# Distributional Differences between the Comparative and Superlative in Syrian Arabic and their Significance for an Analysis of the Relation of the Comparative to the Superlative

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Matushansky (2008) claims that superlative adjectives are necessarily attributive, that is, they only combine with a noun, and do not occur predicately on their own. She treats apparent cases of predicate superlatives in English and Romance as exceptions. Here, I offer support for Matushansky's proposal, discussing evidence from Arabic and German that 1) apparent predicate superlatives are actually adverbial, and 2) even here, they combine with a noun, covert in German but overt in Arabic. The Arabic data indicates that the generalization that superlative adjectives are necessarily attributive is a secondary consequence of the generalization that the superlative morpheme itself must be adnominal. Its adjectival morphological host is in a derived position in superlatives. The comparative morpheme, however, is never adnominal. The comparative and superlative morphemes are therefore in complementary distribution in Arabic, which adds a syntactic distributional dimension to the question of how they are semantically related.

Matushansky's claim is motivated by the widespread occurrence of the definite article in superlative DPs, even when no N seems to be present, as well as by a variety of language-specific indications pointing to the occurrence of a null N in superlative DPs where none is overt. Here is a pattern from German (pp. 35-36) exemplifying this generalization. (1c), Matushansky claims, has a null N meaning roughly *one*. (1d) shows that bare superlative adjective cannot occur in predicate position, in contrast to a bare comparative adjective (1e)

(1)    a.    Maria hob    die schön-st-e    Schlange auf.
            Maria picked the pretty-SUP-FS snake    up
            'Maria picked up the prettiest snake.'

        b.    Das ist die schön-st-e        Schlange.
            that is  the pretty-est-NOM.FS snake
            'That is the prettiest snake.'

        c.    Das ist die schön-st-e.
            that is  the pretty-est-NOM.FS
            'That one is the prettiest.'

        d.  *Das ist schön-st.
            that is  pretty-est
            'That one is prettiest.'

        e.    Das ist schön-er.
            that is  pretty-er
            'That one is prettier.'

But Matushansky also lists a number of exceptions to this generalization, which mostly revolve around cases where the superlative does not occur with an article (e.g. the English translation to (1d)) or cases where it does not seem reasonable to postulate a null noun.

(2)  a.  It's cold in New York, it's cold in Chicago but it's (the) coldest (*one) in Boston.
     b.  I'm (the) happiest (*one) when I'm doing syntax.

Loccioni (2018) picks up on this point and offers additional examples.

(3)  a.  Mary was the prettiest **yesterday** ≠ Mary was the prettiest one yesterday.
     b.  She wanted to be the prettiest possible ≠ She wanted to be the prettiest one possible.

These examples seem to cast doubt on Matushansky's generalization. However, Arabic examples analogous to (2) and (3), that have an overt noun, meaning the idea that the corresponding English examples have a covert noun is not implausible after all. Also, Arabic data show article-less superlative adjectives in construct with an overt noun, meaning the presence of a noun is not a sufficient condition for the occurrence of an article, the conditions on which are apparently complex.

# 1 Superlatives in Syrian Arabic

Ordinary adjectives are postnominal in Arabic. If the noun is definite, the definite article is copied onto the adjective.

(4)  a.  nādia ṭalʕ-it      ʕala ʒabal     ʕāli.
         Nadia climbed-3FS on   mountain high
         'Nadia climbed a high mountain.
     b.  nādia ṭalʕ-it      ʕala l-ʒabal       l-ʕāli.
         Nadia climbed-3FS on   the-mountain the-high
         'Nadia climbed the high mountain.'

In Syrian Arabic, elative (comparative and superlative) adjectives have the templatic format $aCCaC$, where each $C$ is a consonant in the adjectival root. The template $aCCaC$ is equivalent to English -er/-est.

(5)  a.  sahl      'easy'       → ashal      'easier/easiest'
     b.  ɣāli      'expensive'  → aɣla       'more/most expensive'
     c.  raxīṣ     'cheap'      → arxaṣ      'cheaper/cheapest'
     d.  ṣāfi      'clear'      → aṣfa       'clearer/clearest'
     e.  ħilu      'pretty'     → aħla       'prettier/prettiest'
     f.  bārid     'cold'       → abrad      'colder/coldest'
     g.  ktīr      'much'       → aktar      'more/most'
     h.  ʔalīl     'little'     → aʔall      'less/least'

In indefinite contexts, the elative template is construed as comparative. In definite contexts, it is construed as superlative.

(6)  a.  nādia ṭalʕ-it      ʕala ʒabal     aʕla     (min ʒabal   ʃ-ʃēx).
         Nadia climbed-3FS on   mountain high.ELA (than Mount Al-Sheikh)
         'Nadia climbed a higher mountain (than Mount Al-Sheikh).'

b.    nādia ṭalʕ-it    ʕala l-ʒabal    l-aʕla    (b-sūrīya).
Nadia climbed-3FS on   the-mountain the-high.ELA (in-Syria)
'Nadia climbed the highest mountain (in Syria).'

The superlative can be expressed by another format, in which the superlative morpheme precedes and there is no definiteness. In this format, the adjective may remain in its canonical post-nominal position, while the pre-nominal superlative template is spelled out with the base adjective *kiīr* 'much', on analogy to English *most*.

(7)   a.   nādia ṭalʕ-it    ʕala aʕla    ʒabal    (b-sūrīya).
Nadia climbed-3FS on   high.ELA mountain (in-Syria)
'Nadia climbed the highest mountain (in Syria).'

  b.   nādia ṭalʕ-it    ʕala aktar    ʒabal    ʕāli (b-sūrīya).
Nadia climbed-3FS on   much.ELA mountain high (in-Syria)
'Nadia climbed the highest mountain (in Syria).'

The three formats in (6b), (7a) and (7b) are synonymous (Hallman, 2021). In particular, all display both a relative and an absolute reading.

In Arabic, then, the presence of a nominal head in an attributive superlative construction is not a sufficient condition for the appearance of morphological definiteness. Definiteness depends as well on the internal structure of the DP. Something about the pre-nominal order of the superlative adjective blocks the article from occurring there.

Prenominal *aktar* can bind a scalar associate *within* a modifier of NP.

(8)   a.   nādia ṭalʕ-it    ʕala aktar ʒabal    ʕalē-h talʒ.
Nadia climbed-FS on   most mountain on-it   snow
'Nadia climbed the mountain with the most snow on it.'

  b.   nādia ṭalʕ-it    ʕala aktar ʒabal    b-yi-xāf    minn-u abuww-a.
Nadia climbed-FS on   most mountain IND-3FS-fear of-it   father-her
'Nadia climbed the mountain that her father fears the most.'

So ACCAC (in the form of *aktar*) can be displaced from its scalar associate in the surface structure by some distance. See Hallman (2016) for various bounding conditions on this dependency. Aside from that, Arabic patterns like German.

(9)   a.   (i)    nādia rasm-it    aħla     rasme.
Nadia drew-3FS prettiest drawing
'Nadia drew the prettiest drawing'

     (ii)   nādia rasm-it    aktar rasme    ħilwe.
Nadia drew-3FS most   drawing pretty
'Nadia drew the prettiest drawing'

     (iii)   nādia rasm-it    r-rasme     l-aħla.
Nadia drew-3FS the-picture the-prettiest
'Nadia drew the prettiest drawing'

  b.   (i)    hāy    hiyye aħla     rasme.
this_{3FS} it_{3FS}   prettiest drawing

'This one is the prettiest drawing.'

    (ii)  hāy    hiyye aktar rasme   ḥilwe.
        this$_{3FS}$ it$_{3FS}$  most  drawing pretty
        'This one is the prettiest drawing.'

    (iii)  hāy    hiyye r-rasme     l-aḥla.
        this$_{3FS}$ it$_{3FS}$  the-drawing the-prettiest
        'This one is the prettiest drawing.'

c.  (i)  hāy    hiyye aḥla.
        this$_{3FS}$ it$_{3FS}$  prettiest
        'This one is prettier.'

    (ii)  hāy    hiyye l-aḥla.
        this$_{3FS}$ it$_{3FS}$  the-prettiest
        'This one is the prettiest.'

# 2  Adverbial Superlatives

Superlative adverbs are formed by putting the adverb in the template ACCAC 'est' and combining it with the noun *wāḥid* 'one', *waḥd-e* 'one-FS', or *ʃi* 'thing'. The noun agrees in gender and humanness with the subject of comparison.

(10)  a.  nādia sāʔ-it    asraʕ  waḥd-e.
        Nadia drove-3FS fastest one-FS
        'Nadia drove the fastest.'

      b.  māhir raʔaṣ  aḥla    wāḥid.
        Mahir danced prettiest one
        'Mahir danced the prettiest.'

The following examples show the disambiguating effect of agreement, and the fact that like the adnominal superlative, the adverbial superlative can occur at a distance from its scalar associate.

(11)  a.  nādia b-ᵊt-ḥibb    ᵊmḥammad ṣallāḥ aktar waḥd-e.
        Nadia IND-3FS-love Muhammad Sallah most one-FS
        'Nadia loves Muhammad Sallah the most (more than anyone else does).'

      b.  nādia b-ᵊt-ḥibb    ᵊmḥammad ṣallāḥ aktar wāḥid.
        Nadia IND-3FS-love Muhammad Sallah most one
        'Nadia loves Muhammad Sallah the most (more than she loves anyone else).'

(12)  a.  nādia b-ᵊt-xāf    min l-ᵊklāb   aktar waḥd-e.
        Nadia IN-3FS-fear of   the-dogs most one-FS
        'Nadia fears dogs the most (more than anyone else does).'

      b.  nādia b-ᵊt-xāf    min l-ᵊklāb   aktar ʃi.
        Nadia IN-3FS-fear of   the-dogs most thing
        'Nadia fears dogs the most (more than she fears anything else).'

(13)  a.  māhir ʕaṭa ward   la-nādia aktar wāḥid.
        Mahir gave flowers to-Nadia most one

'Mahir gave the most flowers to Nadia (more than anyone else did).'

b.  māhir ʕaṭa ward     la-nādia aktar waḥd-e.
    Mahir gave flowers to-Nadia most  one-FS
    'Mahir gave the most flowers to Nadia (more than he gave to anyone else).'

*aktar ʃi* is the form you use when the subject of comparison is the predicate itself.

(14)   a.  b-ᵊl-masraḥiyye nādia b-ᵊt-ɣanni     u-b-ta-rʔaṣ          u-b-ᵊt-massil     bas
           in-the-play,     Nadia IND-3FS-sing, and-IND-3FS-dance and-IND-3FS-act but
           hiyye b-ᵊt-ɣanni     aktar ʃi.
           she   IND-3FS-sing most  thing
           'In the play, Nadia sings, dances and acts, but she sings the most.'
       b.  nādia tfarrʒ-it      ʕa-t-tilfizyūn   u-naḍḍf-it       l-bēt
           Nadia watched-3FS on-the-television and-cleaned-3FS the-house
           wa-simʕ-it        l-aɣāni bas tfarrʒ-it      ʕa-t-tilfizyūn aktar ʃi.
           and-listened-3FS the-songs but watched-3FS the-television most  thing
           'Nadia watched TV and cleaned the house and listened to music, but she
           watched TV the most.'

Notice that these are cases where 'one' would be an inappropriate null noun in the English translations, like in Matushansky's exceptions. When we turn to her exceptions, we find that Arabic uses the non-human superlative adverbial *aktar ʃi* 'most thing' systematically in these contexts.

(15)   a.  hiyye bārd-e b-nyū yōrk wa-bārd-e  b-ʃikāgu   bas hiyye abrad  ʃi
           she   cold-FS in-New York and-cold-FS in-Chicago but she     coldest thing
           b-boston.
           in-Boston
           'It's cold in New York and its cold in Chicago but it's (the) coldest in Boston.'
       b.  ana aktar ʃi    kūn     mabsūṭ waʔt b-ᵊrkab  bisklīt-i.
           I   most thing am.HAB happy   time IND-ride bike-my
           'I am (the) happiest when I ride my bike.'
       c.  nādia kān-it   aḥla    ʃi   mbāriḥ.
           Nadia was-3FS prettiest thing yesterday
           'Nadia was the prettiest yesterday.' (more than on other days)

So it looks like a predicative superlative (e.g., *It is coldest*) occurs in the adverbial form in Arabic, which has a nominal head. The nominal head *ʃi* is obligatory in the examples above. Interestingly, predicative superlative adjectives in German also have an adverbial form, where we do not have a head noun but we do have a determiner.

(16)   a.  Nadia ist a-m        schnell-st-en gefahren.
           Nadia is  on-the.DAT fast-est-DAT driven
           'Nadia drove the fastest.'
       b.  Nadia hat die        Platine     a-m        vorsichtig-st-en installiert.
           Nadia has the.NOM.S circuit board on-the.DAT careful-st-DAT  intalled
           'Nadia installed the circuit board the most carefully.'

(17) Nadia fürcht-et sich vor    Hunden a-m         mei-st-en.
     Nadia fear-3s   self  before dogs    on-the.DAT much-st-DAT
     'Nadia fears dogs the most.'

The superlatives in Matushansky's exceptions have the adverbial form in German.

(18)  a.  Es ist a-m         kält-est-en  in Boston.
          It  is  on-the.DAT cold-st-DAT in Boston
          'It is (the) coldest in Boston.'
      b.  Ich bin a-m        glücklich-st-en wenn ich Fahrrad fahre.
          I    am on-the.DAT happy-st-DAT   when I    bike     ride
          'I am happiest when I go bike riding.'
      c.  Nadia war gestern    a-m         schön-st-en.
          Nadia was yesterday on-the.DAT pretty-st-DAT
          'Nadia was (the) prettiest yesterday.'

In light of this, the absence of the definite article in English 'predicate' superlatives might be related to the fact that it is at least marginally optional in adverbial superlatives (Szabolcsi, 2012).

(19)  a.  Who spoke (the) most/least at the conference?
      b.  Who ran (the) fastest in the race?
      c.  Who laughed (the) loudest at the joke?
      d.  Which computer runs (the) hottest?
      e.  Who finished their homework *(the) most quickly?
      f.  Who cleaned their dest *(the) most thoroughly?

(20)  a.  Mary is (the) most awake on Friday.
      b.  Mary is (the) most irritable on Monday.

# 3   Analysis

Analyses of the superlative typically give it a contextually specified 'contrast set' argument $C$:

(21)    $[\![\text{est}]\!]^C = \lambda R_{\langle d,\langle e,t\rangle\rangle}\lambda x_e.\exists d_d R(x,d)\&\forall z \in C[z \neq x \rightarrow \neg R(z,d)]$

Matushansky (2008) claims that the reason why the superlative adjectives are always attributive, i.e., adnominal, is the NP identifies $C$. NP is a semantic argument of the superlative morpheme, so it cannot be absent. In (22), $R$ is the AP argument of the superlative and $C$ the NP.

(22)    $[\![\text{est}]\!] = \lambda R_{\langle d,\langle e,t\rangle\rangle}\lambda C_{\langle e,t\rangle}\lambda x_e.\exists d_d R(x,d)\&\forall z \in C[z \neq x \rightarrow \neg R(z,d)]$

(23)

NP
$\lambda x_e . \exists d_d \, high(x,d) \, \& $
$\forall z \, mountain(z) \, \& \, z \neq x \rightarrow \neg \, high(z,d)]$

AP
$\lambda C_{\langle e,t \rangle} \lambda x_e . \exists d_d \, high(x,d) \, \& $
$\forall z \in C[z \neq x \rightarrow \neg \, high(z,d)]$

NP
$\lambda x . \, mountain(x)$

mountain

AP
$\lambda d \lambda x. \, high(x,d)$

high

DegP
$\lambda R_{\langle d,\langle e,t \rangle \rangle} \lambda C_{\langle e,t \rangle} \lambda x_e . \exists d_d R(x,d) \, \& $
$\forall z \in C[z \neq x \rightarrow \neg R(z,d)]$

est
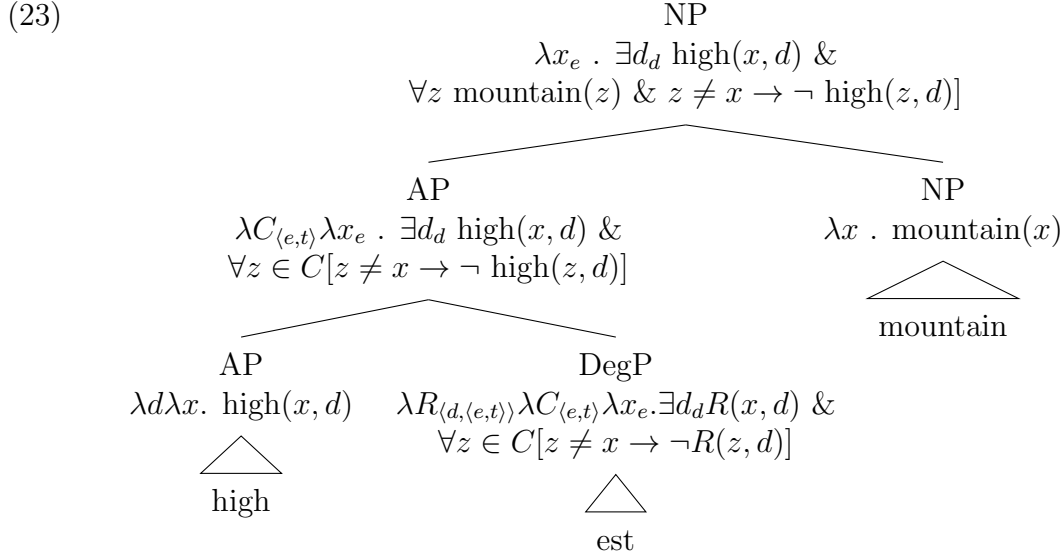
However, Matushansky's analysis does not allow the superlative morpheme to move by itself. Such a movement step has been claimed to be necessary to derive 'upstairs de dicto' readings of sentences like (24a). This sentence is judged true is Mary has a desire to climb some mountain or other that is at least, say, 2500m, while no one else desires to climb a mountain that high, even if no one, including Mary, desires to climb any particular mountain (Heim, 1999; Sharvit and Stateva, 2002). Heim recommends deriving this reading by movement *est* to a position above the modal verb, where it compares Mary with others in terms of the description *want to climb a d-high mountain*. On this reading, *est* is 'upstairs' while *high mountain* is interpreted de dicto with respect to *want*.
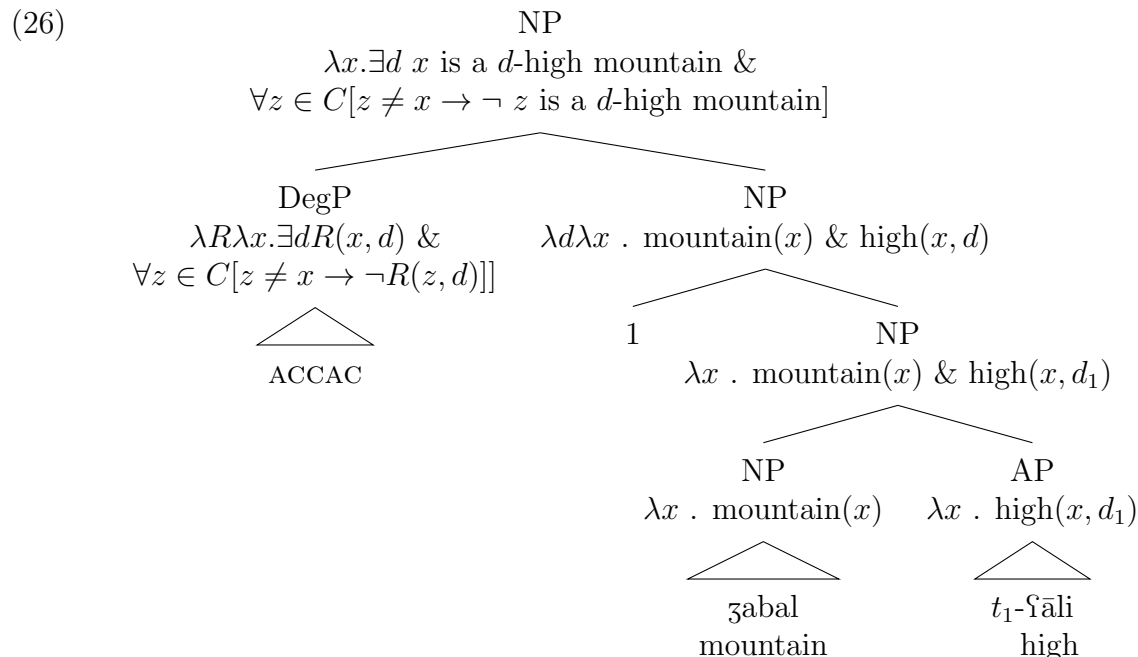
(24)   a.   Mary wants to climb the highest mountain.
       b.   Mary wants to climb the [high-est mountain]
       c.   Mary est$_{d,x}$ [x wants to climb a d-high mountain]

Within Matushansky's framework, the contrast set is determined by the syntactic sister of the superlative adjective, so moving the superlative above *want* after combining it with its nominal restriction would yield a reading like 'Nadia wants to climb a higher mountain than any high mountain wants to climb', and may even require Nadia to be a high mountain herself, if the subject of comparison needs to be in the contrast set.

In an analysis that admits movement of the superlative morpheme, it does not look feasible to make the requirement that superlative adjectives are attributive a semantic requirement, because the NP they combine with does not identify $C$ when the superlative moves at LF. Further, as we have seen in Arabic, the superlative morpheme may occur by itself prenominally, when the associated adjective occurs in its canonical post-nominal position, as in (9a-ii), repeated in (25). That is, in cases like (25), it looks like the superlative morpheme *aktar* combines with the whole degree relation *ʒabal ʕāli* 'high mountain', rather than the adjective and then the noun. In fact, the surface structure in Arabic (25) matches exactly what Heim (1999) and others attribute to the LF of English (absolute) superlative constructions. '1' is an abstraction index that accompanies movement of DegP from the

degree argument position of the adjective to a position adjoined to NP.

(25)  nādia rasm-it    aktar rasme    ħilwe.
      Nadia drew-3FS most  drawing pretty
      'Nadia drew the prettiest drawing'

(26)

$$NP$$
$$\lambda x.\exists d \; x \text{ is a } d\text{-high mountain \&}$$
$$\forall z \in C[z \neq x \rightarrow \neg \; z \text{ is a } d\text{-high mountain}]$$

DegP
$$\lambda R\lambda x.\exists dR(x,d) \; \&$$
$$\forall z \in C[z \neq x \rightarrow \neg R(z,d)]]$$

ACCAC

NP
$$\lambda d\lambda x \; . \; \text{mountain}(x) \; \& \; \text{high}(x,d)$$

1

NP
$$\lambda x \; . \; \text{mountain}(x) \; \& \; \text{high}(x,d_1)$$

NP
$$\lambda x \; . \; \text{mountain}(x)$$

ʒabal
mountain

AP
$$\lambda x \; . \; \text{high}(x,d_1)$$

$t_1$-ʕāli
high

If the superlative morpheme is base generated in the degree argument position of the adjective and raises to a position adjoined to NP, then it is not adjoined to NP in the base structure, but is in the surface structure. (25) also has a relative reading, however, where we are saying Nadia drew a prettier picture than anyone else did. The LF of this reading has the same structure as depicted for the mountain climbing example in (24c), where *est* (*aktar*) is adjoined to VP at LF, not NP. These examples suggest that the superlative morpheme must be adjoined to NP at *some* level of representation.

This still explains (albeit by stipulation) why bare elative adjectives do not get a superlative reading in predicate position, as in (9c-i), repeated in (27a) below, or as adverbs, as in (10b), repeated as (27b) below. In these cases, the adjective is not adjoined to an NP in the base or the surface structure, nor is an NP edge available to it to which it can raise at LF. In these cases, only a comparative reading is available.

(27)  a.  hāy    hiyye aħla.
          this3FS it3FS   prettier
          'This one is prettier.'
      b.  māhir raʔaṣ   aħla.
          Mahir danced prettier
          'Mahir danced prettier.'

In both cases, the superlative reading emerges when we add *wāħid(e)*, as below (analogous to (9b-i) and (10b) respectively).

(28) a. hāy    hiyye aħla    waħde.
       this₃FS it₃FS prettiest one
       'This one is (the) prettiest.'
    b. māhir raʔaṣ aħla    wāħid.
       Mahir danced prettiest one
       'Mahir danced (the) prettiest.'

I conclude that the elative morpheme ACCAC gets a superlative interpretation if it is adjoined to NP at some level of representation. Otherwise it gets a comparative interpretation. At the same time, it seems that this NP does not function as an argument of ACCAC, as the discussion of upstairs de dicto readings above seems to show. This therefore raises the question: **how does being adjoined to NP trigger the superlative interpretation of ACCAC, especially since superlative ACCAC is not necessarily adjoined to this NP at the level of representation at which the semantic composition is calculated?** I do not presently have a convincing answer to this question.

One additional puzzle seems to bear on this matter. As mentioned previously, the elative morpheme gets a superlative interpretation when it occurs in a post-nominal adjective in the surface structure, as long as the noun phrase containing it is definite, as in (29b) below (=(6b)).

(29) a. nādia ṭalʕ-it    ʕala ʒabal    aʕla    (min ʒabal ʃ-ʃēx).
       Nadia climbed-3FS on   mountain high.ELA (than Mount Al-Sheikh)
       'Nadia climbed a higher mountain (than Mount Al-Sheikh).'
    b. nādia ṭalʕ-it    ʕala l-ʒabal    l-aʕla    (b-sūrīya).
       Nadia climbed-3FS on   the-mountain the-high.ELA (in-Syria)
       'Nadia climbed the highest mountain (in Syria).'

Cinque (2010) and others claim that the superlative morpheme in English is based generated adjoined to NP, and the associated adjective raises to it. If that is true of Arabic, it would mean that ACCAC is in at least roughly the same position in (29b) and the counterpart with pre-nominal ACCAC, as in (30) (=(7b)).

(30) nādia ṭalʕ-it    ʕala aktar    ʒabal    ʕāli (b-sūrīya).
     Nadia climbed-3FS on   much.ELA mountain high (in-Syria)
     'Nadia climbed the highest mountain (in Syria).'

However, the two formats 'ACCAC NP AP' and 'DEF NP DEF AP+ACCAC' are not interchangeable in adverb position. The counterpart of (27b) in the definite format is strongly ungrammatical, as (31) illustrates.

(31) *māhir raʔaṣ   l-wāħid l-aħla        .
      Mahir danced the-one the-prettiest
      ('Mahir danced (the) prettiest.')

The reason for the restriction in (31), and the structure of the definite superlative in (29b), and more generally the question of why the superlative interpretation of ACCAC correlates

with adnominality, especially since the nominal in question does not seem to play a specific semantic role in the semantic composition of superlatives, remain unresolved at this point. We can nonetheless draw a few tentative conclusions:

- Arabic lends support the generalization that superlative adjectives only occur adnominally. The elative morpheme gets a superlative interpretation if it adjoins to NP at some level of representation. Otherwise it is comparative.

- The exceptions to Matushansky's generalization actually *do* contain null nouns. This noun is overt in Arabic.

- Cross-linguistically, predicate adjectives cannot be superlative; putative predicate superlatives are in fact adverbs, though it remains unclear how exactly this works semantically.

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