section a number of differences between CS nominals and free state (non-derived) nominals are presented as evidence for a remnant movement analysis of the latter[1]. These analyses are combined in the third section to derive DPs with both adjectives and possessives, and further differences between the two phrasal movement operations are discussed.

1.   Attributive Adjectives

Attributive adjectives in Hebrew always follow the head noun and agree with it in definiteness, gender, and number, as in (5) and (6):

(5)   a.   ha-mexonit ha-amerika'it ha-aduma ha-gdola
            the-car.f.s   the-american.f.s the-red.f.s the-big.f.s
            'the big red American car'
       b.   mexonit amerika'it   aduma gdola
            car.f.s   american.f.s red.f.s big.f.s
            'a big red American car'

(6)   a. *[$_{DP}$ ha-mexonit amerika'it]   b. *[$_{DP}$ mexonit ha-amerika'it]
            the-car.f.s american.f.s   car.f.s   the-american.f.s

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[1] See also Hoekstra (1999) for an analysis along these lines.

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As seen in (5) and (7), the order of adjectives is the reverse of that found in English[2].

(7) a. ha-mexonit ha-amerika'it   ha-aduma ha-zot
         the-car.f.s   the-american.f.s the-red.f.s the-this.f.s
         'this big red American car'
     b. mexonit amerika'it   aduma zot
         car.f.s   american.f.s red.f.s this.f.s
         'this big red American car'

Following Cinque (1994, 1996) I assume that the base order of adjectival modifiers is universal. Assuming that adjectives, like adverbial modifiers, do not themselves move, it follows that adjectives may be fronted only as a by-product of the operation which fronts some other constituent, in this case the nominal[3]. Corroborating evidence is provided by the fact, noted by Cinque (1996), that mirror image order is limited to languages in which adjectives are preceded by $N°$. A slightly more subtle illustration of the same point is provided by Standard Arabic. Numerals preceding $N°$ are ordered as in English, the ordinal preceding the cardinal. Following $N°$, the order of ordinal and cardinal is reversed (from Fassi Fehri, 1999):

(8) a. the first five lectures   b. ?awwal-u xams-i muhaadaraat-in
     c. l-muhaadaraat-u l-xams-u l-?uulaa   first-nom five-gen lectures-gen
         the-lectures-nom the-five-nom the-first
         'the first five lectures'

I propose therefore that the movement operation which fronts nominals in Hebrew (and most likely in Standard Arabic too, but not in Welsh) is also responsible for fronting adjectives over higher adjectives, as in the following schematic representation[4]:

(9) Adj$_1$ Adj$_2$ Adj$_3$ N → [[[N Adj$_3$] Adj$_2$] Adj$_3$]

More specifically, starting out with a base structure as in (11), NP raising to spec DP is triggered by strong features in $D°$, and results in gender, number, and definiteness

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[2] For further examples of 'mirror image' adjective sequences in Hebrew see Shlonsky (1999); see Fassi Fehri (1999) for similar facts in Standard Arabic.

[3] It is clear, however, that nominal fronting does not entail reverse ordering. In Welsh, for example, nouns precede adjectives, but adjectives are ordered as in English (examples from Rouveret (1991); see also Cinque (1994)):

(i) a. llyfr newydd Dafydd   b. cwpan mawr gwyrdd Sieineaidd
         book new david   cup   large green Chinese
         'David's new book'   'a large green Chinese cup'

[4] Despite the fact that Hebrew is not a postpositional language – Cinque (1996) correlates the availability of NP fronting with NP fronting observed in postpositional languages. Given current syntactic theorizing (Kayne (1999), for example) it is indeed feasible that at least some derivations which result in P-NP/DP order are 'postpositional' at an earlier stage; i.e. exhibit phrasal movement across $P°$.

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agreement between nominal and attributive modifier. Following Siloni (1994) and Borer (1999), the definiteness marker is generated as nominal prefix. The *ha-* prefixed to adjectives, however, is an instantiation of D^o[5]. The assumption that adjectives are heads on the main projection line between DP and NP provides a straightforward explanation of DP-internal agreement[6].

(10)   a. $[_{DP}$ spec D^o ... $[_{AP}$ A^o NP]]]

        b. $[_{DP}$ $[_{NP}$ the-friend] the+A^o $[_{AP}$ t_A t_{NP}]]]

        Consider now the derivation of a DP with multiple adjectives. Adjectives are generated in 'English' order as heads of AP's which are sisters to iterating D^o, as in (11)[7]:

(11) $[_{DP1}$ spec $[_{D'}$ the- $[_{AP1}$ this $[_{DP2}$ spec $[_{D'}$ the- $[_{AP2}$ big $[_{DP3}$ spec $[_{D'}$ the- $[_{AP3}$ red $[_{NP}$ the-car]]]]]]]

First, NP raises to spec DP$_3$, followed by raising of DP$_3$ to spec DP$_2$, and DP$_2$ to spec DP$_1$, as in (12):

(12)

Evidence in favor of attributive adjectives as heads between DP and NP (as in Abney, 1987; Bernstein, 1993; Androustopoulou, 1994) is the ban on complements, easily

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[5] See Sichel (2000) for an argument.

[6] A different phrasal movement approach to mirror image ordering is presented in Shlonsky (1999), in which adjectives are positioned in designated specifiers. See Sichel (2000) for more detailed discussion of differences between the two.

[7] D^o here is a cover term for the functional head in whose specifier the adjective would occur on a Cinque-type approach. While Cinque (1999) argues that the clausal domain does, in fact, include as many functional heads as are necessary for generation of multiple adverbs, the conclusion that DP independently includes as many distinct functional heads as is necessary to host adjectival specifiers seems less likely. I see no reason to assume that 'adjectival' D^o differs from ordinary D^o in any way beyond its phonetic pronunciation as *ha-* mentioned above.

explained if the sister to an attributive adjective is necessarily NPs. To see that the adjectives under discussion do not take complements, consider the following differences between these and adjectives with complements. First, as in Italian (Cinque 1994), simple adjectives precede nominal complements, but complex adjectives follow:

(13)   a. ha-tmuna [ha-gdola ha-axrona] Sel van gox Sel ha-xamaniot
           the-painting [the-large the-last] of van gogh of the-sunflowers
           'Van Gogh's last great painting of the sunflowers'
    b. *ha-tmuna Sel van gox [ha-gdola ha-axrona] Sel ha-xamaniot
           the-painting of van gogh [the-large the-last] of the-sunflowers
    c. *ha-tmuna Sel van gox Sel ha-xamaniot [ha-gdola ha-axrona]
           the-painting of van gogh of the-sunflowers[the-largethe-last]

(14)   a. ha-tmuna Sel van gox [ha-tluya al ha-kir]
           the-picture of van gogh [the-hanging.f.s on the-wall]
           the picture by Van Gogh hanging on the wall
    b. *ha-tmuna [ha-tluya al ha-kir] Sel van gox
           the-picture [the-hanging.f.s on the-wall] of van gogh

In addition, the *ha-* prefix in (14a) is not a mark of definiteness agreement between noun and adjective. Compare (6) with the following:

(15)   a. ha-tmuna ha-tluya al ha-kir   c. *tmuna tluya al ha-kir
           the-picture the-hanging on the-wall   picture hanging on the-wall
           'the picture hanging on the wall'
    b. tmuna ha-tluya al ha-kir   d. tmuna Se- tluya al ha-kir
           picture the-hanging on the wall   picture that-hanging on the wall
           'a picture hanging on the wall'   'a picture hanging on the wall'

Unlike the situation with simple adjectives, *ha-* with complex adjectives is obligatory, freely alternating with the clausal complementizer *Se-* (in 15d) regardless of definiteness of the head noun. Following the analysis of participial relatives in Siloni (1995) (and slightly modified to fit the LCA), complex adjectives are generated as predicates in semi-relatives headed by a D° complementizer:

(16) $[_{DP}$ picture$_i$ $[_{D'}$ ha- $[_{AP}$ t$_i$ $[_{A'}$ hanging $[_{PP}$ on the wall]]]]]

Thus Hebrew provides evidence beyond word order differences (seen in (13) vs. (14)) for structurally distinguishing adjectives which do not take complements from those that do[9].

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[8] A more detailed argument against the complement restriction falling under a more general restriction on right-hand recursion on a left branch (as in Emonds, 1985) is presented in Sichel (2000).

[9] In the spirit of the distinction between direct and indirect adjectival modification proposed in Sproat & Shih (1988).

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2. Possessive Structures

As is well known, Hebrew, like other Semitic and Celtic languages, has two possessive constructions, the free state (henceforth FS) and the construct state (henceforth CS)[10]:

(17)   a.   ha-tmuna Sel ha-xamaniot   (Free State)
             the-picture of the-sunflowers
       b.   tmunat ha-xamaniot   (Construct State)
             picture-CS the-sunflowers
             'the picture of the sunflowers'

The possessive follows the head noun in both. Among the many differences between the two, relevant at this point is that FS includes the genitive Case related morpheme *Sel*, and its head noun is marked for definiteness. In CS there is no definite marker on the head noun; DP definiteness correlates with definiteness of the complement, as in (18):

(18)   [man'ul [delet [beit ha-mora]]]
       lock   door house the-teacher
       'the lock of the door of the teacher's house'

Definiteness of the most embedded complement, *ha-mora*, triggers definiteness of the most embedded CS, *the teacher's house*, which in turn triggers definiteness of the containing CS *the door of the teacher's house*, and so on.

The approach to Hebrew genitive formation developed in Ritter (1991) and Siloni (1994) derives both CS and FS by head raising N past the possessor in spec position. In CS N° is in D° and its argument in spec of a functional head immediately below it; in FS N° is in a lower functional head and the argument, including genitive *Sel*, in its base position[11]. I adopt the analysis of CS given in Siloni (1994) shown in (19):

(19) $[_{DP} [_{D'} \text{picture-CS}_1 [_{Agr\text{-}genP} \text{the-sunflowers}_2 \ t_1 [_{NP} t_1 \ t_2]]]]$

The Theme raises to spec Agr_{gen} where it is assigned structural genitive Case under spec-head agreement with N in Agr_{gen}, a configuration which also gives rise to definiteness agreement between Theme and N. Further raising of N to D° is triggered by strong features in D°. Evidence for CS possessives being higher than FS possessives is provided by the following contrast in adjective placement:

(20)   a.   ha-tmuna ha-yafa Sel ha-xamaniot
             the-picture the-beautiful of the-sunflowers
       b.   *tmunat yafa ha-xamaniot
             picture-CS beautiful the- sunflowers

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[10] See Borer (1999) for extensive discussion and references.
[11] Abstracting away from differences between the two proposals, as the main focus here is to develop a non-head movement analysis of the free state.

    c. tmunat ha-xamaniot ha-yafa
        picture-CS the-sunflowers the-beautiful
        'the beautiful picture of the sunflowers'

Borer (1999), however, analyzes a number of asymmetries in multiple genitive constructions as pointing to the conclusion that the structural difference between CS and FS must be more significant than a uniform head raising analysis would suggest. It is argued that while CS are indeed derived by head movement[12], N-initial order in FS is due to generation of the possessor as a right-hand specifier of NP. Assuming the LCA of Kayne (1994) and its ban on right adjunction and movement to be correct, the facts reported in Borer are shown below to be compatible with an anti-symmetric approach to FS. It is proposed that FS non-derived nominals are formed by leftward movement of a phrasal constituent containing the noun across a left-hand possessor, supporting the analysis of English possessives given in Kayne (1999), and of Dutch nominalized infinitives in Hoekstra (1999).

First, in possessive DPs headed by a non-derived nominal and including an Agent and Theme, both follow the noun and are marked with *Sel*. The relative ordering between the two is free (in 21), in contrast with rigid Ag-Th order in derived nominals (in 22) (examples (21)-(24) are from Borer, 1999):

(21)   a. ha-tmuna Sel ha-xamaniot Sel van gox
          the-picture of the-sunflowers of van gogh
      b. ha-tmuna Sel van gox Sel ha-xamaniot
          the-picture of van gogh of the-sunflowers
          'Van gogh's picture of the sunflowers'

(22)   a. ha-harisa Sel ha-cava et ha-ir
          the-destruction of the-army ET the-city
      b. *ha-harisa et ha-ir Sel ha-cava
          the-destruction ET the-city of the army
          'the army's destruction of the city'

To account for (21) within a head movement approach, it could be claimed that in addition to N° raising, Theme optionally raises past Agent as in, for example, German scrambling. Given the derivation of CS formation in (19) combined with some version of Minimality/Shortest Move, such an approach leads to the prediction that CS formation should be possible with Theme in (21a) and Agent in (21b). But CS formation in non-derived nominals with multiple genitives is possible only with Theme. This contrasts with the situation in derived nominals, where it is possible only with Agent (23 vs. 24)[13]:

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[12] Though of the complement head on Borer's analysis.

[13] The analysis to be proposed is limited to FS non-derived nominals, derived nominals are presented for comparison only. For analysis, see Siloni (1994), Borer (1999), and references cited there.

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(23)   a.   tmunat ha-xamaniot Sel van gox   b.   *tmunat van gox Sel ha-xamaniot
            picture-CS the-sunflowers of vangogh   picture-CS van gogh of the-S.Fs
            'Van Gogh's picture of the sunflowers'

(24)   a.   harisat ha-cava et ha-ir   b.   *harisat ha-ir Sel ha-cava
            destruction-CS the-army ET the-city   destructionCS the-cityof the army
            'the army's destruction of the city'

Why is CS in non-derived nominals restricted to Theme? On the assumption that CS involves head movement to D°, I propose that this movement is blocked in (23b) by *Sel* located in a low Agr_{gen} head associated with Theme. More specifically, the structure of a simple FS DP includes an Agr_{gen} projection, the head of which hosts *Sel*[14]:

(25) $[_{DP} [_{NP}$ the-picture $t_1] [_{D'} Sel_2 [_{Agr\text{-}genP} [_{DP}$ the-SF$]_1 t_2 t_{NP}]$

As in CS formation, Theme raises to spec Agr_{gen}, where it is assigned genitive by *Sel*. Since N° is not in Agr_{gen}, definiteness agreement fails to arise as expected. Notice now that if *Sel* is in head position, nominal fronting may only occur as an instance of NP movement, in other words a remnant NP which, following Theme extraction, contains only N°. Assuming NP raising to spec DP is triggered by the very strong features in D° which trigger head movement in CS, the question still remains why the lower NP and not the closer Theme raises to check features in D°. As a full DP, however, whatever [-INT] features are associated with the head noun of Theme are checked within that DP, and its Case features in spec Agr_{gen}. The noun within the remnant NP, on the other hand, hosts features which must be checked by features in D°. Thus raising of NP across Theme is sanctioned by Last Resort, though it is triggered by D°[15].

Consider now a derivation of a multiple *Sel* construction, as in (21a) and (21b). There are two $D^\circ - Agr_{gen}{}^\circ$ sequences in the base structure, the higher associated with Agent, and the lower with Theme[16]:

(26) $[_{DP1} [_{D'1} D^\circ [_{Agr1P}$ van gogh *Sel* $[_{DP2} [_{D'2} D^\circ [_{Agr2P}$spec *Sel* $[_{NP}$ picture sunflowers$]]$

First, Theme raises to spec Agr_{gen2} for case assignment, followed by raising Sel_2 to D, and $[_{NP}$ picture $t_1]$ to spec DP_2. If DP_2 now raises to spec DP_1, triggering Sel_1 to D_1, (21a) is derived:

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[14] See Kayne (1994, 1998) and Den Dikken (1998) for similar proposals regarding English *of* and Hoekstra (1999) for Dutch *van*.

[15] *Sel* raising from Agr_{gen} to D° is possibly related to operator licensing in the sense of Rizzi (1991). I set this aside, as a more conclusive explanation depends on the broader issue of L-relatedness and its relevance to phrasal movement of a 'predicative' head.

[16] For simplicity, I assume that Agent is generated external to NP, in spec $Agr_{gen}P_1$.

(27)
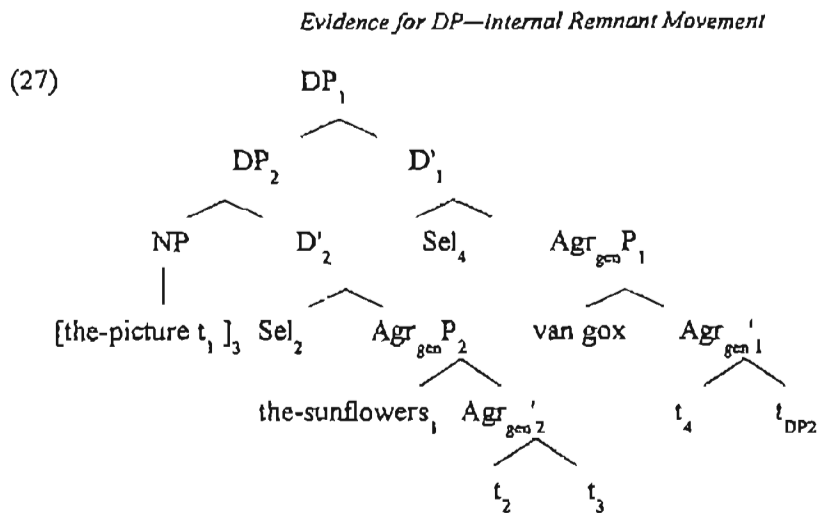
However, at the point in the derivation in which the remnant NP is in spec of the lower DP, it may raise successive cyclically directly to spec DP_1 without pied-piping the entire DP which contains it. This derives (21b), in which Agent precedes Theme. In other words, pied piping of DP in whose spec NP is positioned is optional[17].

Turning now to CS formation and the contrast in (23), I propose that CS with Theme occurs within the lower DP_2, essentially as shown in (20). Following CS, DP_2 raises to spec DP_1, exactly as in (27). This is depicted in (28):

(28) $[_{DP1} [_{DP2}[_{D'}$ picture-CS_2 $[_{AgrP2}$the-sunflowers$_1$ $[_{Agr'}$ $t_2[_{NP}$ t_2 $t_1]_{DP2}]$
        $[_{D1'}$ $Sel_4[_{AgrP1}$van gogh $[_{Agr'}$ t_4 $t_{DP2}]]$

To exclude CS formation with Agent, nothing further need be said. If high $Agr_{gen}1$ is empty, and $Agr_{gen}2$ hosts *Sel*, the latter blocks head raising of N to $Agr_{gen}1$:

(29) $[_{DP1}$spec picture-CS_1 $[_{AgrP1}$van gox t_1 $[_{DP2}$ $[_{Agr/gen2}$the-sunflowers$_2$ Sel_3 $[_{NP}t_1$ $t_2]]$

If the remnant movement approach to FS non-derived nominals is on the right track, it suggests a characterization of spec DP, the landing site, as an A-bar position. This is shown by reconstruction effects exhibited in multiple *Sel* constructions. Regardless of order, a reflexive or bound variable are interpreted as Theme (from Shlonsky, 1988):

(30)   a.   ha-tmuna Sel dan Sel acmo   b.   ha-tmuna Sel acmo Sel dan
               the-picture of dan of himself   the-picture of himself of dan
               'Dan's picture of himself'   'Dan's picture of himself'

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[17] See Sichel (2000) for further discussion.

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(31)   a. ha-tmuna Sel kol xayal Sel imo
             the-picture of every soldier of motherhis
        b. ha-tmuna Sel imo Sel kol xayal
             the-picture of mother-his of every soldier
             'every soldier's picture of his mother'

Recall that the order N-Th-Ag, as in (30b) and (31b) is derived by raising [N-Th] as a DP constituent to spec of a higher DP, the one associated with the possessor/agent. The fact that reflexives and bound variables are possible suggests it is an A-bar position. Being a DP peripheral position, a relationship to clausal topicalization is likely, especially in view of the fact that remnants in German may be topicalized though not scrambled (Muller, 1998). This conclusion, if correct, may shed more light on the nature of *Sel* raising from Agr_{gen} to D as related to obligatory topicalization in V2 contexts.

3. Adjectives and Possessives Combined

A major challenge to the phrasal pied-piping approach to adjective placement proposed in section 1 is that genitives in FS nominals follow adjectives rather than precede them (in 32). And a challenge to the analysis of FS and CS as both involving Theme raising to spec Agr_{gen}, is that in CS, adjectives follow the nominal complement (in 33):

(32)   a. ha-tmunot (ha-gdolot) ha-axronot Sel ha-xamaniot
             the-pictures (the-great) the-last of the-sunflowers
             the last (great) pictures of the sunflowers
        b. *ha-tmunot Sel ha-xamaniot (ha-gdolot) ha-axronot
             the-pictures of the-sunflowers (the-great) the-last

(33)   tmunot ha-xamaniot ha-axronot
             pictures-CS the-sunflowers the-last

Recall that the derivation of adjective placement involves phrasal pied-piping, and the derivation of FS possessives involves remnant movement. While both movements target spec DP, it has been shown that remnant raising can occur either successive cyclically, from spec DP to a higher spec DP, or by pied-piping the containing DP. NP raising to spec of an adjectival DP, on the other hand, may not feed further NP raising; the containing DP must be pied-piped along[18]. The analysis of (32) and (33) sheds further light on these properties.

        Concerning the hierarchical organization of adjectival projections and *Sel* projections, it is clear that the former are lower than the latter at the base, as in (34):

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[18] Successive NP raising would give rise to N-initial order with English adjectival order, a situation which does in fact exist, in, for example, Welsh. It then remains to be seen whether or how successive NP movement and N^0 movement are to be empirically distingushed, which I will set aside.

(34) $[_{DP}$ spec D $[_{Agr/genP}$ spec Sel $[_{DP/adj}$ spec ha- $[_{AP}$ last $([_{DP/adj}...])$ $[_{NP}$ha-picture
         $[_{DP}$ ha-sunflowers]]]]

To see this, consider how a derivation of a FS nominal modified by adjectives would proceed from (34). NP containing head noun and complement raises to spec of adjectival DP, and from this point pied-pipes containing DPs to spec of highest adjective. Theme extracts to spec Agr$_{gen}$, followed by *Sel* raising from Agr$_{gen}$ to D, and raising of highest adjectival DP to spec of matrix DP:

(35) $[_{DP1}$ $[_{DP2}$ $[_{DP3}$ $[_{NP4}$ the-picture $t_1]$[the- $[_{AP}$ great t_{NP4}] $_{DP3}$] the- $[_{AP}$last t_{DP3}] $_{DP2}$]
         $[_{D1'}$ Sel$_3$ $[_{AgrP}$ the-sunflowers$_1$ [t_3 t_{DP2}]]]]

Given an additional DP-Agr$_{gen}$P layer present above DP$_1$ in (35), a freely ordered multiple *Sel* construction is derived: either DP$_2$ raises to higher spec, giving N-Adj-Adj-Agent-Theme, or else containing DP$_1$ raises (essentially as in (27)) giving N-Adj-Adj-Th-Ag. Once again, the specifier of a genitive-related DP is extractable. Notice now that a base structure in which adjectival DPs are higher than *Sel* phrases has no grammatical output: if Theme extracts to a low spec Agr$_{gen}$, pied piping across adjectives will always include Theme, resulting in the ungrammatical N-Th-Adj-Adj order. If on the other hand, a remnant NP crosses the higher adjectives successive cyclically, reverse order of adjectives is not derived.

If indeed (34) and (35) represent the only possible derivation given everything said so far, a number of conclusions can be drawn. First, the impossibility of extraction from spec of an adjectival DP is not related to the external syntax of that DP: in (35) DP$_{adj}$ occupies the same position as the Theme related DP occupies in (27); extraction of the latter specifier though is possible. It follows then that the ban on extraction from spec DP$_{adj}$, or put differently, the fact that it does not function as an escape hatch, must be related to the relation between the head *ha-* and its specifier. Given that full agreement obtains between nouns and adjectives in this configuration, it is possible that spec DP$_{adj}$ functions somewhat like an A-position, rather than as intermediate landing site in long distance movement. Yet on the other hand, extraction of a constituent within spec DP$_{adj}$ must be possible. The only option for Theme extraction which obeys the Strict Cycle Condition is that shown in (35), from within an NP embedded rather deeply in spec DP$_{adj}$.

Consider finally a derivation of a CS nominal modified by adjectives proceeding from (34). The derivation is identical to (35) up to the point at which NP containing noun and complement reaches spec of highest DP$_{adj}$ and Theme extracts to spec Agr$_{gen}$P. Now, N^o raises from within NP embedded in DP$_{adj}$ to Agr$_{gen}^o$, where definiteness agreement and genitive case assignment occur, and from there to D^o. The order N-Th-Adj-Adj is derived, giving CS DPs as in (33):

(36) $[_{DP}$ $[_{D'}$ picture-CS$_1$ $[_{AgrP}$ the-sunflowers$_2$ t_1 $[_{DPadj}$$[_{NP}$ t_1 $t_2]$ $[_{D'}$ the- $[_{AP}$ last t_{NP}]]]]]]

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A welcome result of the head analysis of adjectives is that the order N-Adj-Th is necessarily blocked in CS by an HMC violation: head raising of N° is blocked by Adj°, just as it is blocked by *Sel* in (29). More generally, the head analysis of adjectives allows a uniform analysis of genitive case assignment – always in spec Agr_{gen} – which takes into account the contrast between (32) and (33).

4. Conclusions

Consideration of a broader range of facts leads to the conclusion that not all Hebrew N-initial orders are created equal. In particular, while construct state nominals are, by assumption, derived by N° raising, adjectival placement is derived by phrasal pied-piping, and free states by raising a remnant NP from which Theme extracts for case checking. While all operations seem to be triggered by strong features in D°, the latter two exhibit significantly different properties. An NP raised to spec DP_{adj} is itself frozen in place, yet extraction from NP of either N° or its complement is possible. A remnant NP in spec DP_{gen}, on the other hand, may either raise or pied pipe the containing DP. These have been tentatively correlated with A-type properties of spec DP_{adj} and A-bar properties of spec DP_{gen}.

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