Comparative Constructions in Syrian Arabic[1]

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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, suggesting that scope construal involves covert displacement. Further, the restrictions on 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 involved in the semantic derivation of clausal comparative constructions, 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 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 of 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. *ħilu* 'pretty' when modifying a noun) support neither overt nor covert movement of an associated comparative phrase. Predicative and adverbial quality adjectives support movement, as do plural and mass noun phrases in so-called 'quantity comparative' constructions. I explain the contrast between attributive quality adjectives and other scalar associates for the comparative in terms of their juxtaposition with respect to barriers for 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 an unexpected restriction on the scope of the comparative in Syrian Arabic described by Al-Bitar (2019) holds only when the scalar associate of the comparative is a quality adjective used attributively. It does not hold in other syntactic contexts. In section 3 I show that the 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 scalar associate's structural relation

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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 ʕāyʃ-e ʔarīb min mīnā tiʒāri.*
Nadia living-FS near from port commercial
'Nadia lives near a commercial port.'
b. *nādia ʕāyʃ-e ʔarīb min l-mīnā t-tiʒāri.*
Nadia living-FS 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', *aʃṭar* 'smarter' from *ʃāṭir* '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. The Arabic copula is null in the present tense.

(2) a. *aħmad rasam bēt aħla min bēt rāma.*
Ahmad drew house prettier from house Rama
'Ahmad drew a house prettier than Rama's house.'
b. *nādia iʃtar-it bisklēt aɣla min bisklēt muʕīn.*
Nadia bought-3FS bicycle more.expensive from bicycle Muen
'Nadia bought a bicycle more expensive than Muen's bicycle.'

(3) a. *rasmit aħmad aħla min rasmit rāma.*
picture Ahmad prettier from picture Rama
'Ahmad's picture is prettier than Rama's picture.'
b. *bisklēt nādia kān-it aɣla min bisklēt muʕīn.*
bicycle Nadia was-3FS more.expensive from bicycle Muen

[2]The 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.

'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 gradable property borrowed from the main clause. In each of the examples above, that property is the base adjective underlying the comparative, *ħilu* 'pretty' in (2a) and (3a) and *ɣāli* 'expensive' in (2b) and (3b).

Al-Bitar (2019) shows at length that comparative constructions of the type discussed above in Syrian Arabic are 'phrasal' comparatives, that is, the complement of the preposition *min* is a determiner phrase (DP; a nominal constituent), not a complementizer phrase with elided material (CP; a clausal constituent). Predication of that DP on the adjectival associate of the comparative morpheme takes place in the semantic composition, not in the syntax. That is, there is no elided material in the standard phrase, only the DP object of *min*. See Hazout (1995) for similar arguments concerning the cognate structure in Hebrew and Abusalim (2016) on Jordanian Arabic. 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), Heim (1985, 2001) and Bhatt and Takahashi (2007) and of Arabic by Abusalim (2016) and Al-Bitar (2019), I propose 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 to a greater degree than the DP in the standard phrase, here Rama's picture of a house. Example (2a), then, asserts that Ahmad drew a house with this property—it is prettier than Rama's house.

I follow the convention in degree semantics of treating gradable terms, including adjectives like *ħilu* 'pretty', as 'degree relations', terms that take a degree and an entity as arguments and yield a truth value. As defined in (4), *ħilu* takes a degree d and an entity x and yields 'true' if that entity is pretty to that degree and 'false' otherwise. Such degree relations are assumed to be downward monotonic, meaning that if the relation holds of a given degree, it holds of all lesser degrees as well (Cresswell 1976, Heim 1985).

(4) $\quad [\![\text{ħilu}]\!] = \lambda d_d \lambda x_e \,.\, \text{pretty}(x, d)$

The Greek letter λ followed by a variable with a subscript indicates that the term being defined has an argument of the logical type the subscript designates, and combines with its arguments in the order the respective λ-prefixes occur in. When a term combines with an argument, the argument replaces the variable indexed by the corresponding λ-prefix in the assertion that follows the period separating the specification of the term's argument structure (the λ-prefixes) from the assertion it makes about those arguments. The basic types are e for 'entity', d for 'degree' and t for 'truth value' (the value 'true' or 'false'). For any types a and b, $\langle a, b\rangle$ represents the type of a term that takes an argument of type a and yields a term of type b. Degree relations like (4) have the type $\langle d, \langle e, t\rangle\rangle$.

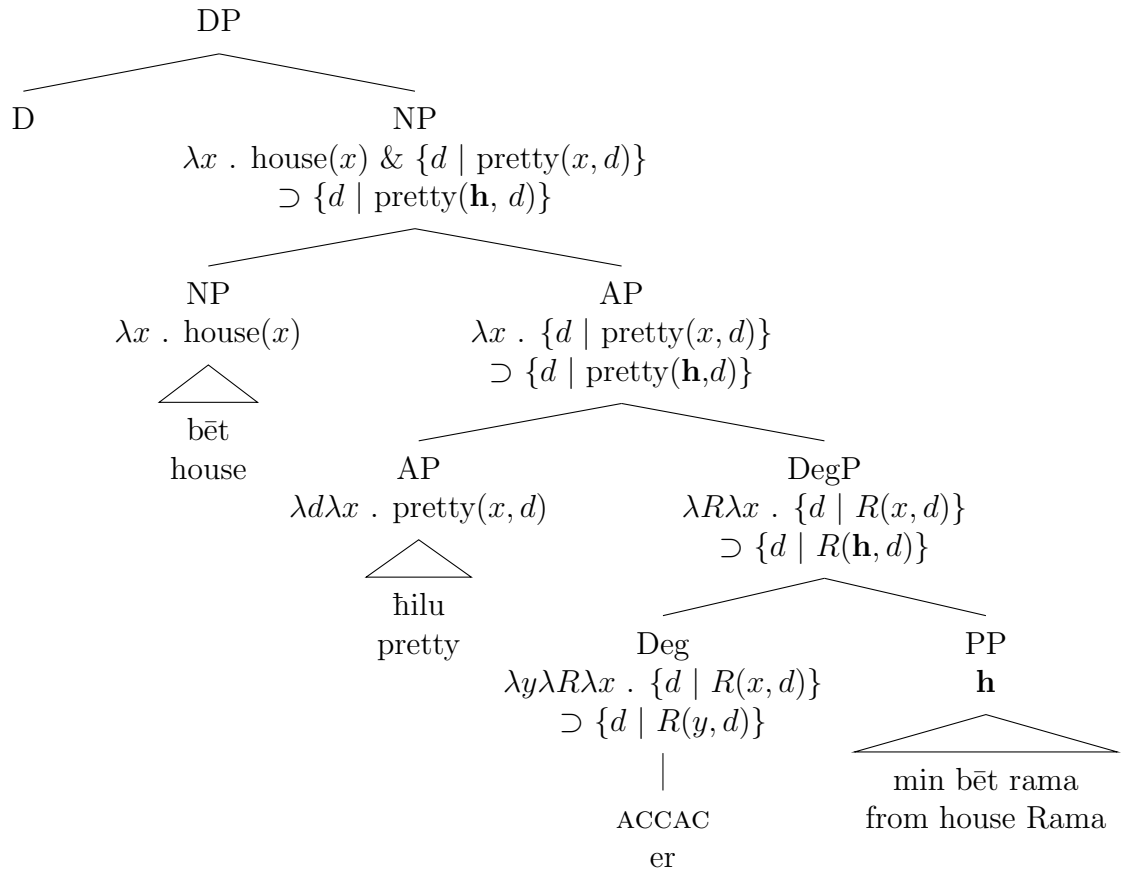
A denotation for comparative ACCAC based on these premises is stated in (5), modeled in part after Heim's (2006) analysis of English. It holds of two individuals and a degree relation (what *ħilu* 'pretty' is) if the degrees to which the second individual bears the degree

relation are a proper superset of the degrees to which the first bears the degree relation. The notation $\{d|R(x,d)\}$ represents the set of degrees that x bears the R relation to. If the set of degrees to which x is, for example, pretty—containing x's maximal degree of prettiness and, by monotonicity, all lesser degrees—properly contains the set of the degrees to which y is pretty, then x has some degrees of prettiness that y does not have, and is therefore prettier than y.

(5) $\quad [\![\text{ACCAC}]\!] = \lambda y_e \lambda R_{\langle d,\langle e,t\rangle\rangle} \lambda x_e \ . \ \{d \mid R(x,d)\} \supset \{d \mid R(y,d)\}$

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 DP in (2a), then, has the semantic composition in (6), 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. Predicate modification is a process that unifies the arguments of two structurally adjacent predicates. That is, it coverts the structure $[\lambda x.P(x)][\lambda x.Q(x)]$ into $[\lambda x \ . \ P(x) \ \& \ Q(x)]$ (Heim and Kratzer 1998, p. 65). In (6), 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 or perhaps a post-syntactic morphological component. I assume that definite and indefinite noun phrases share the same distributional category 'DP' for 'determiner phrase' but that indefinite D is null in Arabic and in the absence of an overt determiner DP inherits the predicative meaning of NP. NP here denotes a predicate that is true of an individual x if x is a (picture of a) house and the degrees to which x is pretty properly include all the degrees to which Rama's (picture of a) house (**h**) is pretty.

(6)



Al-Bitar (2019) observes that the comparative phrase in Syrian Arabic seems to be scopally rigid, as illustrated by the strange interpretation that (7) 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.

(7) *#aħmad rasam bēt aħla 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 (8) illustrates this same restriction. If we insert Muen in the place of Muen's bicycle in (2b), we incongruously compare the bicycle Nadia bought with Muen himself in terms of how expensive they were, as illustrated in (8).

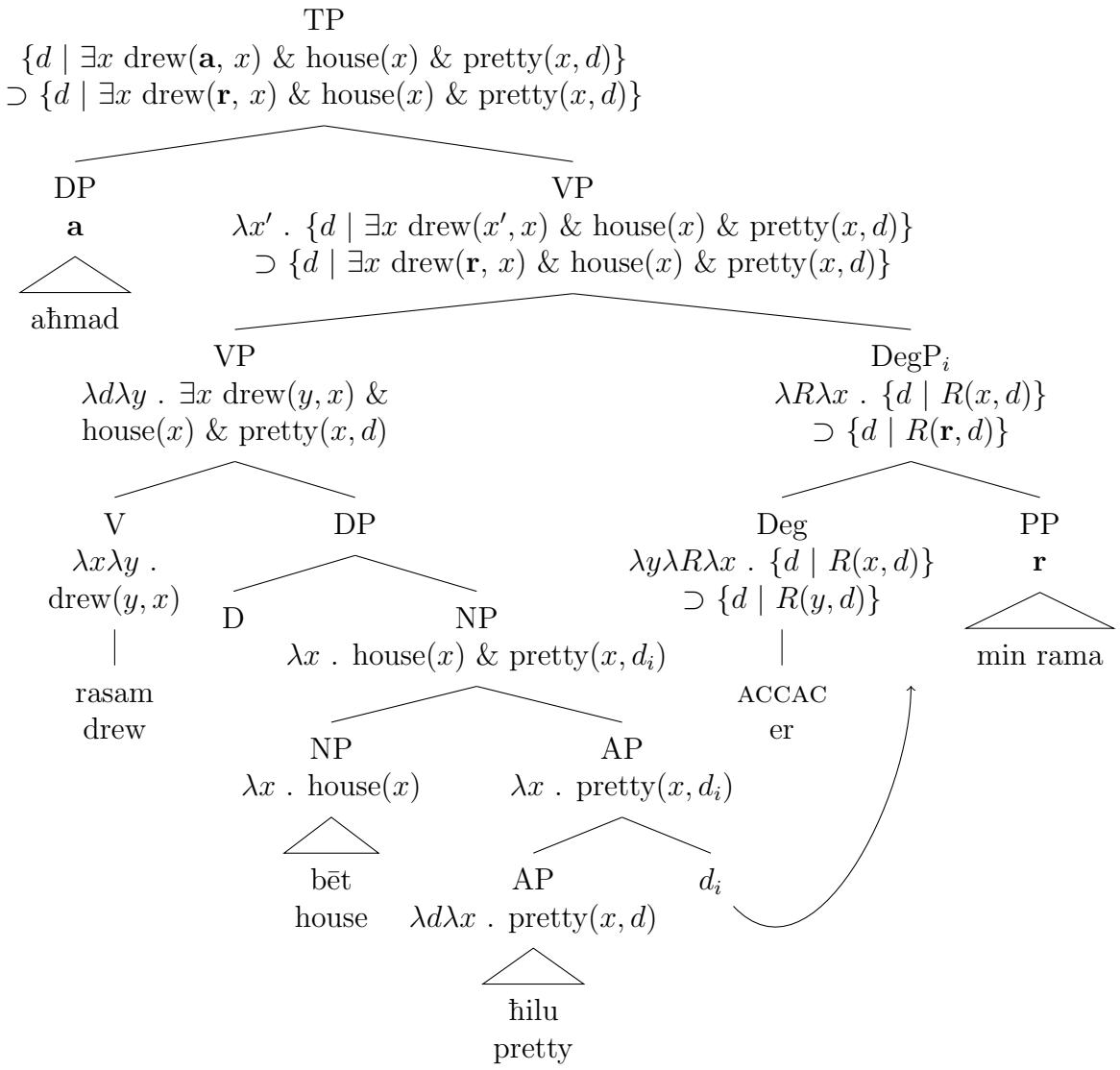
(8) *#nādia iʃtar-it bisklēt aɣla min muʕīn.*
Nadia bought-3FS bicycle more.expensive from Muen
✓'Nadia bought a more expensive bicycle than Muen is.'

[3] Al-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.

✗'Nadia bought a more expensive bicycle than Muen bought.'

The fact that only this odd reading is available to the sentences in (7) and (8) means that it is not possible to expand the scope of the comparative phrase (DegP) so that it takes the whole VP *rasam bēt ħilu* 'drew a pretty house' as its degree relation argument; its scope is fixed in the surface structure. Scope expansion of this kind is found in the English counterparts to (7) and (8) (cf. *Ahmad drew a prettier house than Rama*). These admit the reading that is blocked in Arabic, in which we compare Ahmad and Rama in terms of how pretty a house they drew. I follow a body of literature that takes scope expansion to involve covert syntactic displacement of the comparative phrase (Heim 1985, Rullmann 1995, and many others), and take the overt displacement pattern to be described in section 3 to support this view. Scope expansion involves displacement at a covert level of representation termed 'logical form' (LF), where the sentence's syntactic and semantic constituency align. To illustrate for Arabic, covert movement of the DegP ACCAC *min rāma* '-er than Rama' to a position at the VP-level in (7) would (if this step were grammatical) generate the structure in (9) at LF, where the arrow indicates movement.

(9)



Here, the DegP ACCAC *min rāma* '-er than Rama' moves to a VP-adjoined position. Movement is accompanied by predicate abstraction over the trace of movement, notated by appending a lambda prefix to the denotation of the constituent the moved term has adjoined to, that binds the semantic variable that the trace of movement denotes. For perspicuity's sake, I 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). In this manner, moving DegP to the VP edge results in the addition of a lambda prefix on the VP that binds the degree argument in VP, the trace of DegP. This turns VP, which before movement denotes a property of individuals, into a degree relation, a relation between degrees and individuals of type $\langle d, \langle e, t\rangle\rangle$, the same type as a basic adjective. This VP can then can fill the 'R' slot of DegP like a gradable adjective would. 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), which integrate an indefinite object with a transitive verb. The former unifies 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 in (9). Together, restrict and existential closure convert the structure $[\lambda x \lambda y.R(y,x)][\lambda x.P(x)]$ into $[\lambda y.\exists x[R(y,x)\ \&\ P(x)]]$. Both of these processes take place at the level at which the verb and object are combined, the lowest VP node in (9). 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 (the higher VP node in (9)) denoting a predicate of individuals that drew a house prettier than any house Rama drew. Ahmad is the subject of this predicate. While this is a sensible thing to say, it is not, again, an interpretation available to the sentence in (7). The unavailability of this reading points to the conclusion that the covert movement step that (9) depicts is not available to the comparative DegP in Syrian Arabic. That is, the derivation illustrated in (9) is ungrammatical. The semantic composition of the tree in (9) is unobjectionable. Its ungrammaticality must result from a syntactic restriction.

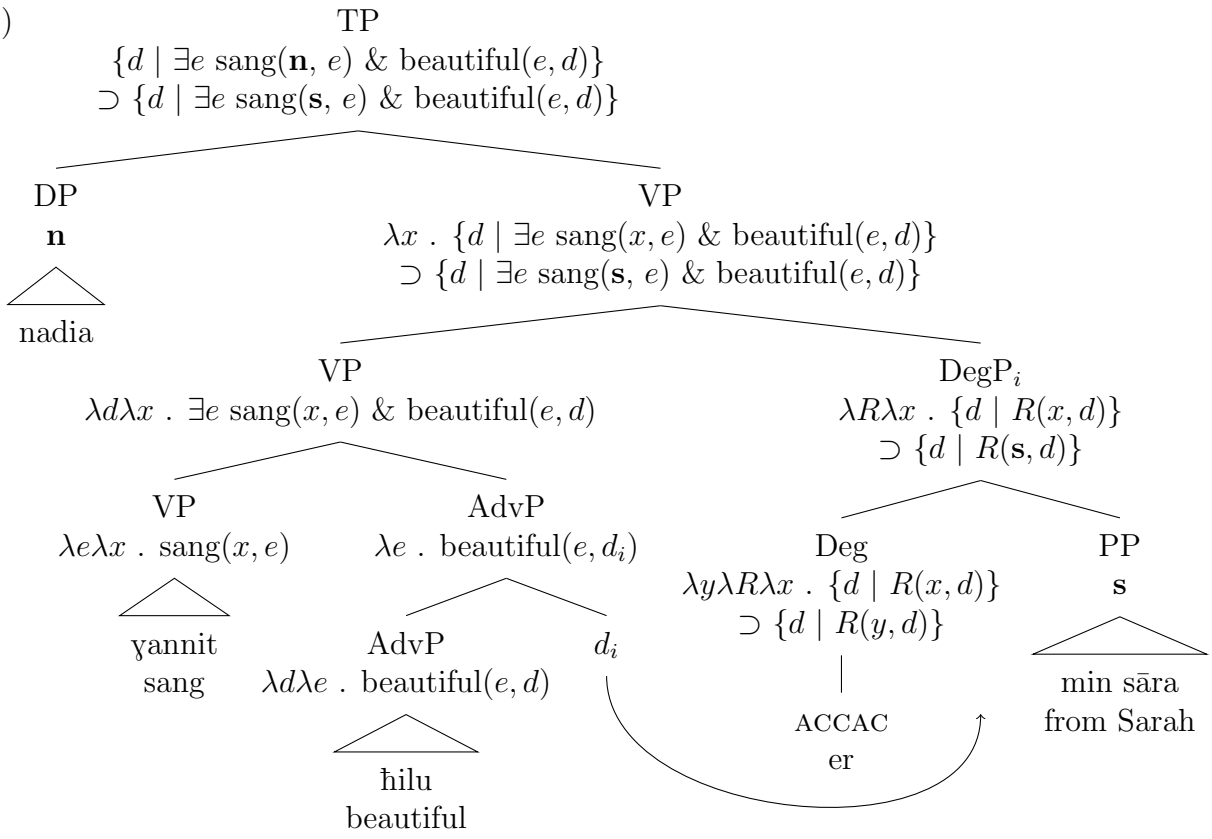
From the missing reading of (7), Al-Bitar (pp. 50-51) draws the conclusion that the comparative morpheme in Syrian Arabic is syntactically immobile. That is, the Arabic comparative may only be interpreted in situ; the hypothetical movement step illustrated in (9) is not available in Syrian Arabic because 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 in Syrian Arabic. For example, the comparative form of adjectives may also be used adverbially, as in the examples in (10) below, which display the comparative adverbs *asraʕ* 'faster' and *aħla* 'more beautifully', in the latter case the same adjective that is used attributively in (7).

(10) a. *nādia rakd-it asraʕ min sāra b-s-sibāʔ.*
Nadia ran-3FS faster from Sarah in-the-race
'Nadia ran faster than Sarah in the race.'

b. *nādia ɣann-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 (10a) entails that Sarah ran and (10b) 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 ACCAC *min sāra* '-er than Sarah' to the edge of VP derives a degree description of just this form, as illustrated in (11) for (10b). 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 the adverb, 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.

(11)



If DegP were to remain in situ in (11), a sortal mismatch would arise. DegP would apply to the degree relation *ħilu* and predicate Sarah on it. But adverbial *ħilu* is typed to combine with an event—a particular sort of entity—not an individual, as notated explicitly in the semantic composition in (11), where the variable e ranges over events. This mismatch forces DegP movement in (10) and similar examples.

Further evidence for structural displacement of the comparative DegP in construct with an adverb comes from data like (12), 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.

(12) a. *lāzim t-ᵊdfiʃ ha-l-bāb aʔwa min l-bāb t-tāni la-t-ᵊftaħ-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-ʔīs l-xuṭūṭ l-mustaʔīm-e ashal min l-xuṭūṭ*
can-2MS 2S-measure the-lines the-straight-PL easier from the-lines
l-mitʕarwaɣ-e.
the-curved-PL
'You can measure straight lines easier than curved lines.'

Example (12a) 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 (12b) asserts that one is able to measure straight lines more

easily that one is able to measure curved lines, just by using a ruler, for example. The universal and existential modals *lāzim* 'must/need to' and *fī* 'can/be able' are part of the degree relation in the interpretation of (12a) and (12b) 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 (11) 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 (13). 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 (13a) 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 (13b) 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 (13b) in Syrian Arabic.

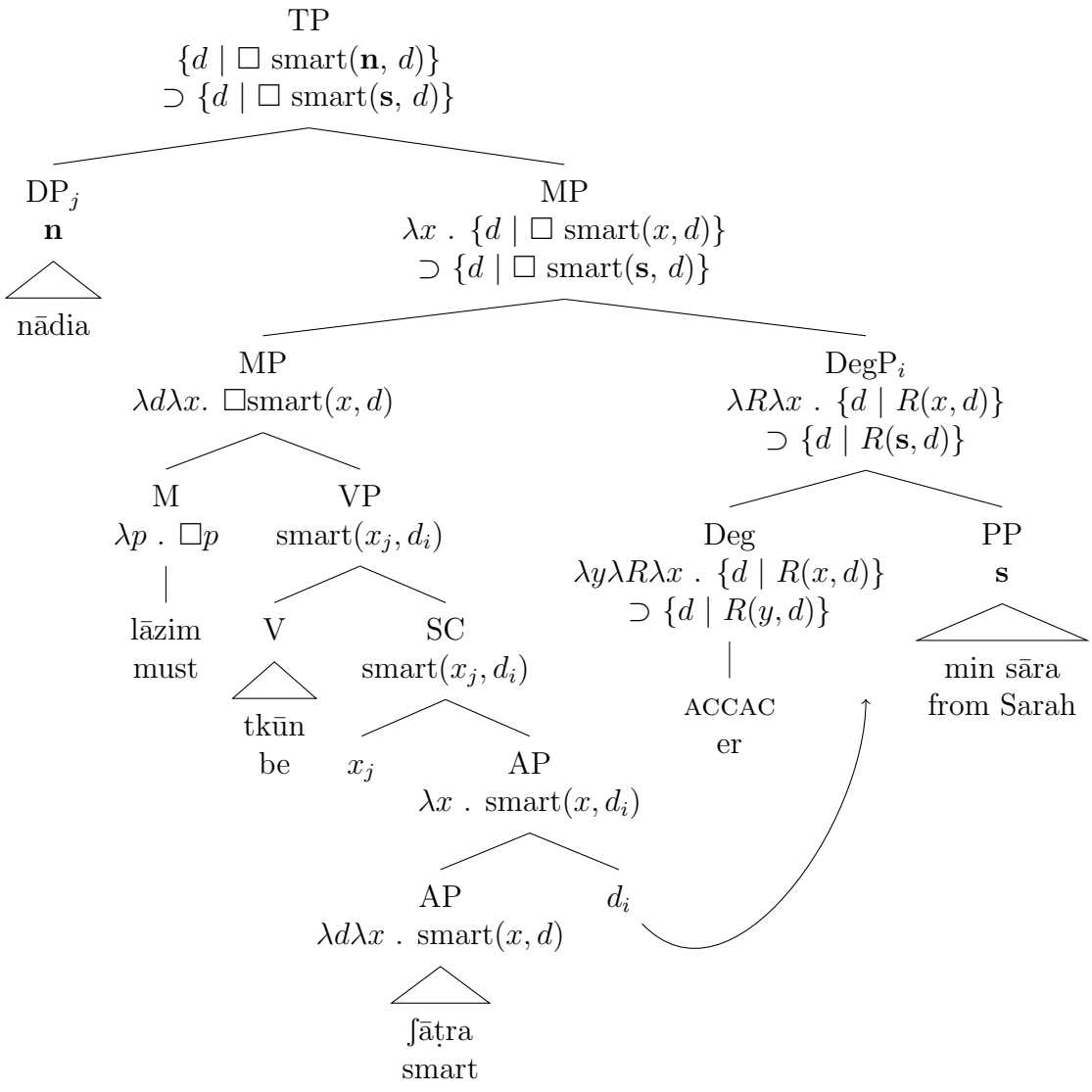
(13) a. *nādia lāzim t-kūn aʃṭar min sāra la-ħatta nʔabl-it*
Nadia must 3FS-be smarter than Sarah to-then be.accepted-3FS
b-ha-l-madrase.
in-that-school
'Nadia has to be smarter than Sarah has to be accepted to that school.'

b. *l-banāt lāzim yi-kūn-u akbar min ʃ-ʃabāb la-y-ṣaħħ-ill-un*
the-girls must 3-be-PL older than the-boys to-3MS-be.allowed-to-them
y-āxd-u ɣirfe mfiṣṣl-e.
3-get-PL room separate-FS.
'Girls need to be older than boys to qualify to get a private room.'

Example (13a) does not assert that Nadia needs to be smarter than Sarah *is*, 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, (13b) 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 (13a), then, compares Nadia and Sarah not in terms of how smart they are but in terms of how smart they need to be, that is, 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 (14). 'SC' stands for 'small clause'. The symbol '□' represents the universal modality contributed by *lāzim* 'must'. The tree also shows raising of the subject *nādia* over the lower MP node, accompanied by the introduction of a lambda-prefix indexing its trace, the individual variable in subject position. Subsequently, DegP movement adds a lambda-prefix to this node indexing the degree-denoting trace of DegP. These two steps derive a degree relation at the level of the

lower MP node, which functions as the degree relation argument of DegP. The fact that (13a) can be interpreted in line with the constituency in (14), where we compare Nadia and Sarah in terms of the degree description *need to be d-smart*, suggests that (14) represents a legitimate derivation in Syrian Arabic, including displacement of the comparative phrase.

(14)



A last context in which the comparative is scopally flexible is seen in quantity comparative constructions like (15). Example (15a) 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.

(15) a. *nādia ʃirb-it ʃāy aktar min sāra.*
Nadia drank-3FS tea more from Sarah
'Nadia drank more tea than Sarah.'

b. *aħmad 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 (15a) is adjoined to the VP, which in turn functions as the degree relation 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 (15) 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 (15).

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 comparative DegP, for example when they occur in predicate position as shown in (13). Nor do adverbs or plural nouns block wide scope of an associated comparative morpheme, as

[4]It 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 (7), 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). Consequently, such 'indirect modifiers' are 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 *sābiʔ* 'former' and *nawawi* 'nuclear' in the Syrian examples in (ii) may nonetheless occur attributively, 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 sābiʔ.*
president Egypt former
(Literally *'The president of Egypt is former.')
b. **l-fīzyāʔi l-īrāni nawawi.*
the-physicist the-Iranian nuclear
(Literally *'The Iranian physicist is nuclear.')

(iii) a. *l-murāsil ʕamal muqābala maʕ raʔīs miṣr s-sābiʔ.*
the-correspondent made interview with president Egypt the-former
'The correspondent interviewed the former president of Egypt.'
b. *l-murāsil ʕamal muqābala maʕ fīzyāʔi nawawi īrāni.*
the-correspondent made interview with physicist nuclear Iranian
'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 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.

(10) and (15) illustrate. 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, and overt displacement 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 (16) show, corresponding to those in (2).

(16) a. *aħmad rasam bēt ħilu aktar min bēt rāma.*
Ahmad drew house pretty more from house Rama
'Ahmad drew a house prettier than Rama's house.'

b. *nādia iʃtar-it bisklēt ɣāly-e aktar min bisklēt muʕīn.*
Nadia bought-3FS bicycle expensive-FS more from bicycle Muen
'Nadia bought a bicycle more expensive than Muen's bicycle.'

There is no difference in meaning between the synthetic examples in (2) and the analytic counterparts in (16), though the former are preferred since the latter are 'wordier'. This suggests that the base adjective *ktīr* 'much/many' is semantically vacuous in analytic comparative *aktar* 'more' in (16), since it does not contribute any more meaning than is already present in the synthetic counterpart. *ktīr* therefore appears to be functioning here as a pleonastic morphological host for the otherwise unpronounceable comparative morpheme ACCAC (see Corver 1997 and Solt 2009, 2015 for a similar conclusion regarding English *many/much*). Although the synthetic and analytic comparative are synonymous, the analytic construction must be resorted to 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 comparative adjective *absaṭ* 'simpler' can only be interpreted as the comparative form of the former, as in (17a), not the latter, so that the analytic construction must be used to express the comparative of 'happy', as (17b) illustrates. These examples show that morphological fusion of an adjective with the comparative morpheme ACCAC is optional, and potentially blocked 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]

(17) a. *ha-l-masʔale absaṭ min l-masʔale t-tāni.*
this-the-problem easier from the-problem the-second

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

'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 separated from the scalar associate, it may also be displaced 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.

(18) 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 maʃhūr-a b-miṣr aktar min ʒūrʒ wassūf.*
Umm Kulthum famous-FS 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 (19) (cf. (10a)). 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.

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

b. *fī-k t-ʕīs l-xuṭūṭ l-mustaʔīm-e b-shūle b-l-miṣtara aktar min l-xuṭūṭ l-mitʕarwaʒ-e.*
can-2S 2S-measure the-lines the-straight-PL with-ease with-the-ruler more from the-lines the-curved-PL
'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 DP.

(20) a. *nādia ʃirb-it ʃāy 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. *aħmad 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 (20) have two potential scalar associates in their scope and accordingly show the semantic ambiguity paraphrased in the translations above. They may have a DP-oriented interpretation, where the comparative DegP associates

with (i.e., binds the degree argument of) a plural or mass DP, 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 DP-oriented reading is really available at all, or is just an implicature of the verb-oriented reading. That the DP-oriented reading is genuinely available is clearer in stative contexts. In predicative possessive or locative constructions, for example, no pluractionality argument is available and the only potential scalar associate is the plural or mass DP. That the examples in (21) are felicitous means that the comparative DegP may bind a scalar associate at a distance, unlike in English; compare (21) with the incoherent English counterparts '*Ahmad has cherry trees on his farm more than Musa' or '*There were sky scrapers in New York in the nineteenth century more than Hong Kong'.

(21) a. *aħmad ʕand-u ʃaʒar 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 fiyy-a nāṭiħāt sħāb b-l-ʔarn t-tāsiʕ ʕaʃar aktar min hōŋ kōŋ.*
New York was in-her scrapers clouds in-the-century the-ninth ten more 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 (19) as well, though the relevant interpretations are not very salient for pragmatic reasons. (19a) 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 (19b) 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 a 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 (21) above illustrates, this latter possibility is not available in English.

Potential scalar associates for a displaced DegP include predicate adjectives (18), adverbs (19) and plural or mass nouns (20). However, an attributive quality adjective does not support degree binding at a distance, as (22) shows. Example (22a) cannot be interpreted to assert that while he was at school, Ahmad drew a prettier house than Rama did. Apparently, *aktar* cannot associate with *ħilu* 'pretty' over the intervening adverbial *bi-l-madrase* 'in school'. The verb *rasam* remains a potential associate of *aktar* but yields an awkward reading, according to which Ahmad drew a pretty house in school more that Rama did, i.e., he did so more often. Likewise, (22b) can have the awkward verb-oriented meaning according to which Nadia bought an expensive bicycle more often than Muen did, but it cannot have the adjective-oriented reading in which Nadia bought a more expensive bicycle than Muen did, meaning that *aktar* cannot associate with the adjective *ɣāli* 'expensive' over

the intervening adverb *mbāriħ* 'yesterday'.

(22) a. *aħmad rasam bēt ħilu bi-l-madrase aktar min rāma.*
Ahmad drew house pretty in-the-school more than Rama
✗'Ahmad drew a prettier house in school than Rama did.'
✓'Ahmad drew a pretty house in school more than Rama did.'

b. *nādia iʃtar-it bisklēt ɣāly-e imbāriħ aktar min muʔīn.*
Nadia bought-3FS bicycle expensive-FS 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 cannot be construed as more than the base adjective itself to which the DegP is adjoined in the surface structure structure; (7) 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 (7) shows, we cannot overtly move DegP away from an attributive quality adjective, as (22) shows. These observations implicate the empirical generalization in (23). In the following section, I seek a structural explanation for this generalization.

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

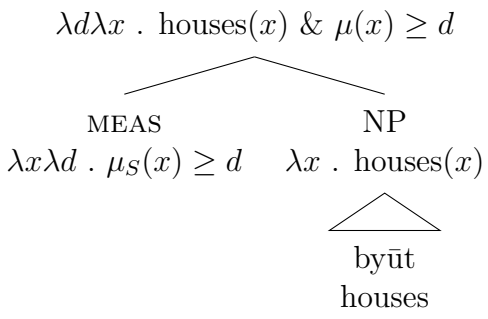
4 Structural conditions on degree binding at a distance

What explains the generalization in (23)? 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 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, as in (20). This fact would only make sense if the degree argument of a plural or mass noun originates external to NP. Then, the degree argument of a plural noun would be external to NP but the degree argument of an adjective modifying that NP would be within it, and the barrierhood of NP would block long distance binding of the latter but not the former. One possible implementation of this idea is provided by Solt's (2009, 2015) proposal that the degree argument of a plural noun is provided by a covert head she calls MEAS, defined in (24a) as a relation between an individual and their 'measure' on some scale S, notated 'μ_S'. In the case of a plural noun the scale is one of cardinality, though a mass noun might be measured in weight, volume or some other dimension. MEAS is integrated with an NP by virtue of a composition rule Solt calls 'Degree Argument Introduction' (see Solt 2015, p. 237), which unifies the first argument of MEAS with that of the NP and passes up the degree argument, as illustrated in (24b). The resulting gradable noun phrase MEASP hosts degree quantifiers like comparative DegP as well as quantity words like *much* and *little* (*ktīr* and *ʔalīl* in Arabic respectively). These

are external to NP on this analysis, and therefore not constrained by the barrierhood of NP.

(24) a. $[\![\textsc{meas}]\!] = \lambda x \lambda d \,.\, \mu_S(x) \geq d$

b.



Data from Arabic militate against this particular implimentation of MEAS's manner of composition with the associated NP, but are still compatible with the general idea that the degree argument of plural and mass nouns is contributed by a covert lexical item that can host quantity words and the comparative. The empirical problem with the picture in (24b) is this: if we build a quantity comparative construction by adjoining comparative DegP to the tree in (24b), its lowest possible scope includes that whole subtree, containing the noun *byūt* 'houses'. However, the example in (25), from Abusalim (2016, p. 75), indicates that the comparative DegP has a lower scope position available to it, one that includes only the degree relation that MEAS denotes.[6]

(25) *ʕali akal baskūt aktar min l-fistuʔ illi sāra akl-it-u.*
Ali ate cookies more from the-peanuts that Sarah ate-3FS-them
'Ali ate more cookies than than the peanuts that Sarah ate [are that many].'

Abusalim claims that such examples are simply phrasal comparatives in which the standard (here *l-fistuʔ illi sāra aklitu* 'the peanuts that Sarah ate') is, as usual, predicated on the degree relation that the comparative DegP adjoins to. The degree relation that (25) attributes to the peanuts that Sarah ate is the relation of being so-and-so many, so that (25) asserts, to put it literally, that Ali ate more cookies than the peanuts that Sarah ate are that many. It does not assert that that Ali ate more cookies than the peanuts that Sarah ate are that many *cookies*, which would be contradictory. That is, the restriction *baskūt* 'cookies' is not part of the degree relation we are attributing to the peanuts that Sarah ate. But if the comparative DegP in (25) originated as an adjunct of the constituent diagrammed in (24b) (with *baskūt* 'cookies' for *byūt* 'houses'), the smallest degree relation its standard could be predicated of is the MEASP meaning *be so-and-so many cookies*. If this were the case, then (25) would assert that the peanuts that Sarah ate were cookies, contrary to fact.

These observations implicate an adjectival role for MEAS, in which MEAS is a covert adjective that heads an AP, defined in (26) in a way that makes it type-parallel to other gradable adjectives. Then, a comparative DegP adjoined to adjectival MEASP can attribute to its standard just what MEASP denotes—a pure quantity relation—without the sortal

[6] Abusalim discusses Jordanian Arabic, but the Syrian speakers consulted for this work accept this and similar examples; I have 'Syrianized' the pronunciation in (25) slightly.

restriction denoted by the NP. On the other hand, an analysis that makes MEASP like any another gradable adjective loses the contrast in extractability of DegP between quality adjectives and the putative quantity adjective MEAS. If MEAS is identical in type to other gradable adjectives, what distinguishes it syntactically?

(26) $[\![\text{MEAS}]\!] = \lambda d \lambda x.\ \mu_S(x) \geq d$

A potential answer is provided by Schwarzschild (2006) and Wilson (2021). They claim that in English partitive constructions like *three kilograms of apples*, the relation between the measure phrase *three kilograms* and the following noun is mediated by a syntactic head 'Mon', so called because it has the semantic effect of placing a monotonicity restriction on the thing being measured out. The monotonicity restriction requires that "the dimension [of measurement] is monotonic on the relevant part-whole relation in the domain given by the noun" (Schwarzschild 2006, p. 73). This requires measure phrases in partitive constructions to measure out quantity and not quality, blocking expressions like **twenty degrees of water*, which is incoherent even though temperature is a property of water. Mon blocks this structure because it requires subparts of the water to be correspondingly colder, which is not how temperature works. It allows *three liters of water* because subparts of the water have correspondingly smaller volumes.

Schwarzschild and Wilson claim that Mon takes the NP being measured out as complement and the measure phrase as specifier, and also that quantity words like *many* and *much* are measure phrases of the same logical type as *three kilograms*.[7] In Solt's analysis, *many* and related words are hosted by MEASP. This line of reasoning puts MEASP in [spec,MonP]. This in turn presents an explanation for the disparity in scopal flexibility between comparatives based on quality APs and those based on MEASP. If NP is a barrier to movement of the comparative, then we expect comparative constructions based on quality adjectives like *ħilu* 'pretty' in Arabic to be scopally rigid; these would have to pass over NP to reach a higher scope position, which is not possible (see the offending derivation in (9)). Yet, those comparatives based on MEASP, such as the quantity comparative in (20b), repeated in (27), should be scopally flexible, since here DegP is base generated as adjunct of MEASP in [spec,MonP], above NP, as illustrated in (28a), and does not need to pass over NP to reach a higher scope position, as schematized in (28b). This is the pattern we have observed in sections 2 and 3. I abide by the standard premise that specifiers are left branches in Arabic, and therefore that the post-NP position of quantity comparative phrases is derived by extraposition of DegP to the right.[8]

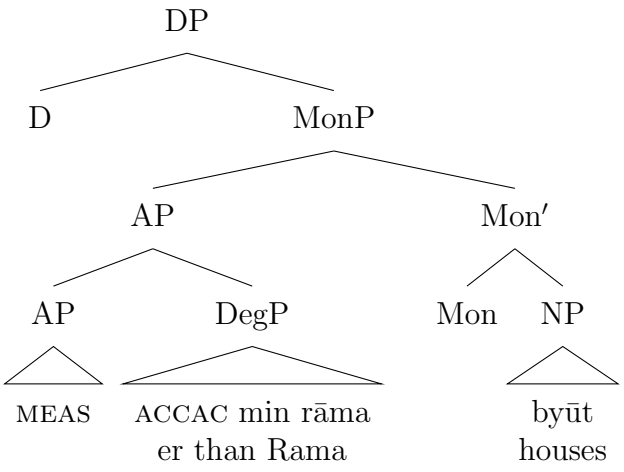
(27) *aħmad rasam byūt aktar min rāma.*
Ahmad drew houses more from Rama

[7] In English, Schwarzschild claims, the preposition *of* appears in Mon, but only when the measure phrase can be inflected for number, in which point *kilogram(s)* contrasts with *many*. Hence the contrast between *many (*of) apples* vs. *three kilos *(of) apples*).

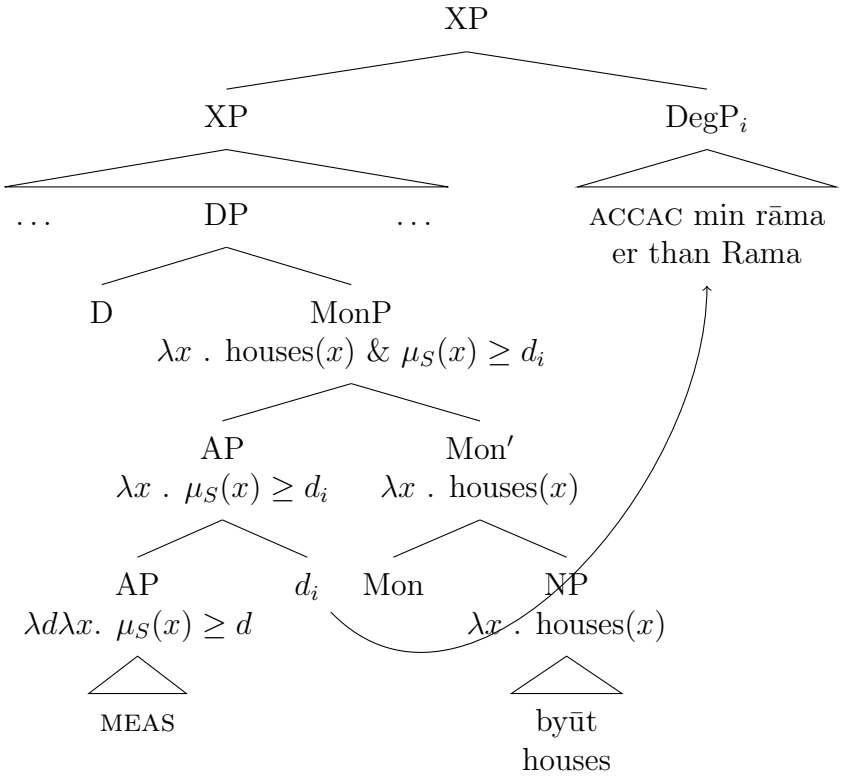
[8] Potential support for this assumption, and for the role of MonP in Arabic DP structure in general, is possibly provided by the fact that the quantity word *ktīr* 'much/many' is the only adjective in Syrian Arabic that may precede the noun it modifies, as in *ktīr byūt* 'many houses'. Quality adjectives must be post-nominal. A more detailed investigation of the distribution of *ktīr* and other quantity words would be necessary to determine how relevant this observation is.

'Ahmad drew more houses than Rama.'

(28) a.



b.



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 quality comparatives 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 comparative' constructions, where the standard-marker *min* 'from' introduces not a DP, as in phrasal comparatives, but an entire clause introduced by the complementizer *mā* 'that'. I refer to the clause introduced by *mā* 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 (29). The complementizer *mā* 'that' triggers assimilation of the final consonant of *min*.[9] In the clausal comparative, it is possible to drop the preposition *min*, as the parentheses indicate.

(29) *aħmad rasam byūt aktar (mim)-mā 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 Arabic[10] reveals an affinity between the occurrence of the preposition and the occurrence of the verbs *txayyal* 'imagine', *ṭṣawwar* 'envision' or *twaʔʔaʕ* '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 possible scalar associates of the clausal comparative with *min* are familiar from that of the phrasal comparative. In the corpus examples in (30), for instance, the comparative modifies the gradable verb *ʃtāq* 'miss' in (30a), the gradable noun (used adverbially) *ṣuʕūbe* 'difficulty' in (30b) and the predicate adjectives *kbīr* 'major' in (30c) (in the analytic format), *ḍayyiʔ* 'tight' in (30d) and *ħasan* 'good' in (30e) (in the synthetic format).

(30) a. *l-muhimm ibʕat-tī-li kam ṣūra, ʃtaq-t-illik aktar*
the-important send-2FS-me$_{DAT}$ some picture missed-1S-you$_{DAT}$ more
mim-mā 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-ṣuʕūbe aktar mim-mā ħada yi-txayyal.*
passed-3PL the-days with-difficulty more from-that one 3MS-imagine
'The days passed with more difficulty than anyone would imagine.'

c. *u-kān-it ʕawāqib hād l-mōqif kbīr-e ktīr, kbīr-e aktar*
and-was-PL consequences that the-position major-PL much major-PL more
mim-mā ħada b-yi-txayyal.
from-that one IND-3MS-imagine

[9] In Standard Arabic orthography the string *mim ma* is written as one word. This may reflect syntactic concatenation.

[10] The corpus of over 500,000 words is described in Abu Kwaik et al. (2018) and is available at the URL: https://github.com/GU-CLASP/shami-corpus.

'And the consequences of this position [=stance] were major, more major than anyone would imagine.'

d. *lākin-ni iktaʃaf-t innu aḍyaʔ mim-mā 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-ʃakl ʕāmm l-waḍiʕ aħsan mim-mā kin-na mtwaʔʔiʕ-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 never contain these verbs. Their distribution is otherwise typical. In the corpus examples in (31), the comparative modifies the gradable verbs *ḍarr* 'harm' in (31a), *xāf* 'fear' in (31b), and *ẓalam* 'oppress' in (31c), the gradable noun *ħāʒit* 'need' in (31d) (used there in a predicative prepositional phrase) and the predicate adjective *mistaɣrib* 'surprised' in (31e). 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 mā* 'more that', while the clausal comparative with the standard marker occurs at least several times in the synthetic form—*aḍyaʔ* 'tighter' in (31e) and *aħsan* 'better' in (30e). This could, however, be a coincidental feature of the few occurrences of the clausal comparative found in the corpus.

(31) a. *mu ʕarfān innu ʕam yi-ḍirr-a aktar mā 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. *mā ʕam a-stawʕib kīf mumkin xāf min bani ādam aktar mā xāf min rōħ.*
not PROG 1S-comprehend how possible feared from son Adam more that 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 ħāl-ik aktar mā ay ħada yi-ẓlum-ik b-ha-l-ħayāt.*
but-you$_{2FS}$ you$_{2FS}$ oppress-2FS self-your$_{2FS}$ more that any one 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-ħāʒt-un aktar mā hinne b-ħāʒt-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 mistaɣrib min ħāl-u aktar mā yi-kūn mistaɣrib min ħala.*
closed Yamin the-line and-he surprised from self-his more that 3MS-be 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 (29) 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 edge of the standard clause. This operator is analogous to the relative pronoun that moves from an argument position to the 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 *mā*, 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 *ʃe*, as illustrated in (32), 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.

(32) *Dan axal yoter tapuxim mi ma ʃe Dina axla.*
Dan ate more apples from what that Dina ate
'Dan ate more apples than Dina did.' Hebrew

However, in Syrian Arabic, *mā* does not function as a wh-word, this function having been usurped historically by *ʃu* 'what'. Rather, *mā* 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 (33), where *mā* 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 *mā* in contemporary Palestinian/Syrian.

(33) *raħ ʔa-ʒi winta mā ʔinti b-t-īʒi.*
will 1S-arrive when that you.2FS IND-2FS-arrive
'I will arrive when(ever) you arrive.' Palestinian

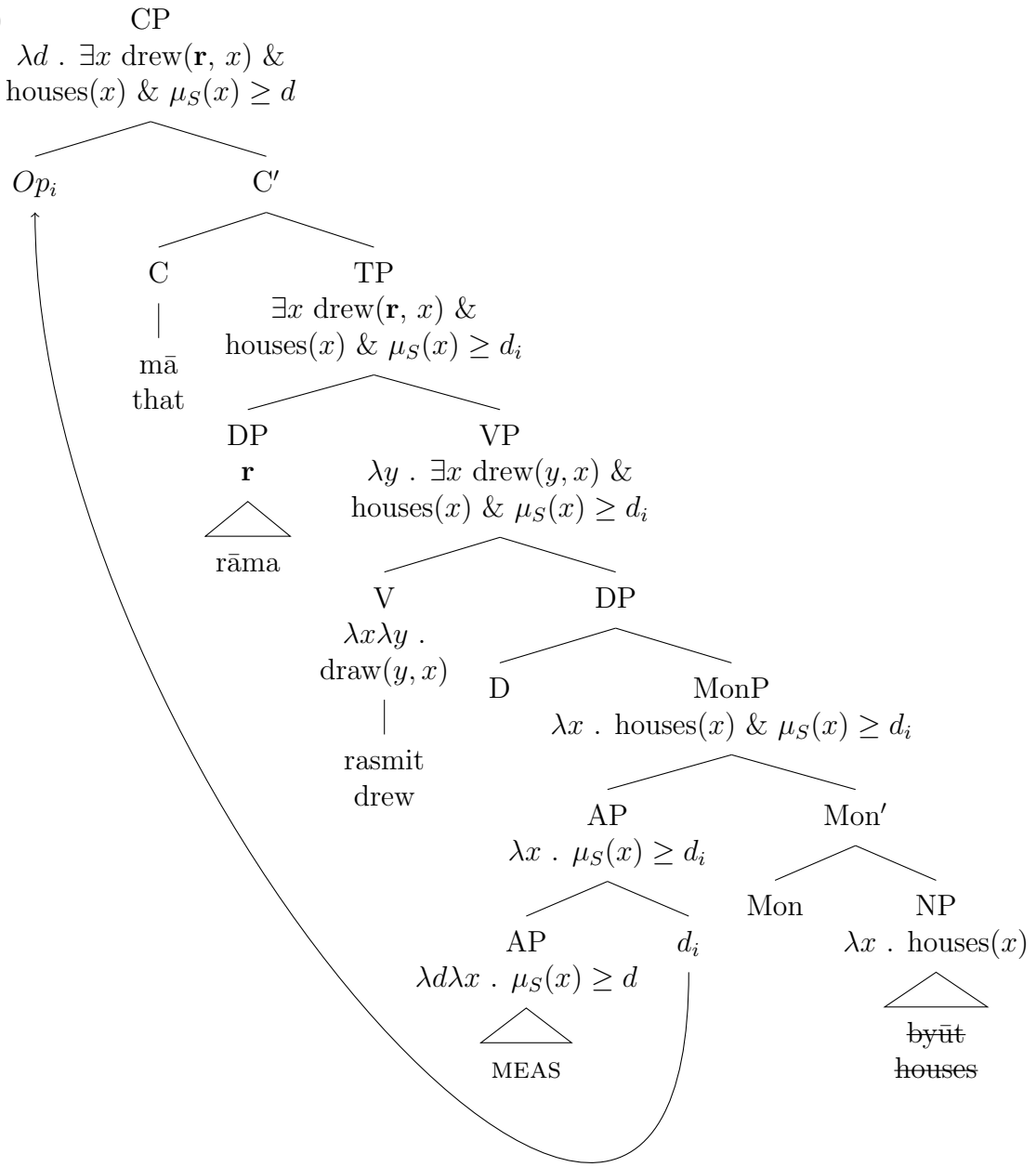
It is therefore plausible that *mā*/*ma* functions as a degree operator in Standard Arabic and Hebrew. But this view is less plausible for contemporary Palestinian/Syrian, where *mā* functions generally as a complementizer, not a wh-element. On the strength of Shlonsky's arguments, McNabb and Kennedy (2011) propose that in clausal comparatives in Palestinian Arabic, *mā* 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. We therefore have a covert operator that derives a degree predicate over the standard clause in clausal comparatives, and in the case of the quantity comparative in (29) a covert associate for *Op*, namely the quantity adjective MEAS. But something else is superficially missing from the standard clause in (29), namely the plural noun that MEAS modifies, understood as the corresponding noun in the matrix clause, in this case *byūt* 'houses'. This noun is elided under identity with an antecedent by a transformation that Bresnan (1973) calls 'Comparative Deletion' in her seminal analysis of the syntax of English comparatives. I treat the conditions governing Comparative Deletion in more detail after discussing the meaning of the clausal comparative below. On the basis of these premises, (29) has the constituency sketched in

(34).

(34) *aħmad rasam d′*-MEAS *byūt* $[_{DegP}$ ACCAC *min* $[_{CP}$ Op_d *mā rasm-it rāma*
Ahmad drew MEAS houses er from that drew-3FS Rama
d-MEAS ~~*byūt*~~ $]]_{d'}$.
MEAS ~~houses~~
'Ahmad drew more houses than Rama drew.'

The semantic composition of the standard clause (CP in (34)) looks like (35). I assume that the complementizer *mā* is semantically vacuous and the node C′ inherits the denotation of TP.

(35)



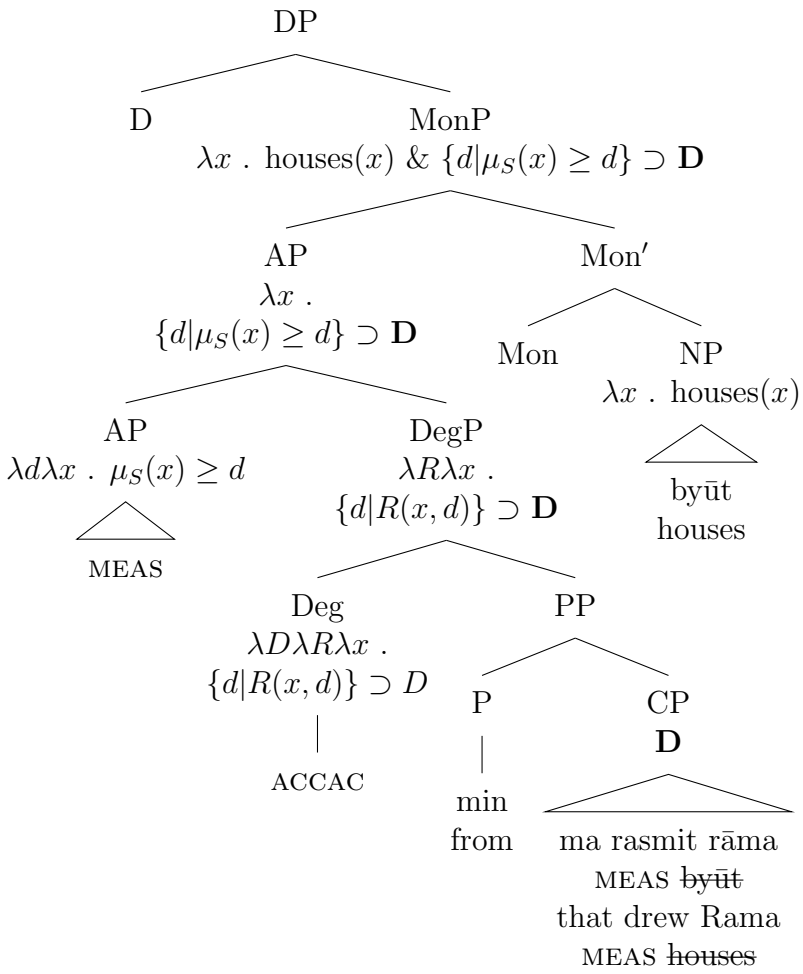
Given these preliminary conclusions, the clausal comparative differs in only logical type

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—that in (35) in (29). I define the clausal comparative variant of Syrian Arabic ACCAC accordingly in (36).

(36) $[\![\text{ACCAC}]\!] = \lambda D_{\langle d,t\rangle}\lambda R_{\langle d,\langle e,t\rangle\rangle}\lambda x_e \ . \ \{d|R(x,d)\} \supset D$

To reign in the complexity of the trees illustrating this use of ACCAC, let us abbreviate the degree predicate derived in (35) simply as **D**. That is, **D** is the set of degrees such that Rama drew at least that many houses. The tree in (37) illustrates the semantic composition of the object DP in the quantity comparative construction in (34). 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 DP functions as object of *rasam* 'drew' in (34).

(37)



The conclusions of section 4 give rise to the expectation that attributive quality comparatives should be ungrammatical in the clausal comparative format. The reason is that

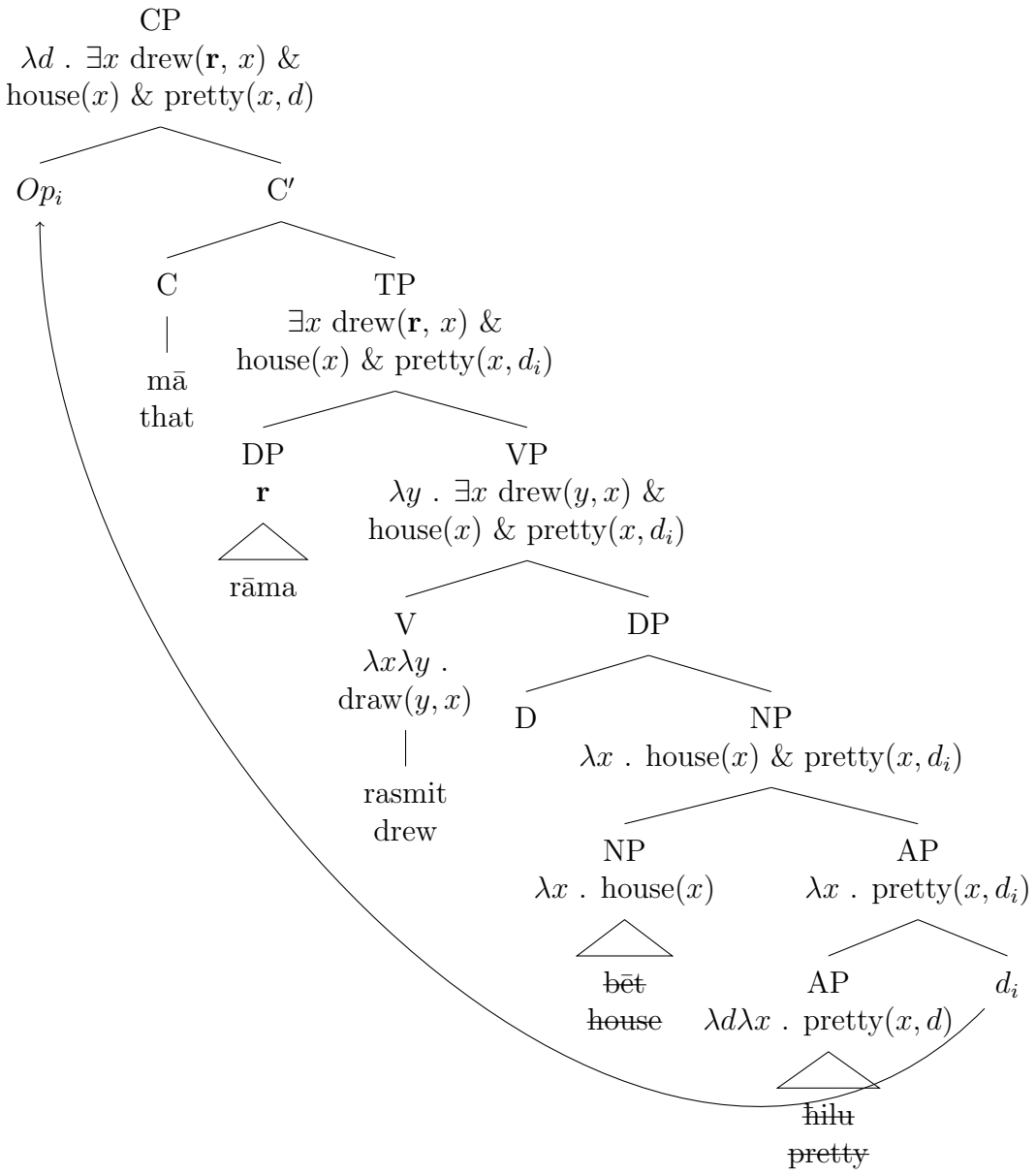
to turn the standard clause into a degree predicate, we must move the null operator *Op* from the argument position of the attributive adjective to the clause edge. But since that adjective is contained in the (elided) NP the adjective modifies, this step will cross over that NP boundary. We observed in section 4 that a degree abstraction chain (there in the form of DegP movement) cannot cross over an NP boundary, a restriction we would expect to apply to degree abstraction in the standard clause of clausal comparatives as well. It comes as some surprise, therefore, that the relevant configuration is grammatical in the standard clause in clausal comparatives. The quality clausal comparative in (38a) is grammatical though it displays movement of a null degree abstraction operator from the attributive adjective to the edge of the *mā* clause, as illustrated in (38b). It is perhaps not a coincidence that the anticipated barrier (NP) corresponds exactly to the target of Comparative Deletion in (38). I expand on this connection below.

(38) a. *aħmad rasam bēt aħla mim-mā 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*$_d$ *mā rasm-it rāma* ~~*bēt*~~
Ahmad drew house prettier from that drew-3FS Rama ~~house~~
~~*d-ħilu*~~ *].*
~~*d-*~~ ~~pretty~~
'Ahmad drew a prettier house than Rama drew.'

The internal structure of the standard clause in (34) looks like (39). Here, movement of *Op* crosses over the boundary of the elided NP headed by *bēt* 'house'. NP surprisingly fails to function as a barrier here.

(39)



McNabb and Kennedy (2011) point out that in Arabic as in other languages, deletion of NP is obligatory in quality comparative constructions but optional in quantity comparatives. This appears to be correlated with the distinction we have already seen in the ability of NP to restrict movement of the comparative 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 (40) (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 (40a) it *must* be deleted.

(40) a. *samīr iʃtara sayyāra akbar mim-mā iʃtar-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-mā 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 (41b) illustrates. Non-identity with an antecedent does not circumvent the deletion requirement in clausal comparatives based on an attributive adjective, as (41a) illustrates (McNabb and Kennedy 2011, p. 153).

(41) a. **samīr iʃtara sayyāra akbar mim-mā iʃtar-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-mā akl-at muna mōz.*
Samir ate cookies more from-that ate-3FS Muna bananas
'Samir ate more cookies than Muna ate bananas.'

This means that extraction of *Op* from NP is possible in just the context in which that NP is obligatorily elided under Comparative Deletion. These facts point to the conclusion in (42).

(42) Comparative Deletion suspends the barrierhood of NP.

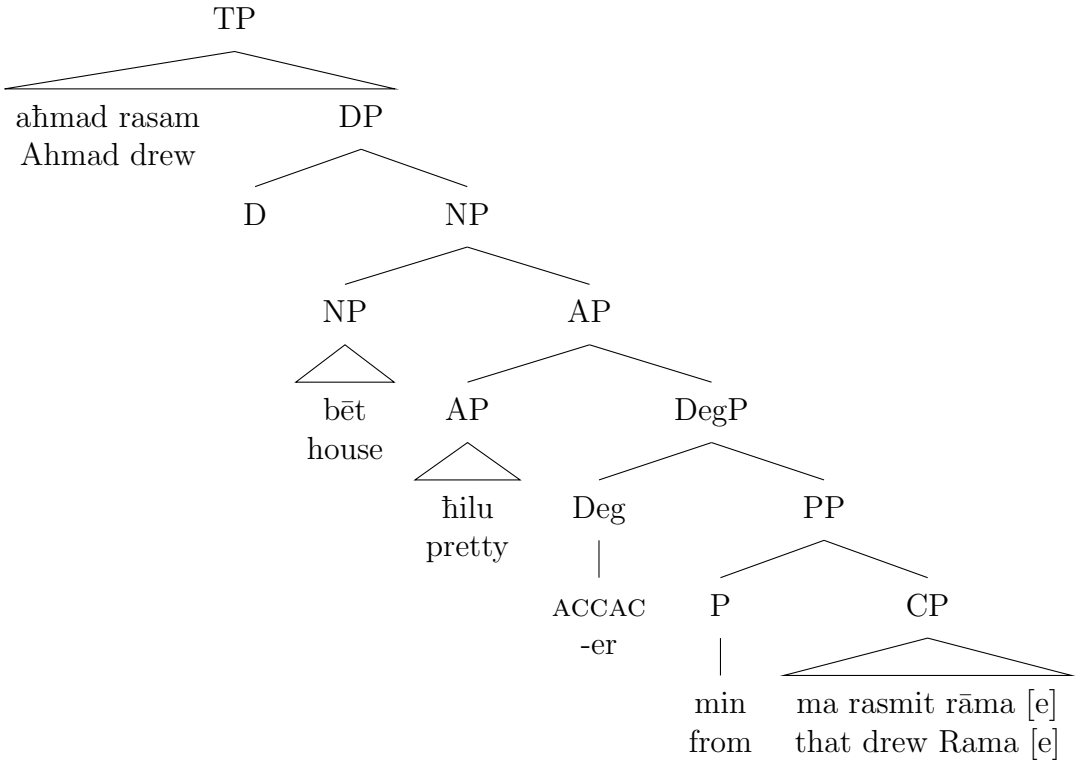
McNabb and Kennedy (2011) seek to fold these facts into a larger generalization to the effect that ellipsis in and of itself abrogates certain barriers for movement, independently of comparative constructions. As Merchant (1999) and Kennedy and Merchant (2000) show, sluicing also appears to suspend certain 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 in (38a), repeated in (43a) and diagrammed in (43b), 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*. 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 own 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' (ACD) contexts lead to infinite regress at LF. See Bouton (1970), May (1985), Baltin (1987), Fiengo and May (1994), Kennedy (1997) and Fox (2002) among others on the correlation between ACD, ellipsis and quantifier scope and Bhatt and Pancheva (2004) on comparative constructions in particular.

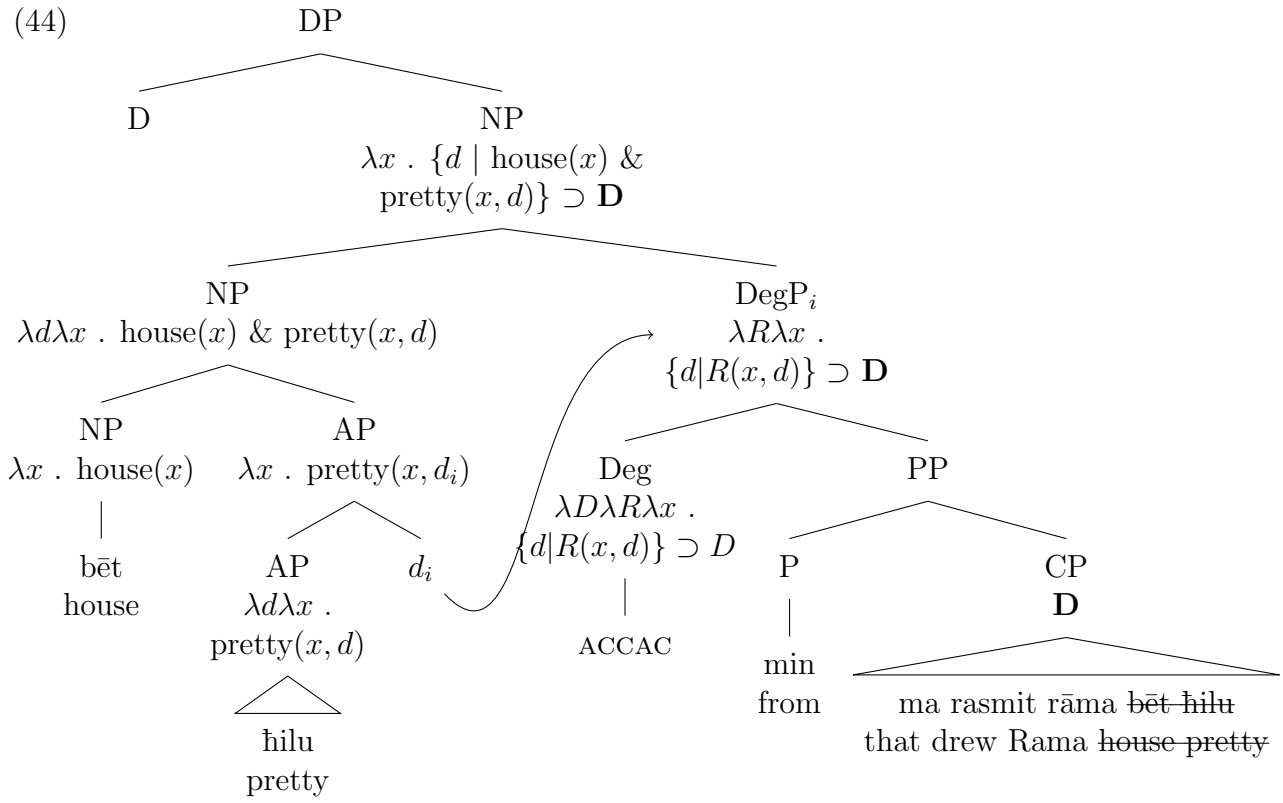
(43) a. *aħmad rasam bēt aħla mim-mā rasm-it rāma.*
Ahmad drew house prettier from-that drew-3FS Rama
'Ahmad drew a prettier house than Rama drew.'

b.



Movement of the comparative DegP to the edge of the NP it is contained in, illustrated in (44), removes the comparative morpheme and the standard clause from the constituent that antecedes deletion in the standard clause—the lower of the two NP nodes—resolving the antecedent containment configuration at LF. If (44) is the LF of (43a), 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.

(44)



In the configuration in (44), 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 (43a) is grammatical and evidently not subject to infinite regress, the movement step in (44) 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.

This reasoning highlights a difference between this analysis and previous analyses of the scope of comparatives and the correlation with ellipsis in other languages. The standard definition of the clausal comparative found in studies of English, namely that in (45a) (Seuren 1973, Cresswell 1976, Heim 1985, 2001, 2006), relates two degree predicates. According to these studies, this DegP moves to a clause edge in English, where movement derives a degree predicate over the truth-value denoting clause, as shown in (45b). This removes the comparative DegP from the matrix VP, making that VP a possible antecedent for VP ellipsis in the standard clause.

(45) a. Clausal *-er* in English denotes: $\lambda D_{\langle d,t\rangle}\lambda D'_{\langle d,t\rangle}\ .\ D' \supset D$

b. $[_{\text{DegP}}$ more than $[_{\text{CP}}\ Op_i$ Mary did ~~draw a d_i-pretty house~~$]]_j$ $[_{\text{CP}}$ Ahmad drew a d_j-pretty house]

This will not work for the analysis of (43a) in Syrian Arabic because, as we have observed, the Arabic DegP cannot escape from NP, and there is no truth-value denoting constituent within NP that a degree predicate could be abstracted over, to provide an appropriate semantic context for DegP as defined in (45a).[11] Since example (43a) is grammatical, then,

[11]The reasoning here goes, in somewhat more detail, as follows: If (45a) were the correct definition for

the clausal comparative DegP must be type-compatible with some landing site that is within NP but external to the antecedent of ellipsis. The idea that DegP combines with a degree relation as its second argument, as in (36), rather than a degree predicate, as in (45a), makes NP itself a suitable landing site, since after movement of DegP in (44), the lower segment of NP denotes a degree relation, which in turn functions as an antecedent for ellipsis in the standard clause.

The Syrian Arabic clausal comparative therefore appears to differ in logical type from its English counterpart. Aside from this, Arabic is like English in that it exploits the possibility of movement of DegP to both expand the scope of the comparative and to circumvent antecedent-containment for ellipsis, as proposed in the literature cited above for better studied languages. In the following section, I turn to restrictions on degree quantifier movement 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 abrogate the opacity of NP to degree quantifier displacement the way 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

clausal ACCAC '-er' in Arabic, then clausal comparatives based on attributive quality adjectives like (43a) would be ungrammatical. This is because in the standard clause, *Op* would need to escape from NP in order to turn the standard clause into a degree predicate, but it could only do so if the NP containing it is elided, which requires an appropriate antecedent. But to derive an antecedent, the comparative DegP would have to move to at least the edge of NP in the matrix clause, as shown in (44), and it cannot move higher because NP is a barrier. But adjunction to NP would be impossible if DegP must be adjoined to a truth-value denoting constituent, since NP is not truth-value denoting. Now, if there were a dialect of Arabic that had the English clausal comparative in (45a) but the Syrian barrierhood of NP, then clausal comparatives based on attributive quality adjectives, on the model of (43a), would be ungrammatical altogether in that dialect, for the reasons just described. Astonishingly, Abusalim (2016) reports exactly this pattern in his Jordanian dialect. He regards the clausal comparative based on an attributive quality adjective in (ia) (his (37b), p. 18) as highly marginal, while quantity comparatives (ib) (his (37a), p. 18) and adverbial comparatives (ic) (his (167b), p. 91) are fine, as in Syrian Arabic.

(i) Jordanian Arabic

a. ?*ʕali iʃtara ʃamsiyye aṭwal mim-mā sāra iʃtara-t.
Ali bought umbrella longer from-that Sarah bought-3FS
('Ali bought a longer umbrella than Sarah bought.')

b. ʕali iʃtara ʃamsiyyāt akθar mim-mā sāra iʃtara-t.
Ali bought umbrellas more from-that Sarah bought-3FS
'Ali bought more umbrellas than Sarah bought.'

c. sāmir iʃtara ktāb asraʕ mim-mā nuha iʃtara-t ʃanta.
Samer bought book faster from-that Nuha bought-3FS bag
'Samer bought a book faster than Nuha bought a bag.'

Abusalim himself pursues a different explanation for this pattern, treating the clausal comparative as a subtype of phrasal comparative; *mā* is a nominalizer in his view. A detailed comparison of the two dialects is beyond the scope of this work, but I take this opportunity to emphasize that the pattern reported here for Syrian, which aligns with what McNabb and Kennedy (2011) say about Palestinian, is not universal to the dialects and warrants a cross-dialectal investigation.

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 elided (Ross 1967). Merchant cites the examples in (46) among others (p. 225).

(46) 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 (46), 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 (47) show (Merchant 1999, p. 220).

(47) 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 in English, as the data in (48) show (Merchant 1999, p. 223).

(48) 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*, *ʔaddēʃ*, is subject to the same restrictions as the comparative ACCAC itself, and does not pied pipe its scalar associate. Rather, *ʔaddēʃ* occurs sentence initially and is related to a scalar associate potentially at a distance, like the comparative, as discussed in section 3. *ʔaddēʃ* may bind a predicate adjective from its surface clause-initial position as in (49a) (cf. (18)), an adverb as in (49b) (cf. (19)), a plural noun (to be exact, MEAS modifying a plural noun) as in (49c) (cf. (20) and (21)), but not an attributive quality adjective, as (49d) shows, again like the comparative, as seen in (22).

(49) a. *ʔaddēʃ lāzim ti-kūn ʃāṭir 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. *ʔaddēʃ nādia rakd-it bi-surʕa b-s-sibāʔ?*
how Nadia ran-3FS with-speed in-the-race
'How fast did Nadia run in the race?'
c. *ʔaddēʃ ħall-it nādia masāʕil b-l-faħṣ?*
how solved-3FS Nadia problems in-the-test
'How many problems did Nadia solve on the test?'
d. **ʔaddēʃ rasm-it nādia bēt ħilu?*
how drew-3FS Nadia house pretty
('How pretty a house did Nadia draw?')

Since *ʔaddēʃ* does not pied pipe material it is base generated adjacent to under movement to a wh-licensing position, the configuration in (49d) cannot be rescued by pied piping of the adjective (50a) or of the whole noun phrase containing *ʔaddēʃ* (50b), as it can in English.

(50) a. *ʔaddēʃ ħilu rasm-it nādia bēt?
how pretty drew-3FS Nadia house
('How pretty a house did Nadia draw?')
b. *ʔaddēʃ bēt ħilu rasm-it nādia?
how house pretty drew-3FS Nadia
('How pretty a house did Nadia draw?')

Example (49d) shows that NP is a barrier for *ʔaddēʃ* 'how', just as it is for *Op* and the comparative DegP ACCAC *min DP/CP* 'more than DP/CP'. Unlike English, though, sluicing does not suspend the barrierhood of NP for movement of *ʔaddēʃ*. In spite of the possibility for *ʔaddēʃ* to occur in principle at a distance from its scalar associate, as the examples in (49) illustrate, it cannot bind an attributive adjective at a distance in sluicing contexts, as (51) illustrates.

(51) *nādia rasm-it bēt ħilu, bas mā b-a-ʕrif ʔaddēʃ.
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 (52) control for *ʔaddēʃ*'s compatibility with sluicing if no barrier hinders it. *ʔaddēʃ* extracts from a predicative adjective in (52a), an adverb in (52b) and MEAS (which is superordinate to NP) in (52c).

(52) a. lāzim ti-kūn ʃāṭir la-ti-nʔabil b-ha-l-madrase, bas mā
must 2MS-be smart to-2MS-be.accepted in-that-the-school but not
b-a-ʕrif ʔaddēʃ.
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-surʕa b-s-sibāʔ, bas mā b-a-ʕrif ʔaddēʃ.
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 ħall-it masāʕil b-l-faħṣ, bas mā b-a-ʕrif ʔaddēʃ.
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 *ʔaddēʃ*, 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 DegP 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 (53).

(53) a. *marwān ʕaṭa nādia warde ħilw-e u-mūsa ʕaṭā-ha kamān.*
Marwan gave Nadia flower pretty-FS and-Musa gave-her also
'Marwan gave Nadia a pretty flower and Musa gave her one, too.'
b. *nādia iʃtar-it bisklēt ɣāli u-muʕīn iʃtara kamān.*
Nadia bought-3FS bicycle expensive and-Muen bought also
'Nadia bought an expensive bicycle and Muen bought one, too.'

If ellipsis suspends the barrierhood of NP generally, we expect indefinite object drop to suspend the barrierhood of NP for movement of the comparative. The examples in (54) show that this is not so. Here, we have, by hypothesis, displaced the analytic comparative phrase *aktar min DP* 'more than DP' to a position external to the NP containing its adjectival associate in the base structure and elided the NP on the model of (53) above. The interpretation corresponding to this configuration, marked '✗' below, is not available. Only a quantity comparative interpretation is available in these examples, which, in (54a) 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 *ħilwe* 'pretty' across an NP boundary. That binding configuration is unavailable. Thus, indefinite object drop does not make the dropped NP transparent to movement of the comparative phrase in (54).

(54) a. *marwān ʕaṭa nādia warde ħilw-e bas mūsa ʕaṭā-ha aktar minn-u.*
Marwan gave Nadia flower pretty-FS 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 iʃtar-it bisklēt ɣāly-e bas muʕīn iʃtara ħatta aktar min nādia.*
Nadia bought-3FS bicycle expensive-FS but Muen bought even more from 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 applies only to *Op* in clausal comparatives under Comparative Deletion in Arabic, not in the context of sluicing or indefinite object drop. 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 (7). Rather, it means that he drew a prettier picture than she drew. In Arabic, then, *Op*, comparative DegP and *ʔaddēʃ* behave uniformly; all are restricted by

NP with the caveat that Comparative Deletion (but not sluicing or object drop) suspends the restriction for *Op*. The question of why Comparative Deletion has this unique effect, and of why English diverges from the uniform pattern seen in Arabic, deserve further attention.

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 *mā* and the standard marker *min* 'from' is optional.
- The comparative DegP headed by ACCAC '-er' 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 contexts or indefinite object drop 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.

References

Abu Kwaik, Kathrein, and Motaz Saad, and Stergios Chatzikyriakidis, and Simon Dobnik. 2018. Shami: a corpus of Levantine Arabic dialects. *Proceedings of the Eleventh International Conference on Language Resources and Evaluation* 3645–3652.

Abusalim, Nimer. 2016. The semantics of comparatives: A degree nominal analysis. Doctoral Dissertation, University of Delaware.

Al-Bitar, Ahmad. 2019. The superlative in English and Arabic. Master's thesis, Universität Tübingen, Tübingen.

Algryani, Ali. 2012. The syntax of ellipsis in Libyan Arabic. Doctoral Dissertation, Newcastle University.

Badawi, Elsaid, and Michael Carter, and revised by Maher Awad Adrian Gully. 2015. *Modern written Arabic: a comprehensive grammar*. New York: Routledge.

Baltin, Mark. 1987. Do antecedent-contained deletions exist? *Linguistic Inquiry* 18:579–596.

Bhatt, Rajesh, and Roumyana Pancheva. 2004. Late merger of degree clauses. *Linguistic Inquiry* 35:1–46.

Bhatt, Rajesh, and Shoichi Takahashi. 2007. Direct comparisons: Resurrecting the direct analysis of phrasal comparatives. In *Proceedings of SALT XVII*, ed. by T. Friedman and M. Gibson, 19–36. Ithaca, NY: Cornell University.

Bouton, L. F. 1970. Antecedent contained pro-forms. In *Papers from the Sixth Regional Meeting of the Chicago Linguistics Society*, 154–167. Chicago: Chicago Linguistics Society.

Bresnan, Joan. 1973. Syntax of the comparative clause construction in English. *Linguistic Inquiry* 4:275–343.

Chomsky, Noam. 1965. *Aspects of the theory of syntax*. Cambridge, Massachusetts: M.I.T. Press.

Chomsky, Noam. 1977. On wh-movement. In *Formal syntax*, ed. by Peter Culicover, Thomas Wasow, and Adrian Akmajian, 71–132. New York: Academic Press.

Chung, Sandra, and William Ladusaw. 2004. *Restriction and saturation*. Cambridge, Mass.: MIT Press.

Cinque, Guglielmo. 2010. *The syntax of adjectives: A comparative study*. Cambridge, Mass.: MIT Press.

Corver, Norbert. 1997. Much-support as a last resort. *Linguistic Inquiry* 28:119–164.

Cowell, Mark. 1964. *A reference grammar of Syrian Arabic*. Washington, D.C.: Georgetown University Press.

Cresswell, Max. 1976. The semantics of degree. In *Montague grammar*, ed. by Barbara Partee, 261–292. New York: Academic Press.

Diesing, Molly. 1992. *Indefinites*. Cambridge, Mass.: MIT Press.

Fassi Fehri, Abdelkader. 1978. Comparatives and free relatives in Arabic. *Recherches Linguistique de Vincennes* 7:47–88.

Fassi Fehri, Abdelkader. 1999. Arabic modifying adjectives and DP structures. *Studia Linguistica* 53:105–154.

Fassi Fehri, Abdelkader. 2012. *Key features and parameters in Arabic grammar*. Amsterdam: John Benjamins Publishing Company.

Fiengo, Robert, and Robert May. 1994. *Indices and identity*. Cambridge, Mass.: MIT Press.

Fox, Danny. 2002. Antecedent-contained deletion and the copy theory of movement. *Linguistic Inquiry* 33:63–96.

Grano, Thomas, and Stuart Davis. 2017. Universal markedness in gradable adjectives. *Natural Language and Linguistic Theory* 36:131–147.

Hazout, Ilan. 1995. Comparative ellipsis and Logical Form. *Natural Language and Linguistic Theory* 13:1–37.

Heim, Irene. 1983. File change semantics and the familiarity theory of definiteness. In *Meaning, use, and interpretation of language*, ed. by Rainer Bäuerle, Christoph Schwarze, and Arnim von Stechow, 164–189. Berlin: Walter de Gruyter.

Heim, Irene. 1985. Notes on comparatives and related matters. Ms., University of Texas, Austin.

Heim, Irene. 2001. Degree operators and scope. In *Audiatur vox sapientiae. a festschrift for Arnim von Stechow*, ed. by Caroline Fery and Wolfgang Sternefeld, 214–239. Berlin: Akademie Verlag.

Heim, Irene. 2006. *Little*. In *Proceedings of SALT 16*, ed. by Masayuki Gibson and Jonathan Howell, 35–58. Washington, D.C.: Linguistic Society of America.

Heim, Irene, and Angelika Kratzer. 1998. *Semantics in generative grammar*. Malden, MA: Blackwell.

Kachakeche, Zeinab, and Gregory Scontras. 2020. Adjective ordering in Arabic: Post-nominal structure and subjectivity-based preferences. *Proceedings of the Linguistic Society of America* 5:419–430.

Kennedy, Chris. 1997. Antecedent contained deletion and the syntax of quantification. *Linguistic Inquiry* 28:662–688.

Kennedy, Chris, and Jason Merchant. 2000. Attributive comparative deletion. *Natural Language and Linguistic Theory* 18:89–146.

Klein, Ewan. 1980. A semantics for positive and comparative adjectives. *Linguistics and Philosophy* 4:1–45.

Larson, Richard K., and Franc Marušič. 2004. On indefinite pronoun structures with APs: reply to Kishimoto. *Linguistic Inquiry* 35:268–287.

May, Robert. 1985. *Logical form: Its structure and derivation*. Cambridge, Massachusetts: MIT Press.

McNabb, Yaron, and Christopher Kennedy. 2011. Extraction and deletion in Palestinian Arabic comparatives. In *Perspectives on Arabic linguistics*, ed. by Ellen Broselow and Hamid Ouali, 149–166. Amsterdam: John Benjamins Publishing Company.

Merchant, Jason. 1999. The syntax of silence: sluicing, islands, and identity in ellipsis. Doctoral Dissertation, University of California, Santa Cruz.

Ross, John Robert. 1967. Constraints on variables in syntax. Doctoral Dissertation, MIT, Cambridge, Mass.

Rullmann, Hotze. 1995. Maximality in the semantics of *wh*-constructions. Doctoral Dissertation, University of Massachusetts at Amherst.

Schwarzschild, Roger. 2006. The role of dimensions in the syntax of noun phrases. *Syntax* 9:67–110.

Seuren, Pieter. 1973. The comparative. In *Generative Grammar in Europe*, ed. by Ferenc Kiefer and Nicholas Ruwet, 528–564. Dordrecht: D. Reidel Publishing Company.

Shlonsky, Ur. 2002. Constituent questions in Palestinian Arabic. In *Themes in Arabic and Hebrew syntax*, ed. by Jamal Ouhalla and Ur Shlonsky, 137–160. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Solt, Stephanie. 2009. The semantics of adjectives of quantity. Doctoral Dissertation, City University of New York, New York.

Solt, Stephanie. 2015. Q-adjectives and the semantics of quantity. *Journal of Semantics* 32:221–273.

Soltan, Usama. 2020. On null objects in Egyptian Arabic: An argument ellipsis analysis. *Journal of Afroasiatic Languages and Linguistics* 12:204–259.

von Stechow, Arnim. 1984. Comparing semantic theories of comparison. *Journal of Semantics* 3:1–77.

Wilson, Cameron E. 2021. *The most*, *the fewest* and *the least*: On the relative readings of quantity superlatives. *Semantics and Pragmatics* 14:1–46.

Wright, William. 1981. *A grammar of the Arabic language*. Beirut: Librairie du Liban, 3rd, originally published 1859 edition.