

Comparative Constructions in Syrian Arabic¹

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Abstract

In this paper, I describe the internal structure, surface distribution, and scope possibilities for comparative phrases in Syrian Arabic. Comparative phrases may show surface displacement from their scalar associate in this language, subject to certain restrictions. The restrictions on surface displacement match those on scope construal in the absence of surface displacement, indicating that scope construal involves the same process as surface displacement. Further, restrictions on covert and overt displacement are shown to be at work in ‘comparative deletion’, an ellipsis process operative in clausal comparatives. Comparative deletion is shown to suspend barriers to movement of degree operators in Syrian Arabic, as reported previously for English. However, I show that attempts in the literature to reduce the barrier-suspending effect of comparative deletion to ellipsis in general, e.g. sluicing, do not extend to Syrian Arabic. Rather, the Arabic facts suggest that the suspension of constraints on movement under comparative deletion is unique to comparative constructions.

1 Introduction

This paper surveys the syntax and semantics comparative constructions in Syrian Arabic. It finds that comparative phrases may generally undergo either covert or overt movement to a scope position, but that attributive quality adjectives (e.g. *hilu* ‘pretty’ when modifying a noun) support neither overt nor covert movement of an associated comparative morpheme. Predicative and adverbial quality adjectives support movement, as well as attributive quantity adjectives (*ktīr* ‘much/many’). I explain the special status of attributive quality adjectives in terms of a DP-internal barrier to movement. This analysis extends to facts observed by McNabb and Kennedy (2011) regarding ellipsis patterns in the standard clause of clausal comparatives in closely related Palestinian Arabic. The analysis I propose here captures the ellipsis facts in the same terms as the scope facts.

In section 2, I present an overview of ‘phrasal’ comparatives in Syrian Arabic, describing their morphological shape and syntactic distribution, and demonstrate that a curious

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restriction on the scope of the comparative in Syrian Arabic described by Al-Bitar (2019) holds only when the adjective is a quality adjective used attributively. It does not hold for quantity adjectives nor quality adjectives in other syntactic contexts. In section 3 I show that comparative in Syrian Arabic may be displaced overtly from its scalar associate, subject to the same constraints that limit the comparative’s scope described in section 2. In section 4 I present an analysis that captures these facts in terms of the adjective’s structural relation to barriers for movement. In section 5, I describe ‘clausal’ comparatives and in section 6 show that the same factors that restrict the scope of phrasal comparatives are responsible for ellipsis patterns in clausal comparatives.

2 Synthetic comparatives and scope displacement

Attributive adjectives follow the noun they modify in Syrian Arabic, as in other dialects. Indefiniteness is unmarked, as (1a) illustrates. Definiteness is marked by the pro-clitic definite article *l-*, which appears on the head noun but is also copied onto all adjectives modifying the noun, as (1b) illustrates. The definite article *l-* assimilates to a following coronal consonant.

- (1) a. nādia b-^ət-ʕīf ʔarīb min mīnā tiḡāri.
 Nadia IND-3FS-live near from port commercial
 ‘Nadia lives near a commercial port.’
 b. nādia b-^ət-ʕīf ʔarīb min l-mīnā t-tiḡāri.
 Nadia IND-3FS-live near from the-port the-commercial
 ‘Nadia lives near the commercial port.’

In Syrian and many other dialects, the comparative form of an adjective, which I refer to as the ‘synthetic’ comparative, is derived by inserting the root consonants of the adjective, which are usually three in number, into the consonant slots C_1 - C_3 in the prosodic template $aC_1C_2aC_3$ (see Cowell 1964, pp. 310-313, on Syrian, Wright 1981, part I, pp. 140–143, on Classical Arabic and Badawi et al. 2015, pp. 280–282, on contemporary literary Arabic, and Grano and Davis 2017 for more on the prosodic conditions involved). On this pattern, *ashal* ‘easier’ is derived from *sahl* ‘easy’, *aṭwal* ‘taller’ from *ṭawīl* ‘tall’, *aḡtar* ‘smarter’ from *fāṭir*

‘smart’, etc. In this manner as well, *aktar* ‘more’ is derived from the quantity adjective *ktīr* ‘much’ and *aʔall* ‘less’ (<*aʔlal*) from *ʔalīl* ‘little’. I refer to the comparative morpheme underlying these adjectives as ‘ACCAC’ and gloss it ‘er’.²

Comparative adjectives may be used attributively, where they follow the noun they modify, like other adjectives, illustrated in (2), or predicatively, as (3) illustrates. In the latter case, the copula is null in the present tense.

- (2) a. aḥmad rasam bēt aḥla min bēt rāma.
 Ahmad drew house prettier from house Rama
 ‘Ahmad drew a house prettier than Rama’s house.’
 b. nādia iftar-it bisklēt ayla min bisklēt muḥīn.
 Nadia bought-3FS bicycle more.expensive from bicycle Muen
 ‘Nadia bought a bicycle more expensive than Muen’s bicycle.’
- (3) a. rasmit aḥmad aḥla min rasmit rāma.
 picture Ahmad prettier from picture Rama
 ‘Ahmad’s picture is prettier than Rama’s picture.’
 b. bisklēt nādia kān ayla min bisklēt muḥīn.
 bicycle Nadia was more.expensive from bicycle Muen
 ‘Nadia’s bicycle was more expensive than Muen’s bicycle.’

As the examples above illustrate, the comparative adjective occurs with a ‘standard phrase’ introduced by the preposition *min* ‘from’. This preposition in turn introduces a DP that is understood as bearing a degree property borrowed from the main clause. In each of the examples above, that property is the base adjective underlying the comparative, *ḥilu* ‘pretty’ in (2a) and (3a) and *yāli* ‘expensive’ in (2b) and (3b).

Al-Bitar (2019) shows at length that comparative constructions of the type discussed above are ‘phrasal’ comparatives, that is, the complement of the preposition *min* is a determiner phrase (DP; a nominal constituent), not a complementizer phrase (CP; a clausal constituent) with elided material. Predication of that DP on the adjectival associate of the comparative morpheme takes place in the semantic composition, not in the surface syntax. That is, there is no elided material in the standard phrase, only the DP object of *min*. See

²The same prosodic template derives superlative adjectives, that is, there is no morphological difference between comparative and superlative adjectives in Arabic. I do not treat superlatives here.

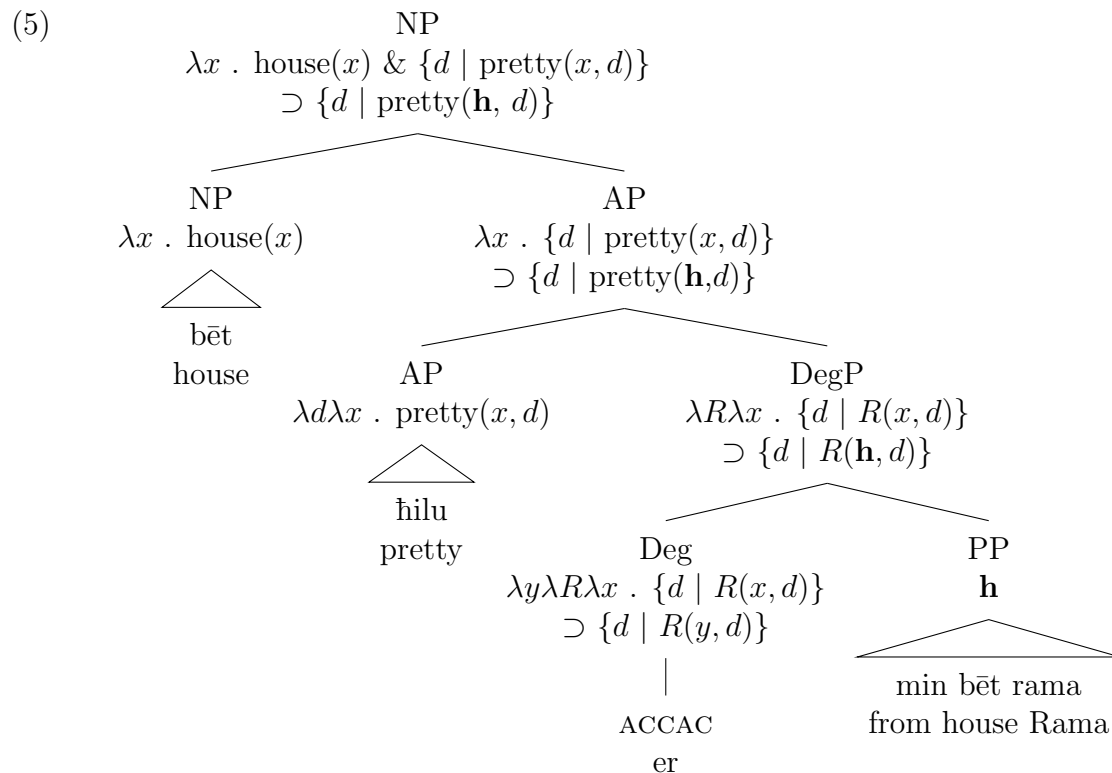
Hazout (1995) for similar arguments concerning the cognate structure in Hebrew. Syrian Arabic has a ‘clausal’ comparative as well, which is morphologically distinguished from the phrasal comparative; I discuss the clausal comparative in section 5. Following analyses of English proposed by Chomsky (1965), Bresnan (1973), Cresswell (1976), von Stechow (1984) and Heim (1985, 2001) and of Arabic by Al-Bitar (2019), I assume that the comparative morpheme ACCAC combines with its standard of comparison (its PP complement, whose head *min* ‘from’ I treat as vacuous), and a degree relation, e.g. *ħilu* ‘pretty’ in (2a)/(3a), to derive a predicate that is true of those individuals who bear the degree relation, here ‘pretty’, to a greater degree than the DP in the standard phrase, here Rama’s (drawing of a) house. Example (2a), then, asserts that Ahmad drew a house with this property—it is prettier than Rama’s house.

A denotation for comparative ACCAC along these lines is stated in (4), based on aspects of Heim’s (2006) analysis of English. It holds of two individuals and a degree relation if the degrees to which the second individual bears the degree relation are a proper superset of the degrees to which the first bears the degree relation. This definition is based on the premise that degree properties are monotonic, meaning that if a degree property holds of a particular degree, it holds of all lesser degrees as well (Cresswell 1976, Heim 1985). If the set of degrees to which you are tall—containing your maximal degree of tallness and all lesser degrees—properly contains the set of the degrees to which I am tall, then you have some degrees of tallness that I do not have, and are therefore taller than me. In the formulas below, x , y , etc. represent variables for individuals and d for degrees. The semantic types are e for entities, d for degrees, and t for truth values; $\langle a, b \rangle$ represents the type of a function from type a to type b .

$$(4) \quad \llbracket \text{ACCAC} \rrbracket = \lambda y_e \lambda R_{\langle d, \langle e, t \rangle \rangle} \lambda x_e . \{d \mid R(x, d)\} \supset \{d \mid R(y, d)\}$$

I attribute to the comparative morpheme ACCAC the syntactic category ‘Deg’, for ‘degree quantifier’. It combines initially with its internal argument, the PP headed by *min* ‘from’

and secondarily with, in this case, the adjective phrase (AP) headed by *ħilu* ‘pretty’. This complex AP then modifies the noun *bēt* ‘house’. The object noun phrase (NP) in (2a), then, has the semantic composition in (5), where the noun *bēt* ‘house’ and the complex adjective *aħla min bēt rāma* ‘prettier than Rama’s house’ compose by predicate modification in the usual manner for intersective adjectives (see Heim and Kratzer 1998, p. 65, for details). Here, the constant **h** stands for ‘Rama’s house’. *aħla* ‘prettier’ consists of two parts, *ħilu* ‘pretty’ and ACCAC ‘er’, which head distinct projections in the syntax. The adjective fuses with the comparative morpheme in the surface syntax by head movement of A to Deg. NPs so formed are indefinite. To the extent they project a DP layer, this layer is vacuous and I omit it in the representation of indefinite NPs in what follows. I continue to assume that definite NPs, including names, are DPs.



Al-Bitar (2019) observes that the comparative phrase in Syrian Arabic seems to be scopally rigid, as illustrated by the strange interpretation that (6) receives (his example (29),

p. 40).³ This example is like (2a) except that we have replaced *bēt rāma* ‘Rama’s house’ with *rāma* ‘Rama’. This is interpreted exactly on analogy to (2a), to mean that the house that Ahmad drew is prettier than Rama herself is. It cannot be given the more natural interpretation that Ahmad and Rama both drew a house and Ahmad’s is prettier.

- (6) #*aḥmad rasam bēt aḥla min rāma*.
 Ahmad drew house prettier from Rama
 ✓‘Ahmad drew a house prettier than Rama is.’
 ✗‘Ahmad drew a prettier house than Rama drew.’

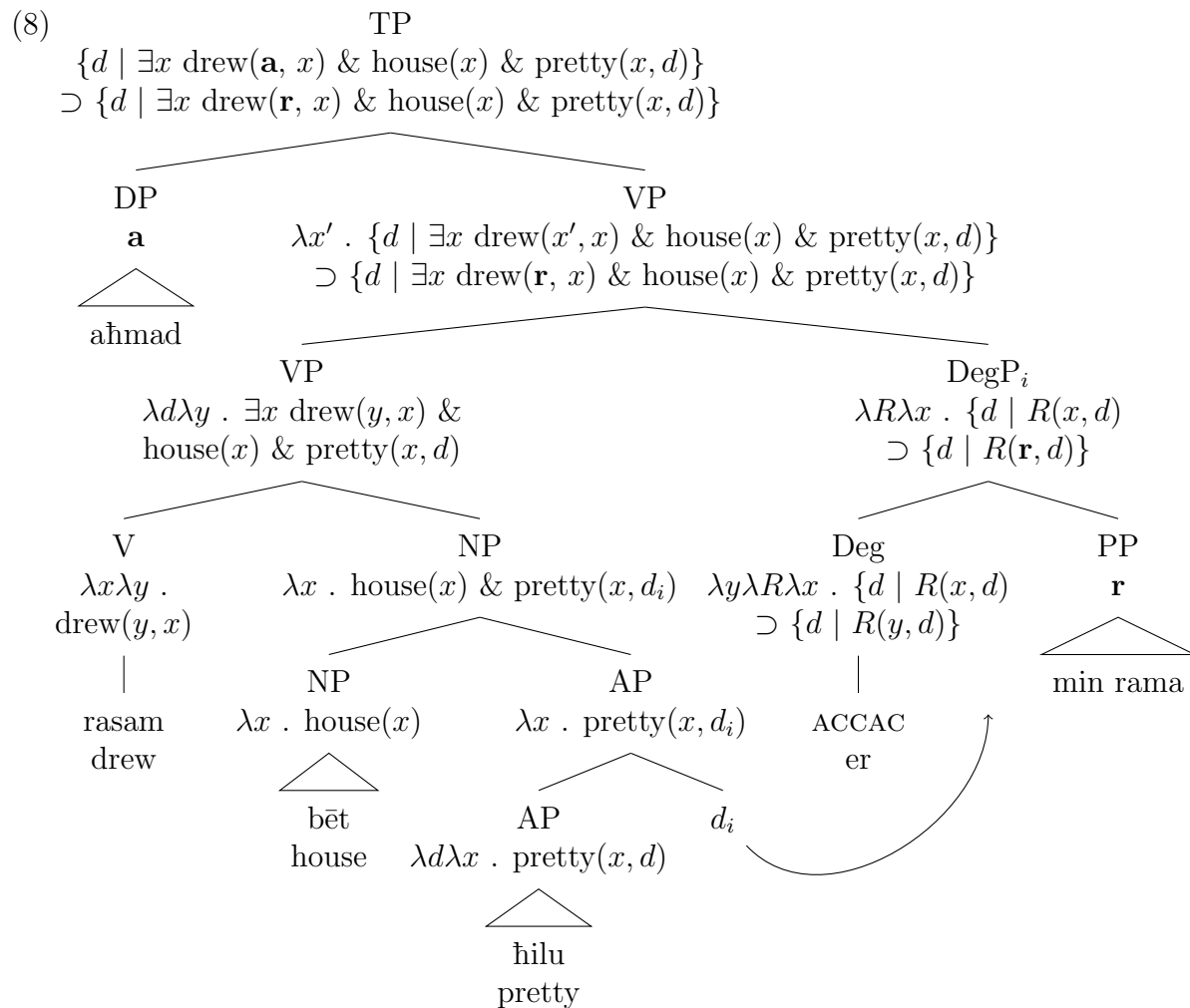
Example (7) illustrates this same restriction. If we insert Muen in the place of the Muen’s bicycle in (2b), we incongruously compare the bicycle Nadia bought with Muen himself in terms of how expensive they are, as illustrated in (7).

- (7) #*nādia iftar-it bisklēt ayla min muḥmīn*.
 Nadia bought-3FS bicycle more.expensive from Muen
 ✓‘Nadia bought a more expensive bicycle than Muen is.’
 ✗‘Nadia bought a more expensive bicycle than Muen bought.’

The fact that only this odd reading is available to the sentences in (6) and (7) means that the comparative phrase cannot undergo covert movement to a higher scope position; its scope is fixed in the surface structure. Covert movement of the DegP ACCAC *min rāma* ‘-er than Rama’ to a position at the VP-level in (6) would generate the structure in (8) at LF, where the arrow indicates movement. Here, the DegP ACCAC *min rāma* ‘-er than Rama’ moves to a VP-adjoined position. I assume that movement is accompanied by abstraction over a semantic variable in the base position of the moved constituent at LF, and, for perspecuity’s sake, omit the abstraction indices that are sometimes employed for this purpose (see Heim and Kratzer 1998, ch. 7 for details on the semantic correlates of syntactic movement). The trees below also show the effects of the ‘restrict’ operation (Chung and Ladusaw 2004) and ‘existential closure’ (Heim 1983, Diesing 1992, Chung and Ladusaw 2004). The former unifies

³Al-Bitar’s example has verb-subject word order, which I have changed to subject-verb order for parallelism with other examples. This word order is most felicitous when the subject has been previously mentioned.

the predicate the indefinite object denotes with the internal argument of the transitive verb that it is the object of. The second introduces an existential quantifier over this argument, represented by the symbol ‘ \exists ’ in the semantic derivation. Both of these processes take place at the level at which the verb and object are combined, the lowest VP node in (8). Since they are incidental to the question of the scope of the comparative, I do not discuss them in further detail here.



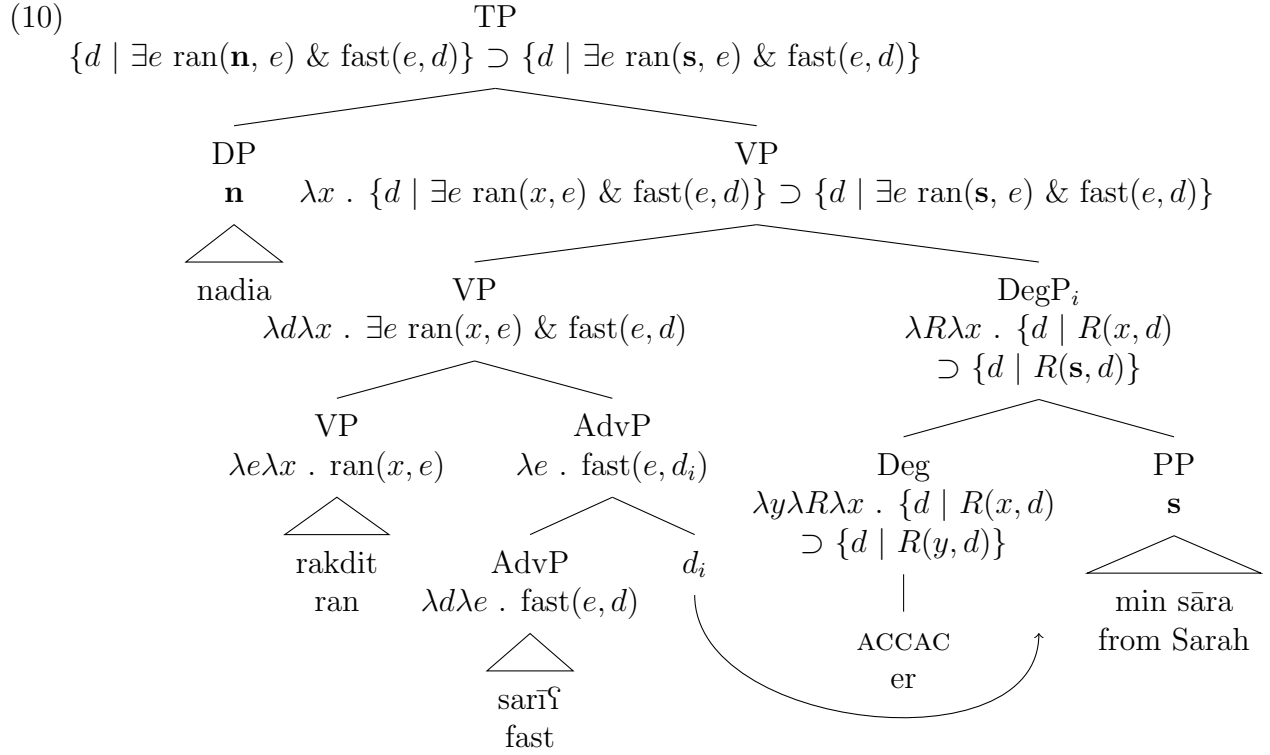
Movement of DegP to VP builds a complex VP denoting a predicate of things that drew a house prettier than the house Rama drew. Ahmad is the subject of this predicate. While this is a sensible thing to say (the comparison of house pictures in terms of prettiness is commensurate), it is not, however, an interpretation available to the sentence in (6). The unavailability of this reading points to the conclusion that the covert movement step that

(8) depicts is not available to the comparative DegP in Syrian Arabic. That is, the tree in (8) is ungrammatical. From the missing reading of (6), Al-Bitar (pp. 50-51) draws the conclusion that the comparative morpheme in Syrian Arabic is syntactically immobile; the Arabic comparative may only be interpreted in situ. That is, the hypothetical movement step illustrated in (8) is not available in Syrian Arabic because the comparative morpheme cannot be displaced at LF.

However, this conclusion appears to be too strong. In other contexts, the material on which the standard of comparison is predicated includes material other than just the adjectival scalar associate of the comparative morpheme, that is, the comparative is in principle able to expand its scope. For example, the comparative form of adjectives may also be used adverbially, as in the examples in (9) below, which display the comparative adverbs *asraf* ‘faster’ and *aħla* ‘more beautifully’, in the latter case the same adjective that is used attributively in (6).

- (9) a. *nādia rakd-it asraf min sāra b-s-sibā?*
 Nadia ran-3FS faster from Sarah in-the-race
 ‘Nadia ran faster than Sarah in the race.’
 b. *nādia yann-it aħla min sāra b-l-masraħiyye.*
 Nadia sang-3FS more.beautifully than Sarah in-the-play
 ‘Nadia sang more beautifully than Sarah in the play.’

Example (9a) entails that Sarah ran and (9b) entails that Sarah sang. That is, we are comparing Nadia and Sarah in terms of the degrees *d* that verify the description *run d-fast* or *sing d-beautifully*. Covert movement of the DegP *more than Sarah* to the edge of VP derives a degree description of just this form, as illustrated in (10) for (9a). This suggests that DegP is scopally flexible in adverbial comparative constructions. I assume that the adverbial phrase combines with VP by virtue of the restrict operation, which again, unifies a unary predicate (in this case an event description) with the internal argument of a transitive predicate (here a VP with an internal event argument). Existential closure then closes that event argument.



Further evidence for structural displacement of the comparative DegP in construct with an adverb comes from data like (11), which display a reading in which the modal verb is included within the degree relation with respect to which we are comparing the subject to the standard.

- (11) a. *lāzīm t-°dfif ha-l-bāb a?wa min l-bāb t-tāni la-t-°ftaḥ-u.*
 must 2S-push this-the-door harder from the-door the-other to-2S-open-it
 ‘You need to push this door harder than the other one to open it.’
- b. *fī-k t-?īs l-xuṭūṭ l-musta?īme ashal min l-xuṭūṭ*
 can-2MS 2S-measure the-lines the-straight easier from the-lines
l-mit?arwaḡ-e.
 the-curved
 ‘You can measure straight lines easier than curved lines.’

Example (11a) asserts that it is necessary to push this door more forcefully than it is necessary to push that other door in order to open them. That is, the first door sticks more than the second. Example (11b) asserts that one is able to measure straight lines more easily than one is able to measure curved lines. The universal and existential modals *lāzīm* ‘must/need to’ and *fī* ‘can/be able’ are part of the degree relation in the interpretation of

(11a) and (11b) respectively, once again implicating displacement of the comparative to a position external to the modal verb in both cases (not shown; the structure is like that in (10) except that a modal verb occurs in the scope of the comparative).

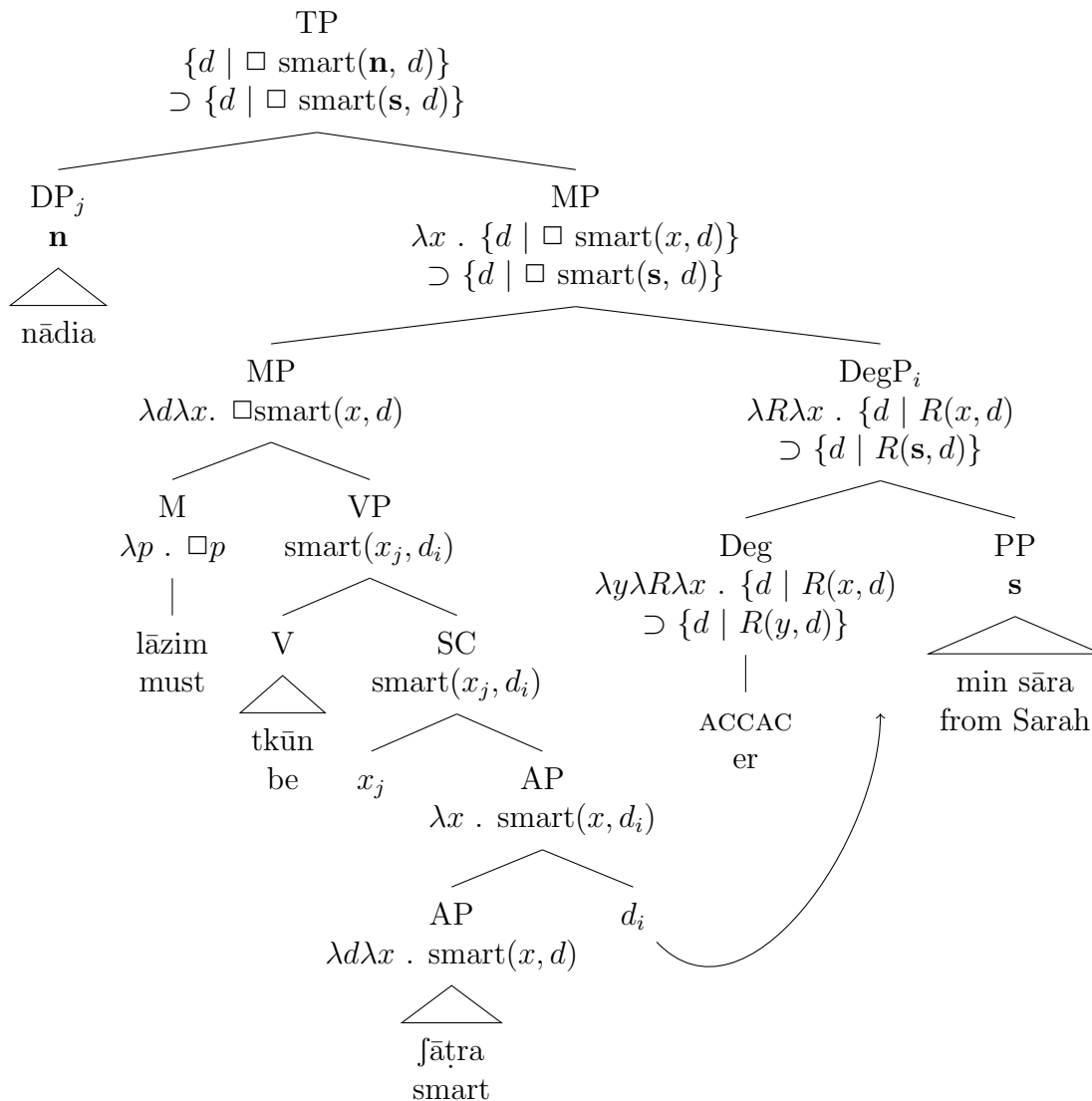
An additional context in which the comparative degree quantifier may be interpreted at a distance from the term that hosts the degree variable it binds is the context of predicate comparative adjectives, as seen in (12). If a comparative adjective occurs in predicate position in the context of a modal verb, the modal may be interpreted as part of the property attributed to the standard. That is, the comparative DegP may scope over the modal, as in the adverbial constructions above. Example (12a) is felicitous, for example, if Sarah has many inside contacts who can make sure she gets accepted to the school in question regardless of her grades, while Nadia doesn't have any contacts who can help her and has to rely on merit alone. The example in (12b) is based on an example of Heim's (2006), in which a school has a discriminatory dorm room assignment policy: advanced students get a private room of their own on the top floor, but girls have to be older than boys to qualify for this privilege. This idea is expressed as in (12b) in Syrian Arabic.

- (12) a. nādia lāzim t-kūn aḡṭar min sāra la-ḥatta nʔabl-it
 Nadia must 3FS-be smarter than Sarah to-then be.accepted-3FS
 b-ha-l-madruse.
 in-that-school
 'Nadia has to be smarter than Sarah has to be to be accepted at that school.'
- b. l-banāt lāzim yi-kūn-u akbar min ʃ-ʃabāb la-y-ṣaḥḥ-ill-un
 the-girls must 3-be-PL older than the-boys to-3MS-be.allowed-to-them
 y-āxd-u ʔirfe mfiṣṣle.
 3-get-PL room separate.
 'Girls need to be older than boys to qualify to get a private room.'

Example (12a) does not assert that Nadia is smarter than Sarah, but that Nadia needs to be smart to a certain degree to get into the school, while Sarah doesn't need to be that smart; she would get in anyway because of her contacts. Similarly, (12b) does not assert that the girls need to be older than the boys *are*, which would never be the case: the girls and the boys are all in the same age range. Rather, it asserts that girls need to be old to a degree

that boys do not need to be in order to get a private dorm room. Example (12a), then, compares Nadia and Sarah not in terms of how smart they are but in terms of how smart they need to be, i.e., in terms of the degrees d to which they satisfy the description *need to be d -smart*. The comparative DegP needs to be adjoined above the position of the modal verb, here M[odal]P, to generate this reading, as diagrammed in (13). ‘SC’ stands for ‘small clause’. The symbol ‘ \square ’ represents the universal modality contributed by *lāzim* ‘must’. The tree also shows movement of the subject *nādia* over the modal verb, also inducing predicate abstraction over the individual variable in subject position at the same level that abstraction over degrees obtains in virtue of DegP movement, at the lower MP node. The fact that (12a) can be interpreted in line with the constituency in (13), where we compare Nadia and Sarah in terms of the degree description *need to be d -smart*, suggests that (13) represents a legitimate derivation in Syrian Arabic, including displacement of the comparative phrase.

(13)



A last context in which the comparative is scopally flexible is seen in quantity comparative constructions like (14). Example (14a) does not assert that Nadia drank more tea than Sarah *is* (i.e., more than Sarah is herself a quantity of tea), but rather more tea than Sarah drank.

- (14) a. nādia firb-it fāy aktar min sāra.
 Nadia drank-3FS tea more from Sarah
 ‘Nadia drank more tea than Sarah.’
 b. aḥmad rasam byūt aktar min rāma.
 Ahmad drew houses more than Rama
 ‘Ahmad drew more houses than Rama.’

Again, this reading follows naturally from a syntactic structure in which the DegP ACCAC *min sāra* ‘-er than Sarah’ in (14a) is adjoined to the VP, which in turn functions as the degree

description with respect to which we are comparing Nadia and Sarah. The origin site of the comparative in these constructions is not as clear as in the other examples discussed above. I treat the internal structure of the examples in (14) in more detail in section 4 below. But it is clear that the comparative DegP scopes above the VP while its scalar associate—the mass or plural object—remains inside VP, meaning DegP has been displaced from its scalar associate at LF in (14).

The discussion above shows that it is not in general the case that the comparative in Syrian Arabic is scopally inflexible. Only the particular context discussed by Al-Bitar shows this inflexibility. Al-Bitar’s example differs from the others in that it involves an attributive quality adjective.⁴ Quality adjectives do not in principle block wide scope of an associated

⁴It is tempting to connect the restriction on the scope of attributive comparatives to the fact that adjectives are postnominal in Arabic, and postnominal comparatives in English are restricted in the same way as Arabic. While the prenominal comparative adjective in (ia) allows a wide scope reading for the comparative, the postnominal comparative adjective in (ib) does not. Like (6), it allows only the strange reading that compares Ahmad’s drawing to Rama in prettiness.

- (i) a. Ahmad drew a prettier house than Rama.
 b. #Ahmad drew a house prettier than Rama.

Postnominal adjectives in English have been argued to occur in the predicate position of a reduced relative clause, and therefore do not modify the noun directly (Larson and Marušič 2004, Cinque 2010). Such ‘indirect modifiers’ are therefore limited to those that may occur predicatively. But as Fassi Fehri (2012, ch. 6) shows for Standard Arabic, adjectives that may not occur predicatively, such as *sābi?* ‘former’ and *nawawi* ‘nuclear’ in (ii) may nonetheless occur attributively in Arabic, as the sentences in (iii) show, where such adjectives are, as expected, postnominal. This means adjectives in Arabic are not necessarily indirect by virtue of being postnominal.

- (ii) a. *raʔīs miṣr sābi?
 president Egypt former
 (Literally *‘The president of Egypt is former.’)
 b. *l-ḥizyāʔi l-īrāni nawawi.
 the-physicist the-Iranian nuclear
 (Literally *‘The Iranian physicist is nuclear.’)
- (iii) a. l-murāsil ʕamal muqābla maʕ raʔīs miṣr s-sābi?
 the-correspondent made interview with president Egypt the-former
 ‘The correspondent interviewed the former president of Egypt.’
 b. l-murāsil ʕamal muqābla maʕ ḥizyāʔi īrāni nawawi.
 the-correspondent made interview with physicist Iranian nuclear
 ‘The correspondent interviewed an Iranian nuclear physicist.’

Fassi Fehri (1999) and Kachakeche and Scontras (2020) have found that adjectives in Arabic occur in the mirror image order of their English counterparts but are otherwise parallel to English prenominal adjectives, as the facts in (ii) and (iii) confirm. It appears, therefore, that the scopal recalcitrance of the Arabic comparative in attributive constructions has a different source from whatever blocks wide scope of the

comparative morpheme, for example when they occur in predicate position as shown in (12). Nor do attributive adjectives block wide scope for the comparative when they are adjectives of quantity, as shown in (14). What then, is special about attributive quality constructions that blocks wide scope for the comparative? I present a syntactic answer in section 4, but first describe another dimension to the issue, namely that displacement of the comparative may be overt, but is subject to the same restriction against movement out of an attributive quality construction.

3 Analytic comparatives and overt displacement

In addition to the ‘synthetic’ form of the comparative adjective above, in which the adjective appears in the comparative prosodic template, an ‘analytic’ construction is available in which the adjective occurs in its usual positive form and the comparative morpheme follows it in the form *aktar* ‘more’, the comparative form of the quantity adjective *ktīr* ‘much/many’, as the examples in (15) show, corresponding to those in (2).

- (15) a. aḥmad rasam bēt ḥilu aktar min bēt rāma.
 Ahmad drew house pretty more from house Rama
 ‘Ahmad drew a house prettier than Rama’s house.’
 b. nādia iftar-it bisklēt yāli aktar min bisklēt muḥīm.
 Nadia bought-3FS bicycle expensive more from bicycle Muen
 ‘Nadia bought a bicycle more expensive than Muen’s bicycle.’

There is no difference in meaning between the examples in (2) and the counterparts in (15), though the former are preferred since the latter are ‘wordier’. The analytic construction must be resorted to, though, in cases where an adjective competes with another derivative of the same root. For example, the root *b-s-ṭ* underlies both the simplex adjective *basīṭ* ‘simple’ and the derived adjective *mabsūṭ* ‘happy’, morphologically a passive participle. The relative adjective *absaṭ* ‘simpler’ can only be interpreted as the relative form of the former,

comparative in the English (ib), presumably the barrierhood of the reduced relative clause itself. The source of the Arabic restriction is the subject of section 4.

as in (16a), not the latter, so that the analytic construction must be used to express the comparative of ‘happy’, as (16b) illustrates. These examples show that morphological fusion of an adjective with the comparative morpheme ACCAC is optional, and potentially blocked altogether by a more basic derivative of the same root. In that case, again, the template is hosted by default by the pleonastic adjective *ktīr*.⁵

- (16) a. hal-l-masʔale absaṭ min l-masʔale t-tāni.
 this-the-problem easier from the-problem the-second
 ‘This problem is easier than the other one.’
 b. nādia mabsūṭ-a aktar min sāra.
 Nadia happy-FS more from Sarah
 ‘Nadia is happier than Sarah.’

Not only may the DegP consisting of *aktar* and the standard phrase be morphologically isolated from the scalar associate, it may also be separated from its scalar associate by some distance. For example, a predicate adjective may be separated from a following comparative DegP by an adverbial prepositional phrase.

- (17) a. wāʔil kfūri mʒaddab b-raʔy-i aktar min brād pit.
 Wael Kfuri attractive in-opinion-my more from Brad Pitt
 ‘Wael Kfuri is more attractive in my opinion than Brad Pitt.’
 b. umm kulsūm maʒhūra b-miṣr aktar min ʒūrʒ wassūf.
 Umm Kulthum famous in-Egypt more from George Wassouf
 ‘Umm Kulthum is more famous in Egypt than George Wassouf.’

A comparative DegP may also be separated from an adverb functioning as its scalar associate, as in (18) (cf. (9a)). Positive (i.e. non-comparative) adverbs typically take the form of a prepositional phrase consisting of *b-* ‘with’ followed by the nominalized form of the property in question, e.g. *b-surʕa* ‘with speed’ for *fast* and *b-shūle* ‘with ease’ for *easily* below.

- (18) a. nādia rakd-it b-surʕa b-s-sibāʔ aktar min sāra.
 Nadia ran-3FS with-speed in-the-race more from Sarah

⁵I take this to be a blocking effect because it is not in general the case that morphologically complex adjectives cannot occur in the elative template. For example, the passive participle *maʒhūr* ‘famous’ has the same prosodic shape as *mabsūṭ* ‘happy’ but admits the comparative derivative *aʒhar* ‘more famous’, where participial prefix *ma-* has simply been stripped away.

- ‘Nadia ran faster in the race than Sarah.’
- b. *fī-k t-īīs l-xuṭūṭ l-mustaʔīme b-shūle b-l-miṣṭara aktar min*
can-2s 2s-measure the-lines the-straight with-ease with-the-ruler more from
l-xuṭūṭ l-miṭʕarwaḡ-e.
the-lines the-curved
 ‘You can measure straight lines with a ruler easier than curved lines.’

Quantity comparative constructions also support displacement of the DegP from the associated mass or plural NP. What exactly functions as the scalar associated here—the mass/plural NP itself or a hidden quantity adjective—is the subject of section 4.

- (19) a. *nādia fīrb-it fāy b-l-ʔahwe aktar min sāra.*
Nadia drank-3FS tea in-the-cafe more from Sarah
 ✓‘Nadia drank more tea than Sarah in the cafe.’
 ✓‘Nadia drank tea in the cafe more than Sarah did.’ (i.e., more frequently)
- b. *aḥmad rasam byūt b-l-madrase aktar min rāma.*
Ahmad drew houses in-the-school more than Rama
 ✓‘Ahmad drew more houses at school than Rama.’
 ✓‘Ahmad drew houses at school more than Rama did.’ (i.e., more frequently)

Being at the right clause edge, the DegPs in (19) have two potential scalar associates in their scope and accordingly show the semantic ambiguity paraphrased in the translations above. They may have an NP-oriented interpretation, where the comparative DegP associates (i.e., binds the degree argument) of a plural or mass NP, corresponding to the salient reading ‘more tea’ and ‘more houses’. They may also have a verb-oriented interpretation in which DegP associates with a verb with a pluractionality argument, corresponding to the reading ‘more drinking’ and ‘more drawing’. Since one who does more tea drinking than another probably drinks more tea than them, it is tempting to wonder whether the NP-oriented reading is really available at all, or is just an implicature of the verb-oriented reading. That the NP-oriented reading is genuinely available is clearer in stative contexts. In predicative possessive constructions, for example, no pluractionality argument is available and the only potential scalar associate is the plural (or mass) NP. That the examples in (20) are felicitous means that the comparative DegP may bind a scalar associate at a distance, unlike in English; compare (20) with the incoherent English counterparts ‘*Ahmad has cherry trees on

his farm more than Musa’ or ‘*New York had sky scrapers in the nineteenth century more than Hong Kong’.

- (20) a. aḥmad ʕand-u ʕaʒar karaz b-mazraʕt-u aktar min mūsa.
 Ahmad at-him trees cherry in-farm-his more than Musa
 ‘Ahmad has more cherry trees on his farm than Musa.’
 b. nyu yōrk kān ʕand-a nāṭihāt shāb b-l-ʔarn t-tāsiʕ ʕafar aktar
 New York was at-her scrapers clouds in-the-century the-ninth ten more
 min hōḡ kōḡ.
 than Hong Kong
 ‘New York had more skyscrapers in the nineteenth century than Hong Kong.’

The ambiguity is in principle available in the examples in (18) as well, though the relevant interpretations are not very salient for pragmatic reasons. (18a) could be interpreted to assert that Nadia did more fast running in the race than Sarah did (i.e., she ran fast more often or for a longer time), and (18b) could be interpreted on the nearly incoherent reading that you can do more measuring of straight lines easily with a ruler than you can do measuring of curved lines easily with a ruler. That is, once a DegP occurs at the right clause edge, the verb becomes a potential scalar associate if the verb is scalar and the resulting reading is sensible. The crucial thing for the present purposes is that this is not the only reading that is available. Rather, the comparative DegP may bind a scalar associate *within* the VP that it is adjoined to in the surface structure, at a distance from its surface position. As the discussion of (20) above illustrates, this latter possibility is not available in English.

Potential scalar associates for a displaced DegP include predicate adjectives (17), adverbs (18) and plural or mass nouns (19). However, an attributive quality adjective does not support degree binding at a distance, as (21) shows. Here, only the awkward verb-oriented reading is available.

- (21) a. aḥmad rasam bēt ḥilu bi-l-madrise aktar min rāma.
 Ahmad drew house pretty in-the-school more than Rama
 ✗‘Ahmad drew a prettier house in school than Rama did.’
 ✓‘Amad drew a pretty house in school more than Rama did.’
 b. nādia iʕtar-it bisklēt yāli imbāriḥ aktar min muʔin.
 Nadia bought-3FS bicycle expensive yesterday more than Muen
 ✗‘Nadia bought a more expensive bicycle yesterday than Muen did.’

✓‘Nadia bought an expensive bicycle yesterday more than Muen did.’

This is just the restriction that we observed in section 2 constrains LF movement of DegP in synthetic comparative constructions. The evidence that DegP cannot undergo movement away from an attributive quality adjective was that in those cases, the missing material in the standard phrase cannot be construed as more than the base adjective itself to which the DegP is adjoined in the base structure; (6) can only mean that Ahmad drew a picture prettier than Rama *is*, not prettier than a picture she drew. Just as we cannot covertly expand the scope of a comparative DegP associated with an attributive quality adjective by LF movement, as (6) shows, we cannot overtly move DegP away from an attributive quality adjective, as (21) shows. These observations implicate the empirical generalization in (22). In the following section, I seek a structural explanation for this generalization.

- (22) DegP may not be separated from an attributive quality adjective either overtly or covertly.

4 Structural conditions on degree binding at a distance

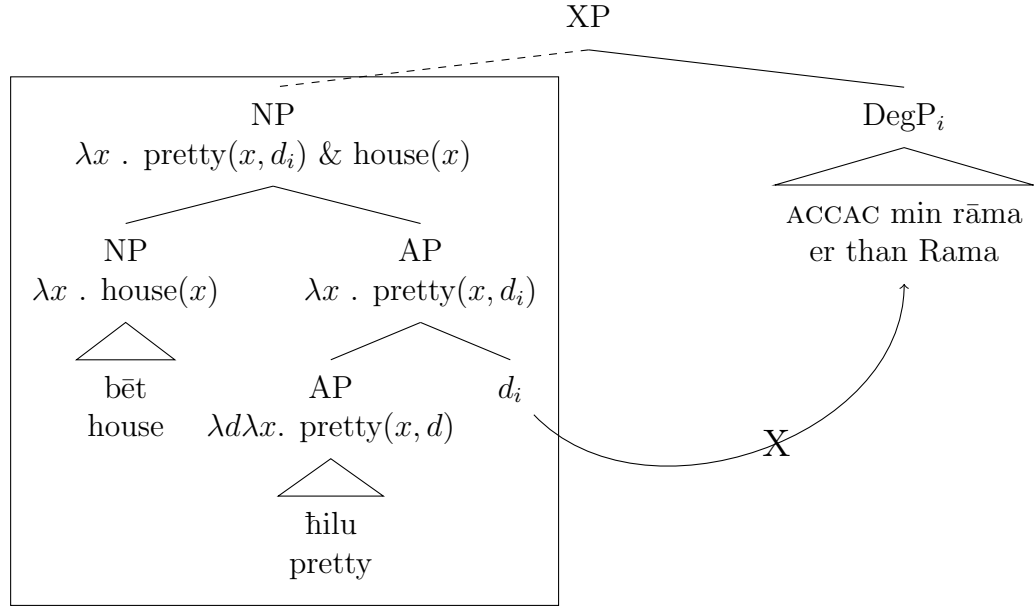
The attributive adjectives that block wide scope of DegP differ from predicative and adverbial adjectives configurationally; the former are adjuncts of NP. This fact implicates NP—or DP, to the extent it is present in Arabic indefinites—as a barrier to DegP movement at all levels of syntactic representation. But this conclusion is at first difficult to reconcile with the fact that DegP may bind a plural or mass noun at a distance. The degree argument of a plural noun is commonly analyzed as the contribution of an ‘adjective of quantity’ like English *much/many* (Arabic *ktīr*). Hackl (2000), for example, claims that just as *pretty* denotes a relation between an individual x and its degree of prettiness d (that is, $\lambda d \lambda x . \text{pretty}(x, d)$), *much/many* denotes a relation between an individual x and its degree of cardinality d (that is, $\lambda d \lambda x . |x| \geq d$). Solt (2015) claims that the ‘cardinality of’ degree relation is not the denotation of *much/many* itself but of a null adjective she calls ‘MEAS’, while *much/many*

functions as a vacuous morphological host for this covert morpheme. She gives MEAS the denotation $\lambda d \lambda x. \mu_S(x) \geq d$, that is, a relation between degrees and individuals that holds if the measure (μ) of x on the scale S (which is contextually given) is at least d . In the case of a plural noun, the scale is one of cardinality, so that MEAS asserts that the cardinality of x is at least d . Solt’s definition is more general than Hackl’s and accommodates mass nouns, which we might measure out in volume or weight. Though I will focus here mostly on plurals, I adopt Solt’s definition for MEAS, and follow Solt in taking *much/many* in English and *ktīr* in Arabic to be pleonastic morphological bases for the otherwise covert adjective MEAS.

The significant thing for the analysis of comparatives is that MEAS is an adjective just like quality adjectives, and configurationally modifies a noun phrase. This fails to predict there to be any difference between quality and quantity comparatives, contrary to fact. We have already seen that movement of DegP away from an attributive adjective is not possible in Arabic. This is why Al-Bitar’s example in (6), repeated in (23a) below, has only the odd reading that compares Ahmad’s drawing with Rama herself in prettiness. From this I concluded that the step illustrated in (8) and repeated schematically in (23b) is ungrammatical in Arabic, implicating that the boxed subtree is an island for movement.

- (23) a. #aḥmad rasam bēt aḥla min rāma.
 Ahmad drew house prettier from Rama
 ‘Ahmad drew a house prettier than Rama is.’

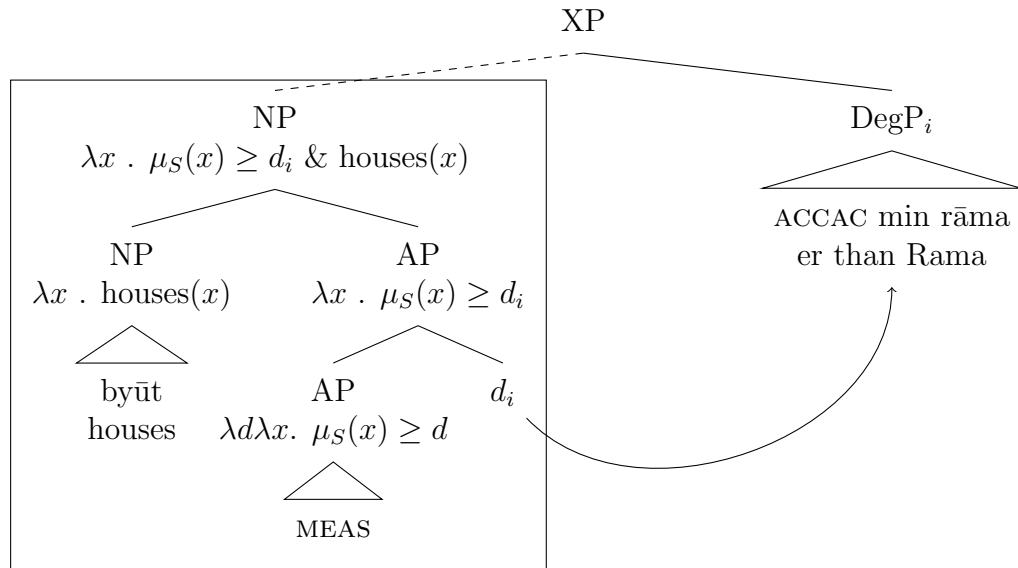
b.



But by hypothesis, the quantity adjective MEAS (spelled out *ktīr* in Arabic) also attributively modifies an NP, meaning that the quality comparative construction seen in (14b), repeated in (24a) below, has the same schematic structure as the quality construction in (23b) with the same island, yet is grammatical.

- (24) a. aħmad rasam byūt aktar min rāma.
 Ahmad drew houses more from Rama
 ‘Ahmad drew more houses than Rama.’

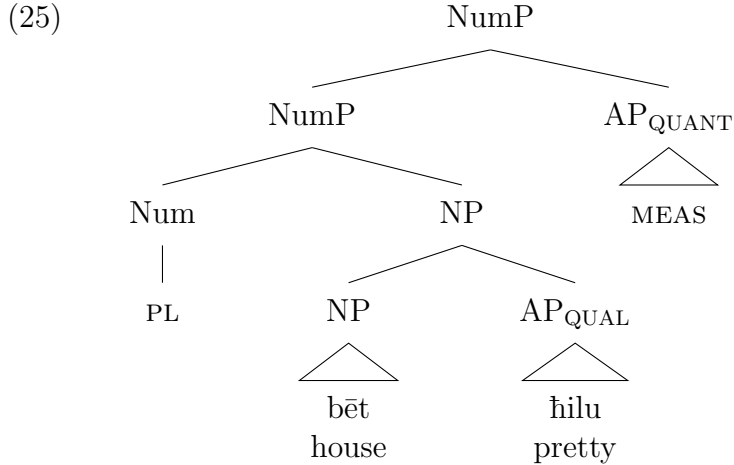
b.



What we find in reality is that movement of the comparative DegP to a higher scope position is possible in the quantity comparative construction in (24a) but not in the quality

comparative construction in (23a). If quality adjectives and MEAS are truly parallel in distribution, we expect them to interact in parallel with the comparative morpheme. The fact that MEAS but not quality adjectives like *hīlu* ‘pretty’ supports displacement of the comparative comes as a surprise and hints at a difference in the internal structure of modification of quality and quantity, contrary to the parallel structures illustrated in (23b) and (24b).

In fact, there is reason to believe that the constituent that MEAS modifies is more structurally complex than the constituent that quality adjectives modify, which is especially evident in the case of count nouns. A count noun must be pluralized before it is compatible with the quantity adjective *many* (cf. *many pictures* vs. **many picture*). If pluralization is syntactically additive, then MEAS must modify this derivative structure, while nothing requires quality adjectives to occur above the structural level at which plurality is represented. In fact, it has previously been proposed that the morphological expression of plurality has a specific syntactic locus in the functional structure above NP. Ritter (1991, 1992, 1995), Zabbal (2002), Shlonsky (2004), Borer (2005), Fassi Fehri (2012, 2018), Ouwayda (2017) and others have proposed that DPs in Hebrew and Arabic contain a projection ‘NumP’ or ‘#P’ between DP and NP that hosts number morphology, as illustrated in (25). The plural morphology on the plural-marked noun *byūt* ‘houses’ (as in e.g. (24a)), consisting in the prosodic template $C_1C_2\bar{u}C_3$, reflects concatenation of N with Num at a later stage in the derivation. Taking Num to be the locus of semantic (not just morphological) pluralization, MEAS (in the form of *many/much* in English and *ktīr* in Arabic) must be integrated syntactically in a position above NumP, where plurality is integrated. Quality adjectives, on the other hand, are not sensitive to pluralization (cf. *a pretty picture* or *pretty pictures*). These considerations point to a difference in the attachment site of MEAS vs. quality adjectives. Quality adjectives adjoin to NP, while MEAS adjoins higher, to NumP.



The structural distinction illustrated in the tree in (25) is reflected in agreement and placement attributes of *ktīr* that distinguish it from quality adjectives. As mentioned previously, adjectives canonically follow the noun they modify. For quality adjectives, agreement in number with the head noun is obligatory, as (26a) illustrates. The quantity adjective *ktīr* may also follow the noun, but agrees only optionally, as (26b) shows. Also unlike quality adjectives, *ktīr* may occur prenominally, and here agreement is prohibited, as illustrated in (26c).

- (26)
- a. laʔē-t ʃuwar ʔadīm-*(e) b-d-darʒ.
found-1S pictures old-*(PL) in-the-drawer
'I found old pictures in the drawer.'
 - b. laʔē-t ʃuwar ktīr-(e) b-d-darʒ.
found-1S pictures many-(PL) in-the-drawer
'I found many pictures in the drawer.'
 - c. laʔē-t ktīr-*(e) ʃuwar b-d-darʒ.
found-1S many-*(PL) pictures in-the-drawer
'I found many pictures in the drawer.'

A plausible explanation for this pattern relates the presence of agreement to the adjective's juxtaposition with respect to the pluralizing head Num. In the tree in (25), *ktīr* is not c-commanded by Num, but is nonetheless within its maximal projection NumP. The contrast between quality adjectives and *ktīr* in the obligatoriness of agreement can be characterized by the generalization that agreement is obligatory in the domain of Num (that is, within its complement NP) and optional within NumP. That is, the obligatoriness of agreement

only optionally reaches out of the domain of Num, and by no means extends out of NumP. On the assumption that the prenominal occurrence of *kt̄ir* involves movement of *kt̄ir* to a higher, leftward, position, then we predict the impossibility of agreement on prenominal *kt̄ir* as well. These considerations align with the picture in (25), where *kt̄ir* is base generated farther away from the noun than quality adjectives.⁶

Further, this distinction in the attachment site of MEAS and quality adjectives results in a secondary distinction in the attachment site of the comparative DegP in quality and quantity comparative constructions that makes it possible to capture their differential distribution:

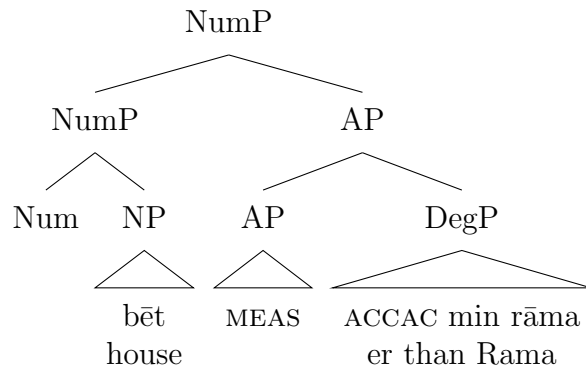
⁶Ouwayda (2013, 2014, 2017) presents an analysis of adjective agreement in numeral constructions that differs from the analysis of bare plurals described above in certain ways, but which can be reconciled with the proposal made here. In Arabic, the numerals from three to ten select a plural noun (*tlet byūt* ‘three houses’), but the numerals above ten occur with a singular noun (*tlētīn bēt*, lit. ‘thirty house’). Ouwayda points out that adjectives in such contexts may agree in the singular with the morphological number of the noun or in the plural with its semantic number; the verb may also agree in the singular but the presence of a plural adjective forces plural agreement on the verb (ia). Ouwayda claims that the singular and plural forms of the adjective are merged in different positions. The singular adjective is merged directly with NP, below the point in the tree where the numeral is merged. The plural adjective is merged above the numeral, where semantic pluralization has taken place (ib). Agreement is conditioned by the presence of semantic plurality at the point in the derivation where the adjective is merged. That is, Ouwayda’s claim is that an adjective may only show plural agreement with a noun once the noun has been pluralized, which in the context of the analysis I have proposed here would mean that adjectives in bare plurals (without a numeral above 10, where plural agreement is obligatory) would obligatorily occur above Num, not below it, as I have claimed.

- (i) a. tlātīn walad ʒōʕān-(īn) akal-(u) ʔalīb gāto kāmīl.
 thirty child hungry-(PL) ate-(PL) pie cake whole
 ‘Thirty hungry children ate a whole cake.’
 b. [[#P tlātīn [NP walad <ʒōʕān>]] <ʒōʕān-īn>]
 thirty child <hungry> <hungry-PL>
 ‘thirty hungry children’

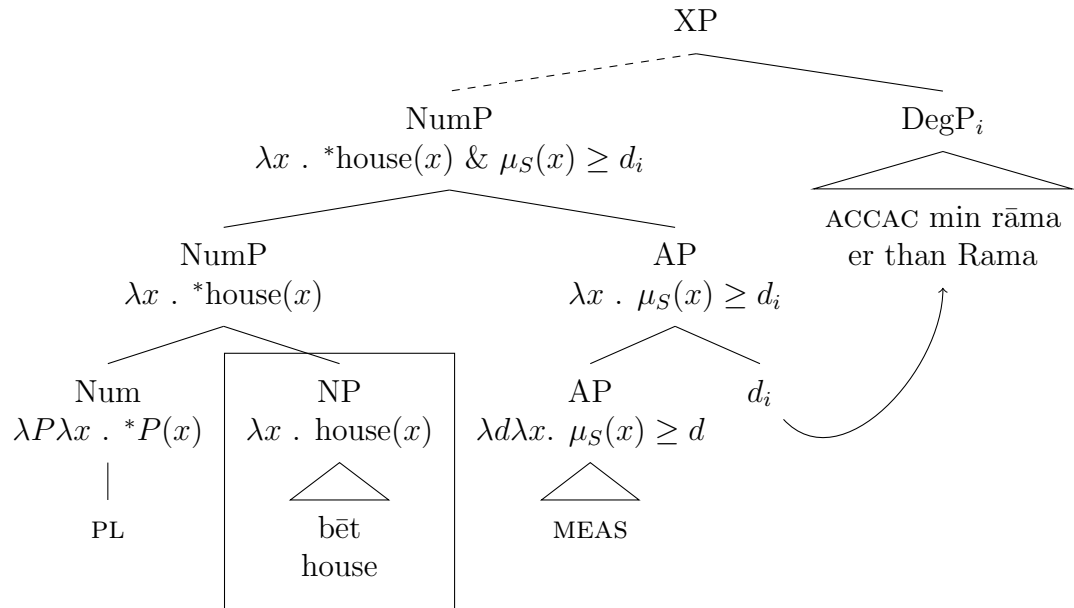
Ouwayda also points out a semantic effect of singular agreement: when no plural morphology is present, only a distributive interpretation is available, so that (ia) asserts that each of the thirty children ate an entire cake of their own. With plural morphology on either the verb or the verb and adjective, the sentence is compatible with a reading in which the children shared a single cake. Ouwayda claims that the projection that introduces pluralization, which she calls ‘#P’, optionally alternates with a distributive quantifier that takes the numeral as an argument and admits only a distributive reading. My analysis is compatible with this analysis of distributivity in purely morphologically singular transdecimal constructions, where a distributive QP replaces NumP and no plural morphology is licensed. The question is whether an analysis of mixed agreement (noun singular, adjective plural) is possible that does not entail that quality adjectives may occur above NumP/#P, which my analysis disallows; crucially only *kt̄ir* occurs above NumP/#P. I propose that in transdecimal constructions with NumP (those that admit a collective reading), Num selects plural morphology on everything in its domain, but the transdecimal numeral overrides Num’s specification of plural on the head noun. Adjectives modifying that noun may then either agree under adjacency with the head noun in the singular, or may keep the plural specification provided by Num. This makes the distribution of number agreement in transdecimal constructions with NumP a kind of competition between Num and the numeral for selection of number morphology.

in quality constructions, DegP is base generated in an AP adjoined to NP. Movement of DegP cannot cross over the NP boundary, blocking the scope-expanding step illustrated in (23b). In quantity comparative constructions, on the other hand, DegP is base generated in an AP (MEAS) adjoined to NumP, above NP, as illustrated in (27a). The boxed NP is still an island in this construction, but movement of DegP to a higher scope position, illustrated in (27b), does not cross over the boundary of the NP, since DegP is base generated outside NP in this case.⁷

(27) a.



b.



⁷I follow Link (1983), Lønning (1987) and others in take plural nouns to denote predicates of algebraic sums of individuals—‘plural’ individuals or ‘pluralities’. For a predicate of atomic individuals P , its plural $*P$ denotes the closure of P under sum formation. If P includes elements a and b , then $*P$ includes their sum, written $a \oplus b$. I assume the pluralizing morpheme generates this set by virtue of the meaning attributed to the Num node in (27b), that is, the $*$ -operator is introduced by the plural morphology in Num. This morpheme has various morphological manifestations in Arabic, on which see especially McCarthy and Prince (1990).

This analysis of the difference in distribution between quality adjectives and MEAS aligns with the proposal that NP is a barrier for movement of DegP. DegP may not cross over an NP boundary either overtly or covertly. This derives the observations in sections 2 and 3 that the comparative may move to a wider scope position either overtly or covertly in a variety of circumstances while at the same time, as Al-Bitar observes, attributive comparative adjectives are scope-rigid. It is only in this case that movement of the comparative would have to cross over NP. In the following section, I show that this restriction is also at work in ‘clausal’ comparatives in Syrian Arabic, though in a somewhat different guise.

5 Clausal comparatives

The scope rigidity of attributive quality comparatives appears to be related to an aspect of their behavior in ‘clausal comparatives’, where the standard-marker *min* ‘from’ introduces not a DP, as in phrasal comparatives, but an entire clause introduced by the complementizer *ma* ‘that’. I refer to the clause introduced by *ma* as the ‘standard clause’ (sometimes called the ‘degree clause’ in the literature). This standard clause appears in the place of the DP complement of *min* ‘from’ in the phrasal comparative, as illustrated in the clausal quantity comparative construction in (28). The complementizer *ma* ‘that’ triggers assimilation of the final consonant of *min*.⁸ In the clausal comparative, it is possible to drop the preposition *min*, as the parentheses indicate.

- (28) aḥmad rasam byūt aktar (mim)-ma rasm-it rāma.
 Ahmad drew houses more (from)-that drew-3FS Rama
 ‘Ahmad drew more houses than Rama drew.’

Native speakers report no difference in meaning correlating with the presence or absence of *min*. The distribution of the two formats for the clausal comparative—with and without *min*—in a corpus of contemporary Syrian Arabic⁹ reveals a superficial affinity between the

⁸In Standard Arabic orthography the string *mim ma* is written as one word. It is unclear if this reflects syntactic concatenation.

⁹The corpus of over 500,000 words is described in Abu Kwaik et al. 2018 and is available at the URL:

occurrence of the preposition and the occurrence of the verbs *txayyal* ‘imagine’, *tṣawwar* ‘envision’ or *twaʔʔaʔ* ‘expect’ in the standard clause, in turn with an elided complement clause. With only a handful of examples of both types of clausal comparative in the corpus, it is difficult to know whether this collocation correlates significantly with the occurrence of the preposition. At any rate, the distribution of the clausal comparative with *min* is familiar from that of the phrasal comparative. In the corpus examples in (29), for instance, the comparative modifies the gradable verb *iftaqq* ‘miss’ in (29a), the gradable noun (used adverbially) *ṣuʔūbe* ‘difficulty’ in (29b) and the predicate adjectives *kbīr* ‘major’ in (29c) (in the analytic format), *ḍayyiʔ* ‘tight’ in (29d) and *ḥasan* ‘good’ in (29e) (in the synthetic format).

- (29) a. l-muhimm ibʔat-tī-li kam ṣūra, iftaqq-t-illik aktar
the-important send-2FS-me_{DAT} some picture missed-1S-you_{DAT} more
mim-ma b-ti-txayyal-i.
from-that IN-2-imagine-FS
‘The important thing is, send me some pictures, I have missed you more than you imagine.’
- b. marr-it l-ayyām b-ṣuʔūbe aktar mim-ma ḥada yi-txayyal.
passed the-days with-difficulty more from-that one 3MS-imagine
‘The days passed with more difficulty than anyone imagined.’
- c. u-kān-it ʔawāqib ḥād l-mōqif kbīr-e ktīr, kbīr-e aktar
and-was-PL consequences that the-position major-PL much major-PL more
mim-ma ḥada b-yi-txayyal.
from-that one IND-3MS-imagine
‘And the consequences of this position [=stance] were major, more major than anyone would imagine.’
- d. lākin-ni iktaʔaf-t innu aḍyaʔ mim-ma tṣawwar-t.
but-1S discovered-1S that [it] tighter from-that envisioned-1S
‘But I discovered that it [an article of clothing] was tighter than I envisioned.’
- e. bas b-ʔakl ʔāmm l-waḍiʔ aḥsan mim-ma kin-na mtwaʔʔiʔ-īn.
but in-form general the-situation better from-that was-1PL expected-PL
‘But in general the situation was better than we had expected.’

Standard clauses in clausal comparatives without *min* in the corpus are never followed by these verbs. Their distribution is otherwise typical. In the corpus examples in (30), the comparative modifies the gradable verbs *ḍarr* ‘harm’ in (30a), *xāf* ‘fear’ in (30b), and

zalam ‘oppress’ in (30c), the gradable noun *ḥāẓit* ‘need’ in (30d) (used there in a predicative prepositional phrase) and the predicate adjective *mistayrib* ‘surprised’ in (30e). It is perhaps significant that the attested occurrences of the clausal comparative without the standard marker *min* are all in the analytic format; they always have the form *aktar ma* ‘more than’, while the clausal comparative with the standard marker occurs at least several times in the synthetic form—*aḍya?* ‘tighter’ in (30e) and *aḥsan* ‘better’ in (29e). This could, however, be a coincidental feature of the few occurrences of the clausal comparative found in the corpus.

- (30)
- a. mu ʕarfān innu ʕam yi-ḍirr-a aktar ma yi-sāʕid-a.
not knowing that PROG 3MS-harm-her more that 3MS-help-her.
‘I did not know that he was harming her more than he was helping her.’
 - b. ma ʕam a-stawʕib kīf mumkin xāf min bani ādam aktar ma
not PROG 1S-comprehend how possible feared from son Adam more that
xāf min rōḥ.
feared from ghost
‘I am not comprehending how he could fear a person more than he feared a ghost.’
 - c. lākinn-ik inti ẓalam-ti ḥāl-ik aktar ma ay ḥada
but-you_{2FS} you_{2FS} oppress-2FS self-your_{2FS} more that any one
yi-ẓlum-ik b-ha-l-ḥayāt.
3MS-oppress-you_{2FS} in-this-the-life
‘But you oppressed yourself more than anyone else oppressed you in your life.’
 - d. kin-t b-ḥāẓt-un aktar ma hinne b-ḥāẓt-i.
was-1S in-need-their more that they in-need-my.
‘I was in need of them more than they were in need of me.’
 - e. sakkar yāmin l-xaṭṭ u-huwwe mistayrib min ḥāl-u aktar ma yi-kūn
closed Yamin the-line and-he surprised from self-his more that 3MS-be
mistayrib min ḥala.
surprised from Hala.
‘Yamin hung up [the phone] and was more surprised at himself than he was surprised at Hala.’

I include the standard marker *min* systematically in the examples and structural diagrams discussed in what follows, but note that it may be dropped in the clausal comparative with no loss of meaning. Regardless of the presence of *min*, the standard clause in the clausal comparative is interpreted as a degree predicate abstracted over a gradable term within that clause, the quantity adjective MEAS in the case of (28) above. Chomsky (1977), Klein (1980),

Heim (1985), Rullmann (1995) and others propose for various languages that this degree predicate is derived by movement of a degree operator from the degree argument position of the gradable term to the left edge of the standard clause. This operator is analogous to the relative pronoun that moves from an argument position to the left clause edge in the formation of relative clauses. In this case, instead of abstracting a predicate over individuals as in relative clauses, it abstracts a predicate over degrees. Fassi Fehri (1978) claims that in Standard Arabic, *mā*, cognate with Syrian *ma*, functions as this degree operator. This view is superficially supported by analogy to Modern Hebrew, where *ma* appears in clausal comparative constructions supported by the overt complementizer *fe*, as illustrated in (31), Hazout's (1995) example (39), p. 15. This idea receives additional support from the fact that *mā/ma* functions as a wh-word meaning 'what' in both Standard Arabic and Hebrew independently of its use in clausal comparatives.

- (31) Dan axal yoter tapuxim mi ma fe Dina axla.
 Dan ate more apples from what that Dina ate
 'Dan ate more apples than Dina did.' Hebrew

However, in Syrian Arabic, *ma* does not function as a wh-word, this function having been usurped historically by *fu* 'what'. Rather, *ma* occurs only in what Shlonsky (2002) argues is the function of a complementizer, as seen, for example, in free relative constructions like Shlonsky's Palestinian example (32), where *ma* follows a bona fide wh-word (p. 149; his remarks apply equally to Syrian). This is a use also found in Standard Arabic, but appears to be the only function of *ma* in contemporary Palestinian/Syrian.

- (32) raḥ ?a-ʒi winta ma ?inti b-t-īʒi.
 will 1S-arrive when that you.2FS IND-2FS-arrive
 'I will arrive when(ever) you arrive.' Palestinian

It is therefore plausible that *mā/ma* functions as a degree operator in Standard Arabic and Hebrew. But this view is less plausible for contemporary Palestinian/Syrian, where *ma* functions generally as a complementizer, not a wh-element. On the strength of Shlonsky's arguments, McNabb and Kennedy (2011) propose that in clausal comparatives in Palestinian

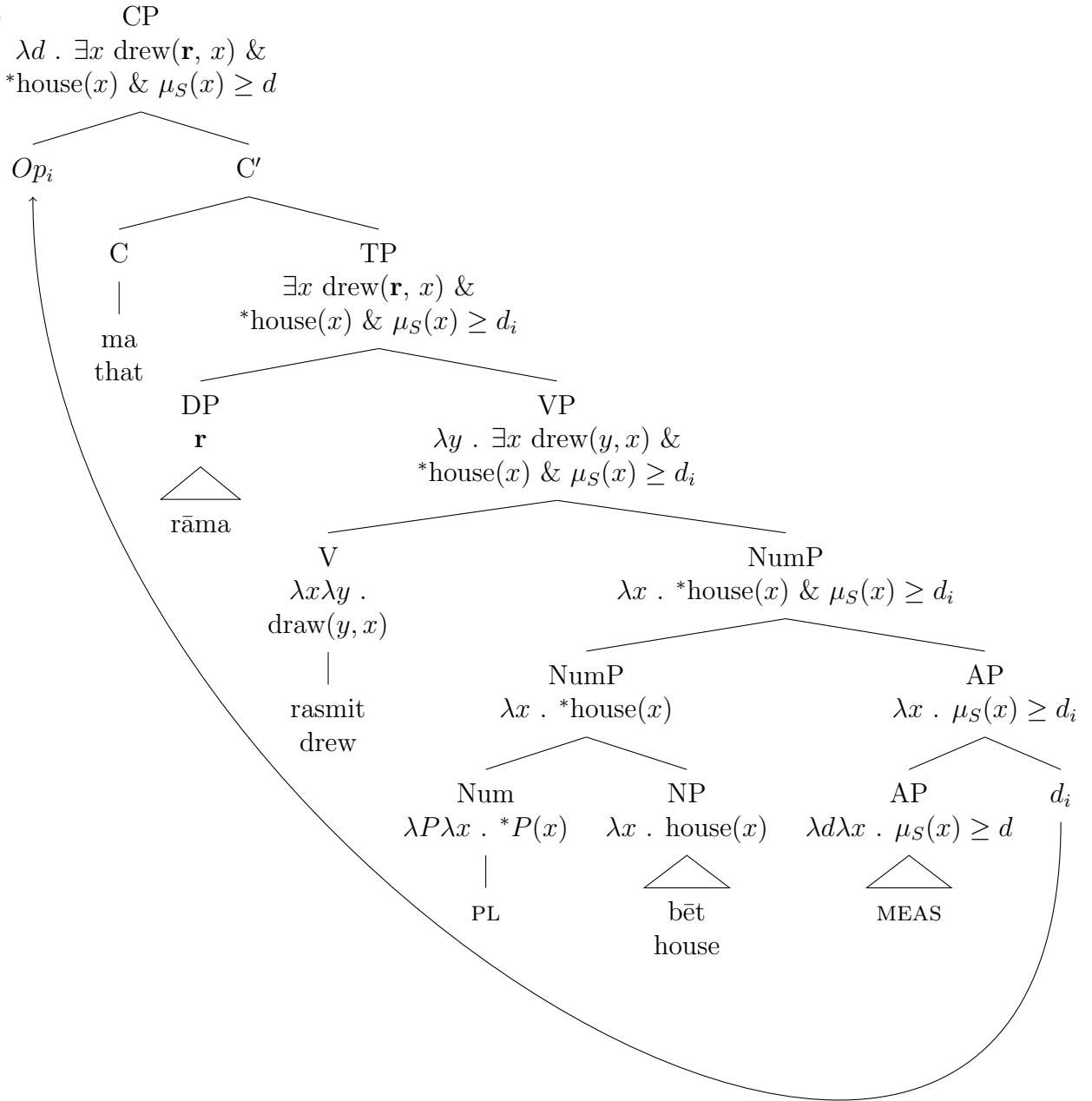
Arabic, *ma* functions as a complementizer and the degree operator that derives a predicate over degrees is covert (notated *Op* below). I adopt this view for Syrian here. On this view, (28) has the constituency sketched in (33).

- (33) aḥmad rasam byūt MEAS ACCAC min [_{CP} *Op_d* ma rasm-it rāma byūt
 Ahmad drew houses MEAS er from that drew-3FS Rama houses
d-MEAS].
d-MEAS
 ‘Ahmad drew more houses than Rama drew.’

As notated explicitly in (33), the standard clause in (28) contains an elided object NP *byūt* ‘houses’ interpreted identical to the object of the matrix clause. Bresnan (1973) analyses ellipsis in the standard clause of clausal comparatives as the result of a transformation she terms ‘Comparative Deletion’. I treat the conditions governing Comparative Deletion in more detail after discussing the meaning of the clausal comparative below.

The semantic composition of the standard clause (CP in (33)) looks like (34). I assume that the complementizer *ma* is semantically vacuous and the node *C'* inherits the denotation of TP.

(34)

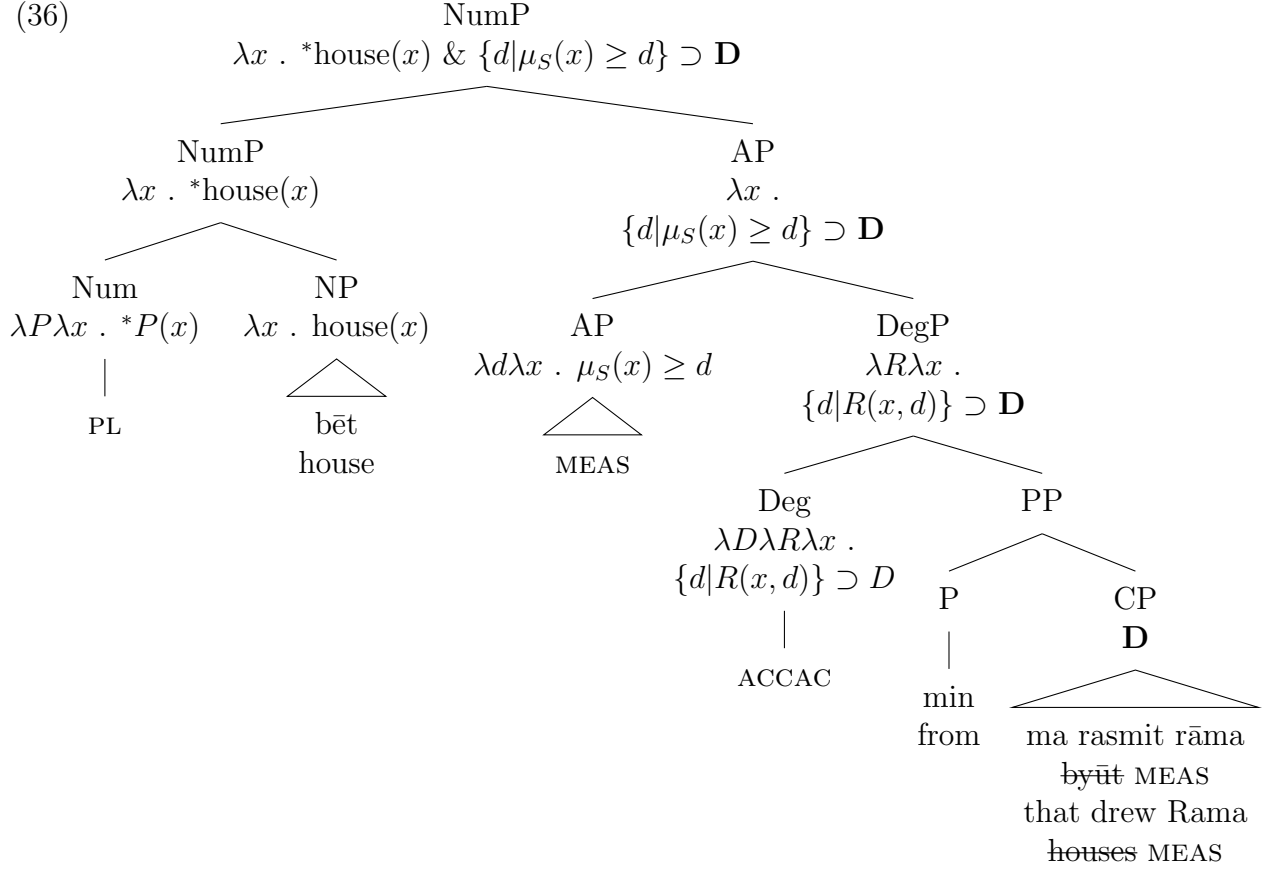


Given these preliminary conclusions, the clausal comparative differs in only logical type from the phrasal comparative. While the phrasal comparative combines with a *min* phrase that denotes an individual, the clausal comparative combines with a *min* phrase that denotes a degree predicate. I define the clausal comparative variant of ACCAC accordingly in (35).

$$(35) \quad \llbracket \text{ACCAC} \rrbracket = \lambda D_{\langle d,t \rangle} \lambda R_{\langle d, \langle e,t \rangle \rangle} \lambda x_e . \{d \mid R(x, d)\} \supset D$$

To reign in the complexity of the trees illustrating this use of ACCAC, let us abbreviate the degree predicate derived in (34) simply as **D**. That is, **D** is the set of degrees such that Rama drew at least that many houses. The tree in (36) illustrates the semantic composition of the object nominal (of category NumP—I omit DP, if it is present at all) in the quantity comparative construction in (33). The comparative morpheme with its clausal argument (here as before the preposition *min* is vacuous) combines with the degree relation MEAS to form a complex adjective modifying *byūt* ‘houses’. The result asserts of an individual x that x is a quantity of houses exceeding the quantity **D**, which is the quantity of houses that Rama drew. This NumP functions as object of *rasam* ‘drew’ in (33).

(36)

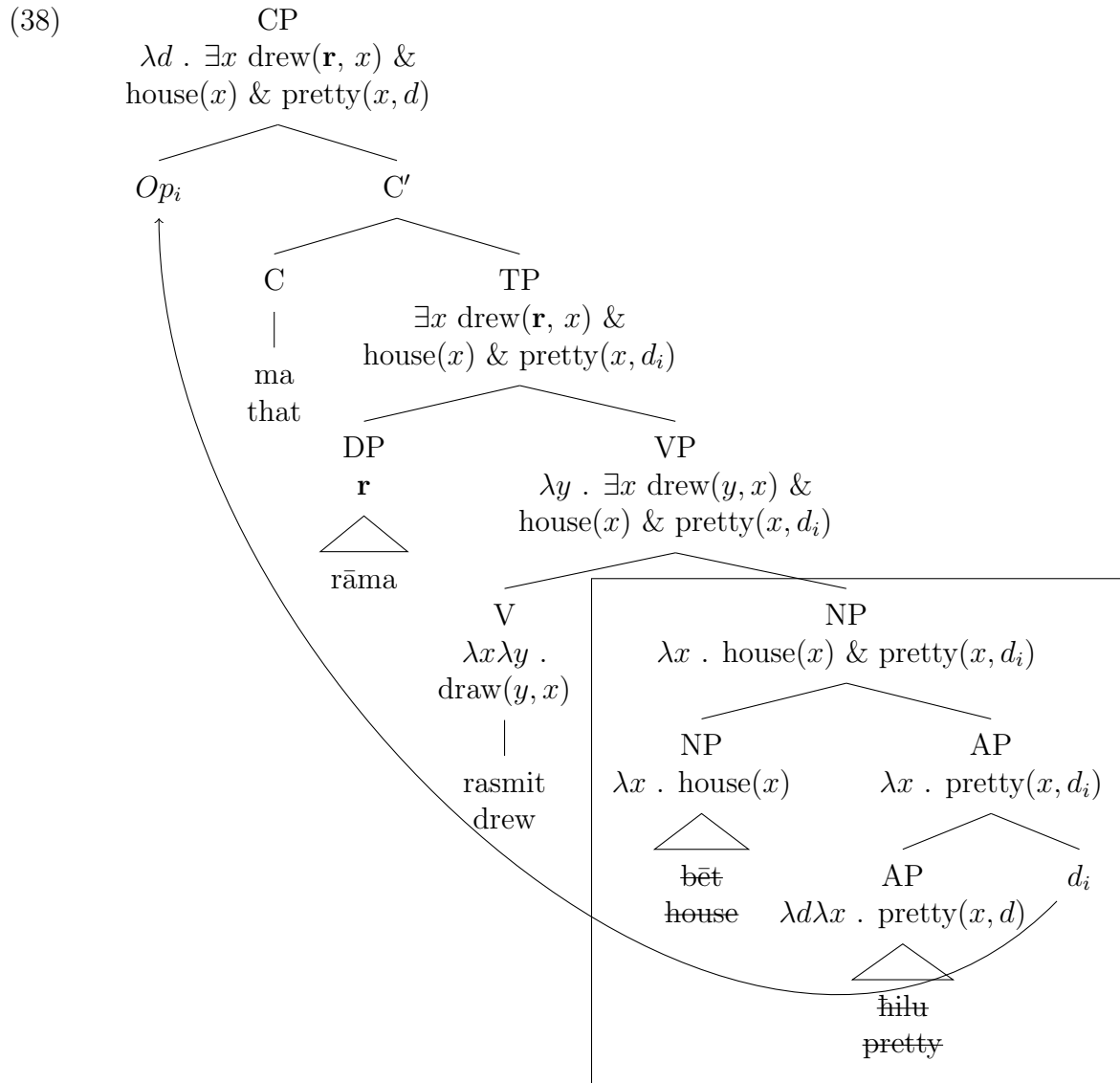


The conclusions of section 4 lead to the expectation that attributive quality comparatives should be ungrammatical in the clausal comparative format. The reason is that to form the standard clause, we must move a null operator from the argument position of the attributive adjective to the left clause edge. But since the null operator is embedded in the NP the adjective modifies, this step will cross over that NP boundary. We observed in section 4 that a degree abstraction chain (there in the form of DegP movement) cannot cross over an NP boundary. It comes as some surprise, therefore, that the relevant configuration is grammatical in the standard clause in clausal comparatives. The quality clausal comparative in (37a) is grammatical though it displays movement of a null degree abstraction operator from the attributive adjective to the edge of the *ma* clause, as illustrated in (37b).

- (37) a. aḥmad rasam bēt aḥla mim-ma rasm-it rāma.
 Ahmad drew house prettier from-that drew-3FS Rama
 ‘Ahmad drew a prettier house than Rama drew.’

- b. aħmad rasam bēt aħla min [CP Op_d ma rasm-it rāma bēt
 Ahmad drew house prettier from that drew-3FS Rama house
 ~~d -ħilũ~~].
 ~~d -pretty~~
 ‘Ahmad drew a prettier house than Rama drew.’

The internal structure of the standard clause in (33) looks like (38). Here, movement of Op crosses over the boundary of the elided NP headed by $bēt$ ‘house’. The boxed in NP surprisingly fails to function as an island here.



McNabb and Kennedy (2011) point out that the transparency of NP in clausal comparatives seems to be connected to comparative deletion; deletion of NP is obligatory in quality comparative constructions but optional in quantity comparatives. This reflects the distinction we have already seen in the ability of NP to restrict movement in quality but not quantity comparatives, suggesting that the barrierhood of NP is at work in the formation of the standard clause, too, in a slightly different guise. McNabb and Kennedy illustrate the contrast with the data in (39) (their examples (6a) and (5a), p. 153) from Palestinian Arabic, which is identical to Syrian in the relevant respects. While the noun the comparative adjective modifies may be deleted in both contexts, in the attributive quality comparative in (39a) it *must* be deleted.

- (39) a. samīr iftara sayyāra akbar mim-ma iftar-at nuha (*sayyāra).
 Samir bought car bigger from-that bought-3FS Nuha (*car)
 ‘Samir bought a bigger car than Nuha bought (*a car).’
 b. samīr akal baskūt aktar mim-ma akl-at muna (baskūt).
 Samir ate cookies more from-that ate-3FS Muna (cookies)
 ‘Samir ate more cookies than Muna ate (cookies).’

McNabb and Kennedy also show that where the noun need not be deleted, it need not be identical to an antecedent in the matrix clause, as (40b) illustrates. Non-identity with an antecedent does not circumvent the deletion requirement in clausal comparatives, as (40a) illustrates (McNabb and Kennedy 2011, p. 153).

- (40) a. *samīr iftara sayyāra akbar mim-ma iftar-at nuha fān.
 Samir bought car bigger from-that bought-3FS Nuha van
 (*‘Samir bought a bigger car than Nuha bought a van.’)
 b. samīr akal baskūt aktar mim-ma akl-at muna mōz.
 Samir ate cookies more from-that ate-3FS Muna bananas
 ‘Samir ate more cookies than Muna ate bananas.’

These facts point to the conclusion in (41).

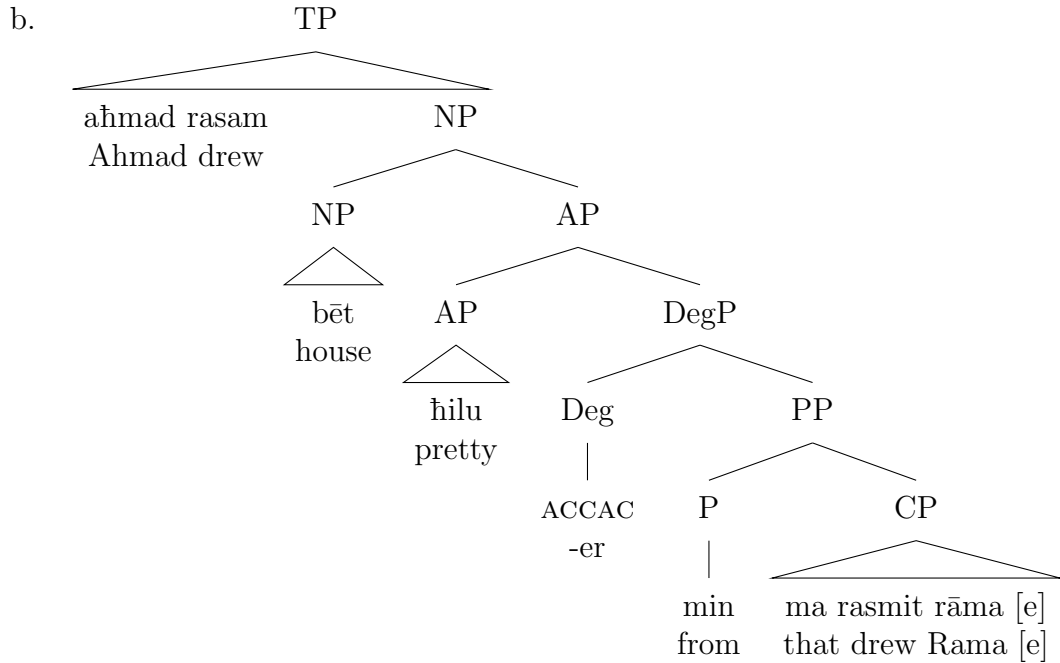
- (41) Comparative Deletion suspends the barrierhood of NP.

McNabb and Kennedy (2011) seek to fold these facts into a larger generalization to the

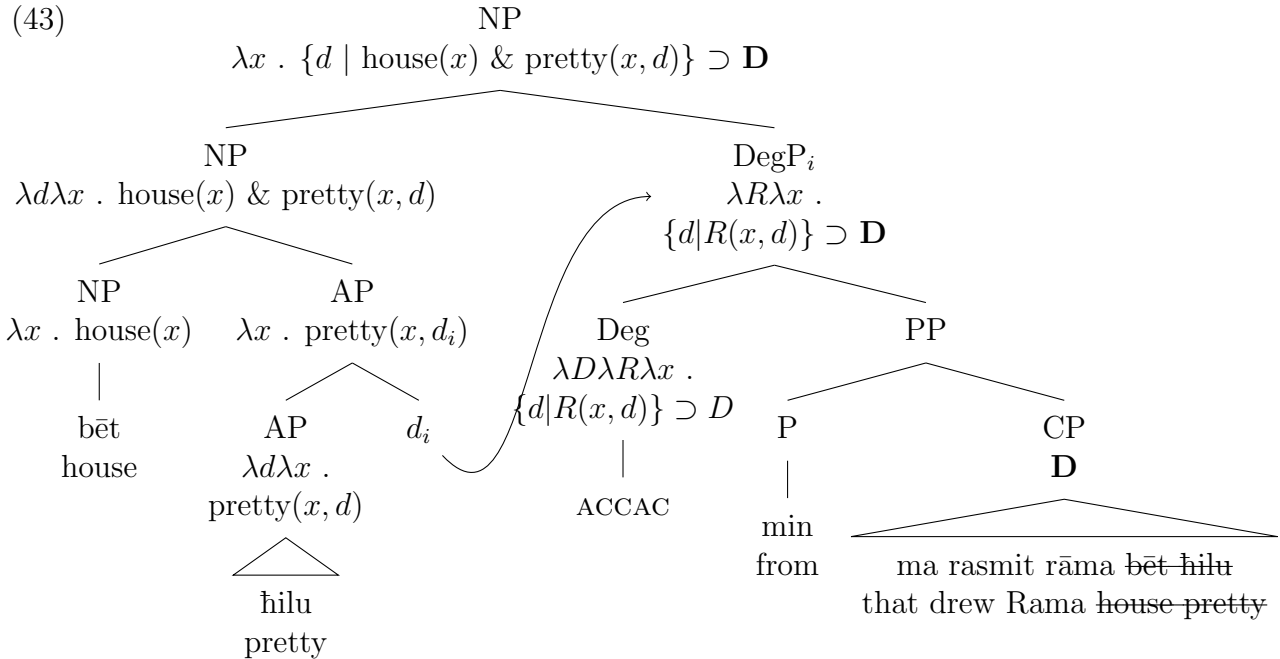
effect that ellipsis in and of itself abrogates certain barriers for movement, independently of comparative constructions. As Merchant (1999) and Kennedy and Merchant (2000) show, sluicing also appears to suspend certain constraints on movement. The following section is devoted to showing that sluicing does not in fact suspend the barrierhood of NP in Arabic, and so patterns differently from Comparative Deletion in this respect. Furthermore, since Arabic allows overt movement of the comparative morpheme itself, we are able to ask whether ellipsis in the main clause, to the extent it is possible, abrogates the NP barrier for movement of the comparative. A suitable context in fact presents itself in Arabic, but we find that this ellipsis context does not suspend the barrierhood of NP for comparative displacement. These observations militate against a uniform analysis of ellipsis as barrier-defeating in general.

Before proceeding to the discussion of these issues in section 6, I discuss one last syntactic aspect of clausal comparatives. In the clausal comparative, the comparative morpheme together with its internal argument, the standard clause, is base generated in the degree argument position of the adjectival associate, the adjective *ħilu* in (37a), repeated in (42a) and diagrammed in (42b). The standard clause contains a deletion site labeled ‘[e]’ that needs to be identified. The antecedent for this deletion site is the matrix object NP *bēt ħilu* ‘house pretty’. However, the NP containing that string also contains the comparative morpheme and the associated standard clause, which in turn contains the deletion site. That is, the deletion site is contained in its antecedent. If this containment persists at the point where identity for deletion is checked, resolution of Comparative Deletion will reintroduce the deletion site within the standard clause. Such ‘antecedent contained deletion’ contexts lead to infinite regress at LF (Bouton 1970, May 1985, Fiengo and May 1994, Kennedy 1997).

- (42) a. aħmad rasam bēt aħla mim-ma rasm-it rāma.
 Ahmad drew house prettier from-that drew-3FS Rama
 ‘Ahmad drew a prettier house than Rama drew.’



Movement of DegP in the matrix clause to the edge of the matrix NP, illustrated in (43), removes the comparative morpheme and the standard clause from the NP that antecedes deletion in the standard clause, resolving the antecedent containment configuration at LF. If (43) is the LF of (42a), no infinite regress arises at the point at which the deletion site is identified. As before, the sister of DegP in its derived position is treated as an abstract over a degree denoting variable in the base position of DegP; this tree composes semantically with the appropriate meaning.



In the configuration in (43), DegP crosses out of the AP it originates in and moves to, but not across, the NP boundary in the matrix clause, respecting the barrierhood of NP. Since (42a) is grammatical and evidently not subject to infinite regress, the movement step in (43) must be grammatical, and therefore the attributive AP itself must be transparent to movement of the comparative DegP, though further movement through NP is prohibited. In the following section, I turn to restrictions on degree quantifiers in two ellipsis contexts other than Comparative Deletion.

6 Interactions of deletion and barrierhood

In this section, I look at two ellipsis operations in Syrian Arabic, sluicing and indefinite object drop, and find that they do not have the same effect on the barrierhood of NP to degree quantifier displacement as Comparative Deletion does. Merchant (1999) and Kennedy and Merchant (2000) point out that in English, wh-movement of the interrogative degree quantifier *how* is possible in sluicing contexts. In sluicing, an interrogative phrase undergoes wh-movement to the edge of a complement clause, then the remnant of movement in the

complement clause is ellided (Ross 1967). Merchant cites the examples in (44) among others (p. 225).

- (44) a. He wants a detailed list, but I don't know [how detailed]_i ~~he wants a t_i list~~
 b. She bought a big car, but I don't know [how big]_i ~~she bought a t_i car.~~

The term *how* functions as a wh-degree quantifier in English, and pied pipes its adjectival associate under wh-movement. The rest of the noun phrase from which *how AP* is extracted, however, remains in situ in the sluicing examples in (44), where it is elided with the rest of the remnant of movement. The complex adjective *how AP* therefore moves out of the NP that contains it in the base structure. This configuration is ungrammatical in non-ellipsis contexts, as the examples in (45) show (Merchant 1999, p. 220).

- (45) a. *How detailed does he want a list?
 b. *How big did she buy a car?

Sluicing does not suspend the requirement that *how* pied pipes its adjectival associate, as the data in (46) show (Merchant 1999, p. 223).

- (46) a. *He wants a detailed list, but I don't know how_i ~~he wants a t_i-detailed list.~~
 b. *She bought a big car, but I don't know how_i ~~she bought a t_i-big car.~~

The Syrian Arabic counterpart of English *how*, *ʔaddēf*, is subject to the same restrictions as the comparative ACCAC itself, and does not pied pipe its scalar associate. Rather, *ʔaddēf* occurs sentence initially and is related to a scalar associate potentially at a distance, like the comparative, as discussed in section 3. *ʔaddēf* may bind a predicate adjective from its surface clause initial position, as in (47a) (cf. (17)), an adverb, as in (47b) (cf.(18)), a plural noun (to be exact, MEAS modifying a plural noun), as in (47c) (cf. (19) and (20)), but not an attributive quality adjective, as (47d) shows, again like the comparative, as seen in (21).

- (47) a. ʔaddēf lāzim ti-kūn fāṭir la-ti-nʔabil b-ha-l-madrase?
 how must 2MS-be smart to-2MS-be.accepted in-that-the-school
 'How smart do you have to be to get accepted at that school?'
 b. ʔaddēf nādia rakd-it bi-surʔa b-s-sibāʔ?
 how Nadia ran-3FS with-speed in-the-race

- ‘How fast did Nadia run in the race?’
- c. $\text{ʔaddēf ɥall-it nādia masāʔil b-l-faḥs?}$
 how solved-3FS Nadia problems in-the-test
 ‘How many problems did Nadia solve on the test?’
- d. $\text{*ʔaddēf rasm-it nādia bēt ḥilu?}$
 how drew-3FS Nadia house pretty
 (‘How pretty a house did Nadia draw?’)

Since *ʔaddēf* does not pied pipe material it is base generated adjacent to under movement to a wh-licensing position, the configuration in (47d) cannot be rescued by pied piping of the adjective (48a) or of the whole noun phrase containing *ʔaddēf* (48b), as it can in English.

- (48) a. $\text{*ʔaddēf ḥilu rasm-it nādia bēt?}$
 how pretty drew-3FS Nadia house
 (‘How pretty a house did Nadia draw?’)
- b. $\text{*ʔaddēf bēt ḥilu rasm-it nādia?}$
 how house pretty drew-3FS Nadia
 (‘How pretty a house did Nadia draw?’)

Example (47d) shows that NP is a barrier for *ʔaddēf*, just as it is for *Op* and the comparative DegP ACCAC. Unlike English, though, sluicing does not suspend the barrierhood of NP for movement of *ʔaddēf*. In spite of the possibility for *ʔaddēf* to occur in principle at a distance from its scalar associate, as the examples in (47) illustrate, it cannot bind an attributive adjective at a distance in sluicing contexts, as (49) illustrates.

- (49) $\text{*nādia rasm-it bēt ḥilu, bas ma b-a-ʔrif ʔaddēf.}$
 Nadia drew-3FS house pretty, but not IND-1S-know how
 (‘Nadia drew a pretty house, but I don’t know how pretty.’)

The examples in (50) control for *ʔaddēf*’s compatibility with sluicing if no barrier hinders it. *ʔaddēf* extracts from a predicative adjective in (50a), and adverb in (50b) and MEAS (which is superordinate to NP) in (50c).

- (50) a. $\text{lāzim ti-kūn ʔāṭir la-ti-nʔabil b-ha-l-madrased, bas ma}$
 must 2MS-be smart to-2MS-be.accepted in-that-the-school but not
 b-a-ʔrif ʔaddēf.
 IND-1S-know how
 ‘You have to be smart to get accepted at that school, but I don’t know how

- smart’
- b. nādia rakd-it bi-surʿa b-s-sibāʿ, bas ma b-a-ʿrif ʔaddēf.
 Nadia ran-3FS with-speed in-the-race but not IND-1S-know how
 ‘Nadia ran fast in the race, but I don’t know how fast.’
- c. nādia ḥall-it masāʿil b-l-faḥṣ, bas ma b-a-ʿrif ʔaddēf.
 Nadia solved-3FS problems in-the-test but not IND-1S-know how
 ‘Nadia solved problems on the test, but I don’t know how many’

It appears, then, that sluicing does not suspend the barrierhood of NP for movement of *ʔaddēf*, as Comparative Deletion does for movement of *Op*. The transparency of the elided NP to *Op* in clausal comparatives appears instead to be a construction-specific effect of Comparative Deletion. This conclusion is supported by the fact that it is possible to construct a Comparative Deletion-like context in matrix clauses. This context, however, does not support movement of the comparative out of NP, even though as we have seen, the comparative is syntactically mobile in principle in Syrian Arabic.

We saw in section 3 that movement of ACCAC ‘er’ is bounded by NP. Syrian Arabic is like other dialects in that it allows ellipsis of an indefinite object; see Algryani 2012 on Libyan and Soltan (2020) on Egyptian. An indefinite object may be elided under identity with a previously mentioned indefinite, as illustrated in the Syrian examples in (51).

- (51) a. marwān ʿaṭa nādia warde ḥilwe u-mūsa ʿaṭā-ha kamān.
 Marwan gave Nadia flower pretty and-Musa gave-her also
 ‘Marwan gave Nadia a pretty flower and Musa also gave her one.’
- b. nādia iʿtar-it bisklēt yāli u-muʿīn iʿtara kamān.
 Nadia bought-3FS bicycle expensive and-Muen bought also
 ‘Nadia bought an expensive bicycle and Muen bought one also.’

If ellipsis suspends the barrierhood of NP generally, we expect indefinite object drop to suspend the barrierhood of NP for movement of the comparative morpheme ACCAC. The examples in (52) show that this is not so. Here, we have, by hypothesis, displaced the analytic comparative phrase *aktar min DP* to a position external to the NP containing its adjectival associate in the base structure and elided the NP on the model of (51) above. The interpretation corresponding to this configuration, marked ‘**X**’ below, is not available. Only a quantity comparative interpretation is available in these examples, which, in (52a)

for example, asserts that Musa gave Nadia more stuff—not necessarily flowers and even if so not necessarily prettier ones—than Marwan gave her. On this interpretation, *aktar min DP* does not bind the attributive quality adjective *ḥilwe* ‘pretty’ across an NP boundary. That binding configuration is unavailable. Thus, object ellipsis does not make NP transparent to movement of the comparative morpheme ACCAC (in the form of *aktar* in (52)).

- (52) a. marwān ṣaṭa nādia warde ḥilwe bas mūsa ṣaṭā-ha aktar minn-u.
 Marwan gave Nadia flower pretty but Musa gave-her more from-him
 ✓‘Marwan gave Nadia a pretty flower but Musa gave her more than him.’
 ✗‘Marwan gave Nadia a pretty flower but Musa gave her a prettier one than him.’
- b. nādia iṣṭar-it bisklēt yāli bas muṣīn iṣṭara ḥatta aktar min
 Nadia bought-3FS bicycle expensive but Muen bought even more from
 nādia.
 Nadia
 ✓‘Nadia bought an expensive bicycle but Muen bought even more than Nadia.’
 ✗‘Nadia bought an expensive bicycle but Muen bought an even more expensive one than Nadia.’

The suspension of the barrierhood of NP for movement of *Op* in clausal comparatives is found only in the context of Comparative Deletion in Arabic, not in the context of sluicing or indefinite object ellipsis. This militates against the claim defended in Merchant (1999), Kennedy and Merchant (2000) and McNabb and Kennedy (2011) that ellipsis contexts uniformly abrogate barriers to certain types of syntactic displacement, at least for Arabic. While sluicing in English seems to have the same effect on movement of *how* (with AP pied piping) as Comparative Deletion does on *Op* in clausal comparatives, English and Arabic differ in a number of other ways, first and foremost in the fact that that comparative movement at LF in English is not constrained by the barrierhood of NP. This is evident in the fact that the English translation to the Arabic example illustrating the restriction does not display the restriction: *Ahmad drew a prettier picture than Rama* does not compare Ahmad’s picture to Rama herself, unlike the Arabic counterpart in (6). In brief, the behavior of *Op* is the same in English and Arabic but the behavior of DegP and *how* differ from their Arabic counterparts. An explanation for this partial parametric overlap must await a more thorough analysis of

English.

7 Conclusion

This overview of the behavior of comparative constructions in Syrian Arabic has found that:

- Syrian has both phrasal and clausal comparatives. In clausal comparatives, the standard clause is marked by the complementizer *ma*.
- The comparative morpheme ACCAC may be displaced in the surface structure, and the scope positions available to it in the covertly derived logical form match the possible surface landing sites for the comparative; displacement is inhibited by an NP boundary in both contexts.
- The quantity adjective MEAS is base generated above NP while quality adjectives are base generated within NP. As a result, attributive quantity comparatives show overt and covert displacement but attributive quality comparatives do not, since the latter are constrained by the NP barrier.
- In clausal comparatives, the Comparative Deletion operation makes the deleted NP transparent to movement of the null operator that derives the standard clause, suspending the barrierhood of NP in standard clauses.
- The suspension of the NP barrier for movement of a degree operator in standard clauses is not a general effect of ellipsis; it is not found in sluicing or argument ellipsis contexts but only under Comparative Deletion.

It is hoped that these results will advance the analysis of Arabic syntax and semantics, in particular with reference to the dialects, as well as facilitate the comparison of Arabic with other languages in typological perspective.

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