

Superlatives in Syrian Arabic

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Received: 25 July 2013 / Accepted: 23 October 2015 / Published online: 9 February 2016
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Abstract This paper describes superlative constructions in contemporary Syrian (Levantine) Arabic. These have the revealing property that the superlative morpheme may be linearly separated from the term that provides the degree scale it makes reference to. This displacement is syntactically constrained, lending support to theories that postulated movement in the derivation of superlative constructions. The data reported here also document a tight correlation of scopal options for the superlative in Arabic and English, indicating that the languages are uniform at LF, while the surface distribution of the superlative morpheme is wider in Arabic than in English. The remarkable convergence of a variety of interpretational nuances between these two unrelated languages suggests that these uniformities can be traced to Universal Grammar.

Keywords Superlatives · Degree semantics · Arabic · Comparative grammar

1 Introduction

This article investigates the structure and meaning of superlative expressions in contemporary Syrian Arabic and their significance for a general theory of superlatives. The unusual syntactic format of superlatives in Syrian Arabic, henceforth ‘Arabic’, has not been previously described. This article makes an empirical contribution to both the documentation of a little-studied language and to the body of data relevant to a theory of degree constructions in natural language. Superlative constructions in Arabic show the same variety of possible interpretations as has been reported for English. They differ from their English counterparts in that Arabic allows the superlative morpheme (*aktar*) to be separated in the surface structure from the term that provides

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the degree argument it binds. On account of this property, Arabic optionally shows some surface word orders that have been claimed to be derived by covert syntactic transformations in English (Szabolcsi 1986; Heim 1995, 2001). The systematic comparison of Arabic and English undertaken here reveals that surface displacement in Arabic is sensitive to configurational constraints that rule out corresponding logical forms in English, lending support to the transformational approach to the derivation of the logical form of superlative constructions. It also finds that surface displacement of *aktar* may not cross over an NP boundary, yet covert displacement may.

The picture that emerges is one in which English and Arabic share the same conditions on covert displacement of the superlative morpheme, while in both languages surface displacement is more restricted than covert displacement; it is bounded by NP in Arabic and altogether impossible in English. This article begins with a summary of the transformational approach to the interpretation of superlatives and a non-transformational alternative. Subsequent sections present a description of the superlative construction in Arabic and evidence that movement is involved in the displacement of the superlative.

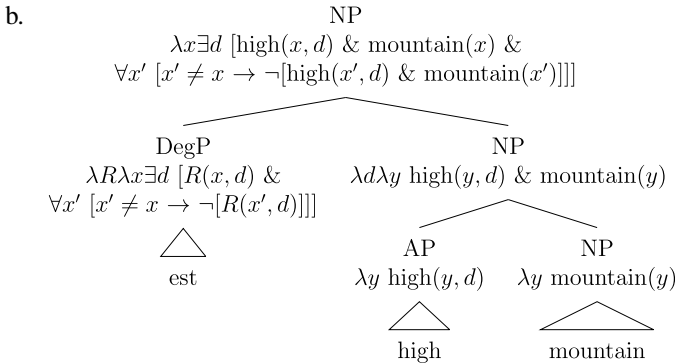
2 Syntax and semantics of the superlative construction

Contemporary analyses of scalar predicates attribute a degree argument to them, so that an adjective like *high* denotes a relation between an individual and a degree (1a) (Cresswell 1976). Degree scales are downward monotonic; if an entity is high to a degree, it is high to all lesser degrees. Drawing on Seuren (1973), Heim (1995) attributes a denotation to the English superlative morpheme *est* that combines with a degree relation and an individual and asserts that the individual bears the degree relation to a degree that no other individual bears the degree relation to (1b). Throughout this article, I refer to the scalar term that contributes the degree argument to the relation that the superlative morpheme combines with as the ‘scalar associate’ of the superlative morpheme.

- (1) a. $\llbracket \text{high} \rrbracket = \lambda d \lambda x \text{ high}(x, d)$
 b. $\llbracket \text{est} \rrbracket = \lambda R \lambda x \exists d [R(x, d) \ \& \ \forall x' [x' \neq x \rightarrow \neg[R(x', d)]]]$

Contemporary analyses of the superlative agree that one reading of a sentence like (2a) compares the mountain that Mary climbed not with high things in general but specifically with other high mountains, and therefore that the semantic composition of (2a) on this reading contains the NP diagrammed in (2b), where *high mountain* functions as the degree relation argument of *est*. The superlative *est* combines with a degree relation abstracted over the degree argument of the scalar associate *high*. Analyses differ in their take on how the degree relation is derived, more on which below. On the assumption that *the* is interpreted in the conventional way in (2a), it contributes the presupposition that a unique entity exists that meets the description in (2b). This entity serves as the internal argument of *climb*. Example (2a) then asserts that Mary climbed the unique mountain which is higher than all other mountains. I attribute to *est* the syntactic category DegP (Degree Phrase). This semantic derivation derives what is called the ‘absolute’ reading of the superlative in (2a), where it compares members of the NP denotation in terms of the scalar associate of *est* (height in this example).

(2) a. Mary climbed the highest mountain.



I add here that although the absolute reading of (2a) asserts that there is no mountain that is as high or higher than the one Mary climbed, this assertion does not project through negation, and therefore is not a presupposition of (2a). This means that the definite article in fact does not have its standard meaning in absolute superlatives. The example in (3a) is true if there are two mountains in Kenya that have the exact same height, and Mary climbed one of them (the modifier *in Kenya* favors the absolute reading over the ‘relative’ reading described below). This means that the phrase *the highest mountain in Kenya* does not presuppose the existence of a unique referent, in contrast to a garden variety definite like *the 3000m mountain* in (3b), which induces a presupposition failure if two mountains meet the description. Further, Coppock and Beaver (2015) point out that superlatives have a predicative use that fails to presuppose existence, as demonstrated by the fact that (3c) is true even if there is no largest prime number. I conclude from these facts that the definite article is in fact interpreted as an indefinite article in absolute superlatives. While this conclusion raises further questions, it is supported by the fact that in Arabic, superlative phrases are morphologically indefinite on both the absolute reading and the relative reading described below; I present the relevant Arabic data in Sect. 3.

- (3) a. Mary didn’t climb the highest mountain in Kenya; there’s another one there that’s exactly as high.
 b. *Mary didn’t climb the 3000m mountain; there’s another one that’s exactly as high.
 c. Seven is not the largest prime number.

In addition to the absolute reading of the superlative, a ‘comparative’, or ‘relative’, reading is typically also available (Ross 1964; see von Stechow 1984; Heim 1985 and Rullmann 1995 on similar ambiguities in the comparative). The relative reading of (2a) asserts that Mary climbed a higher mountain than anyone else climbed. Here we compare Mary with alternatives in terms of how high a mountain they climbed, and Mary need not have climbed the highest mountain in the world.

Contemporary analyses of the superlative differ in their approach to relative readings. Szabolcsi (1986), Heim (1995) and others claim that the relative reading differs from the absolute reading in the structural scope of the superlative morpheme in the sentence’s logical form (LF), a structured representation of the sentence’s meaning,

are no different from absolute superlatives in this respect. It remains puzzling why the definite article occurs in English superlatives, though as we will see, superlatives in Arabic are morphologically indefinite.¹ I propose that on both the absolute and relative readings of (2a), the object is interpreted as a bare predicate that modifies the internal argument of the verb *climb* (see Kratzer 1996 and Chung and Ladusaw 2004 on the mechanics of this step). The resulting unsaturated VP is closed by default insertion of an existential quantifier (Heim 1983; Kamp 1984; Diesing 1992), yielding the bottommost VP denotation in (4) in the relative construction.

The denotation of the tree in (4) asserts that there is a degree d such that Mary (m in (4)) climbed a mountain with height d and no one else climbed a mountain with height d . This assertion is compatible with the existence of mountains higher than the one Mary climbed, as long as no one climbed them. The relative reading of sentences like (2a) typically implies a set of specific alternative individuals we are comparing Mary to. As a result, (2a) is judged true even if someone did climb a mountain higher than the one Mary climbed, as long as that person is not a relevant alternative to Mary. If we are talking about who won this year's mountain climbing contest, for example, the results of last year's contest are not relevant. Consequently, it would be appropriate to include a domain restriction on the universal quantifier in the definition of *est* in (1b) that limits its range to the set of individuals relevant to the comparison with Mary—her 'alternatives'. However, in the service of improving the legibility of the formulas presented here, I omit this domain restriction, and instead stipulate that the universal quantifier is always understood to have a domain that is restricted to a set of individuals made salient by the context.

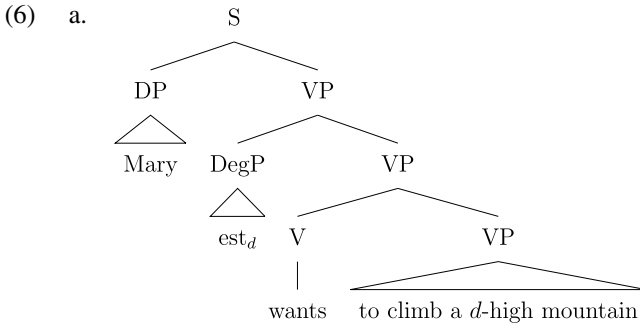
Heim (1995) entertains the possibility of exploiting this contextually specified domain restriction to capture the relative reading without movement of *est*. But she claims there is no way of manipulating the domain restriction to derive what Sharvit and Stateva (2002) call the "upstairs de dicto" reading of examples like (5). On the upstairs de dicto reading of (5), the object of Mary's desire is a certain height, but no particular mountain. Mary may want to climb a mountain that is at least 5000m high (to acquire a certification, for example), without having a particular mountain in mind and without having any attitude toward the other climbers' desires. If Bill wants to climb a 4000m mountain and John a 3000m mountain, then Mary wants to climb the highest mountain in this sense. Here, there are no 'relevant' mountains we could restrict ourselves to to make (5) true in this situation.

(5) Mary wants to climb the highest mountain.

But Heim points out that covert movement of *est* to a scope position external to the intensional verb *want*, leaving its host adjective in situ (6a), derives the relevant reading, spelled out in (6b), once again on the assumption that the definite article is interpreted as an existential quantifier. In the service of conserving space I omit the

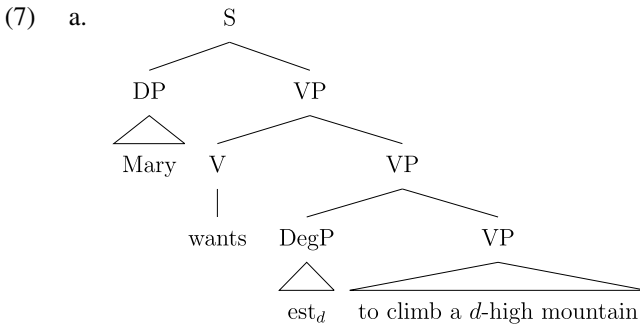
¹Coppock and Beaver (2014) claim that English superlatives are 'weak' definites that presuppose uniqueness but not existence. As they point out, even this weak definiteness is incompatible with the movement analysis of relative readings for roughly the same reasons as strong definiteness is, and consequently they endorse a non-movement analysis similar to that of Farkas and Kiss (2000). However, the Arabic data presented below supports the movement analysis, and the data in (3) indicate that even absolute superlatives do not presuppose uniqueness, leaving us with no reason to believe that relative superlatives do.

derivational details here, which are the same as in (4) except for the higher landing site of *est*. (6b) says that there is a degree *d* such that Mary wants to climb a mountain that is *d*-high, and no one else wants to climb a mountain that is *d*-high, which captures the upstairs de dicto reading of (5).



- b. $\llbracket(6a)\rrbracket = \exists d \llbracket[Mary \text{ wants to climb a } d\text{-high mountain}] \ \& \ \forall x [x \neq Mary \rightarrow \neg[x \text{ wants to climb a } d\text{-high mountain}]]\rrbracket$

On the movement approach, an additional relative reading of (5) is derived by movement of the superlative operator to a position subordinate to the modal verb *want*, as illustrated in (7a). This is also a relative reading, where we compare Mary to other mountain climbers in terms of how high a mountain they climb in Mary’s desire-worlds. The composition of this tree, sketched in (7b) asserts that what Mary wants is to climb a higher mountain than anyone else climbs, i.e., she wants to beat the others at mountain climbing. These two readings exist independently of an absolute reading where Mary wants to climb the actual highest mountain in the world.



- b. $\llbracket(7a)\rrbracket = Mary \text{ wants } \exists d \llbracket[Mary \text{ climbs a } d\text{-high mountain and } \forall x [x \neq Mary \rightarrow \neg[x \text{ climbs a } d\text{-high mountain}]]\rrbracket$

On the movement analysis, the scope of the negative operator ‘ \neg ’ in the predicate logical reductions here and to follow corresponds systematically to the LF position of the superlative morpheme in the corresponding syntactic structure. For example, *want* occurs in the scope of *est* in the tree in (6a) and in the scope of negation in the reduction in (6b), but not in (7a) and (7b). The approximate syntactic logical form that the movement analysis posits can therefore be read off the predicate logical representations of the corresponding readings in these examples and those to follow.

In contrast to Szabolcsi's and Heim's movement approach, Gawron (1995), Farkas and Kiss (2000), Sharvit and Stateva (2002), Gutiérrez-Rexach (2006), Teodorescu (2009) and Krasikova (2012) claim that the readings of the superlative construction can be derived without movement of the superlative morpheme beyond the DP containing it in the surface structure. Sharvit and Stateva (2002) treat the upstairs de dicto reading in detail that Heim claims is problematic for a non-movement account. They propose that the relevant reading is derived through the introduction of a covert operator at the NP level and type-shifting of the meaning of the definite determiner. A summary that does full justice to Sharvit and Stateva's account would go beyond the space available here; the following remarks are intended as a sketch of their system for the upstairs de dicto reading of a sentence like (8a). The general idea is to restrict ourselves to possible worlds in which everyone climbs the lowest mountain that fulfills their needs, and there are no other mountains. Then, having the greatest 'need' is tantamount to climbing the highest mountain in each of these worlds. Specifically, Sharvit and Stateva derive the upstairs de dicto reading of (8a) from the LF in (8b), where the covert operator IDENT'-W* combines with the NP and *est* remains NP-internal. The numerals are abstraction indices.

- (8) a. Mary needs to climb the highest mountain.
 b. Mary needs [1 [PRO to climb-w₁ [the- \mathcal{J} [IDENT'-W* [2 [est [high mountain-w₂]]]]]]-w₁]]

IDENT'-W* is an operator that combines with a property P and derives the set of properties that have the same extension as P in every world in the contextually supplied set of worlds W^* . In the case at hand, W^* is the set of worlds that minimally satisfy everyone's needs. If Mary needs to climb a 5000m mountain, Bill a 4000m mountain and John a 3000m mountain, then W^* contains all the worlds in which Mary climbs a mountain that is exactly 5000m high, Bill climbs one that is exactly 4000m high, and John climbs one that is exactly 3000m high, and there are no other mountains. This is a set of worlds in which *be the highest mountain* and *be a 5000m high mountain* have the same value. The constituent [IDENT'-W* [est [high mountain]]] in (8b) then denotes the set of properties extensionally equivalent to the property of being the highest mountain in every world in W^* , in this case, the set containing the property *be a 5000m mountain*. Sharvit and Stateva then propose that the definite article is type-lifted from its usual denotation, which maps sets of individuals to individuals, to a denotation that maps sets of properties to properties. The article occurs with a contextual domain restriction \mathcal{J} that in the lifted derivative denotes a set of properties made salient by the context. The article denotes a function that maps a property of properties \mathcal{P} to the unique property that is in both \mathcal{P} and \mathcal{J} . In the case at hand, the context makes the value {*be a 5000m mountain, be a 4000m mountain, be a 3000m mountain*} salient for \mathcal{J} . The superlative DP in (8b) then denotes "the unique property P which is a member of \mathcal{J} and which in each world in W^* has the same value as the property of being the highest mountain" (p. 480). Example (8a) then asserts that Mary needs to climb a mountain that has this property P , which in this context is the same as saying she needs to climb a 5000m mountain. In this manner, Sharvit and Stateva derive the upstairs de dicto reading of (8a) without moving *est* out of the NP it is base generated in.

One expectation that arises under the movement analysis of the superlative is that there might be languages in which the superlative morpheme (counterpart of *est*) moves overtly. In this article, I present a description of superlative constructions in Syrian Arabic, where the superlative morpheme may in fact be separated from its scalar associate in the surface structure. This displacement is subject to constraints that mirror constraints on the availability of relative interpretations of the superlative in English. While these observations do not contradict the in situ analysis of English as such, the parallels reported here suggest that relative readings in English are derived by the same operation that is responsible for overt displacement in Arabic. The operation applies at a different level of representation in the two languages but is subject to similar grammatical conditions. The parallels therefore lend support to the movement analysis.

Throughout this article, I refer to superlative phrases of the type described above, whether absolute or relative, as ‘argument’ superlatives, because they occur in argument positions. I distinguish these from ‘adverbial’ superlatives such as *the fastest* in (9a), where the superlative associates with a gradable adverb. A lexically gradable term like the adjective *high* above or *fast* in (9a) functions as the scalar associate in what is called the ‘superlative of quality’. The plurality of a noun may also function as the scalar associate of the superlative morpheme in what Gawron (1995) calls the ‘superlative of quantity’, illustrated in (9b). These are formed in English by adnominal *the most* but in Arabic by the adverbial superlative, as described in Sect. 4. Adverbial *the most* may also function as a superlative of quantity modifying the pluractionality of the verb phrase itself. On one reading of (9c), for example, it compares the number of times Mary climbed Mount Everest with the number of times alternatives to Mary climbed Mount Everest.

- (9) a. Mary climbed Mount Everest the fastest.
 b. Mary climbed the most mountains.
 c. Mary climbed Mount Everest the most.

The Arabic facts reported here have been elicited from three native speakers from Mharde, in central Syria (population approx. 20000). Fragments of this data have been confirmed by speakers from outside Mharde as well as speakers from Lebanon, Palestine and Jordan, so the displacement phenomenon described here appears to be typical of at least the Levant region. The pronunciation reflected in the transcriptions below is characteristic of the Mharde variety and differs from that found in urban centers. The transcription is broad and reflects attributes of the Mharde variety that I take to be phonemic, including the feminine ending [i] that is pronounced [e] in urban dialects of the Levant and the uvular stop [q] which has weakened to [ʔ] in urban dialects. The transcription also reflects phonological effects of the inflectional context on verb stems, generally vowel syncope, as well as assimilation of the definite article /l/ to a following coronal consonant. The transcriptions do not include variation in vowel quality that is phonologically determined or in free variation. What I transcribe as *a*, for example, varies between [e], [ɛ] [ə] and [a], and is rounded to [o] in word final closed syllables, which is not reflected in the transcriptions here. See Yoseph (2012) for a description of the phonology of the Arabic spoken in Mharde. My glosses for the Arabic examples comply with Noyer’s (1992) morphological analysis

of Arabic according to which third person, masculine and singular are not marked, and the *yi-* prefix seen in some imperfective verb forms is a default placeholder for an unfilled inflectional prefix position, glossed “∅”. I gloss the prefix *b-* that occurs in finite imperfective forms as a present tense morpheme, but see Aoun et al. (2010) for a more detailed discussion. Feminine is glossed F and plural P.

Sections 3 and 4 describe argument and adverbial superlatives in Arabic, Sect. 5 describes evidence that displacement of the superlative in Arabic involves movement, including a variety of bounding conditions, and Sect. 6 presents a syntactic analysis of the phenomenon.

3 Argument superlatives

In Arabic, positive adjectives follow the noun they modify (10a). Superlative adjectives, however, precede the head noun (10b). The superlative morphological form of an adjective is built by substituting the three root consonants of the adjective into the prosodic template $aC_1C_2aC_3$. Positive *ḥasan* (good) has the superlative form *aḥsan* (best), *raxīṣ* (cheap) has the superlative *arxaṣ* (cheapest), etc. Regular phonology sometimes produces deviations from this general pattern. The adjective *ʿāli* (high) has the superlative form *aʿla* (highest), where a final *y* (*/j/*) has been deleted from both forms.

- (10) a. Nuha ṭlaḥ-it ʿala žabal ʿāli.
 Nuha climbed-F on mountain high
 ‘Nuha climbed a high mountain.’
- b. Nuha ṭlaḥ-it ʿala aʿla žabal.
 Nuha climbed-F on highest mountain
 ‘Nuha climbed the highest mountain.’

In addition to the format in (10b), argument superlatives may have the format shown in (11), where the term *aktar* is appended to a noun phrase containing a positive adjective in its usual post-nominal position (cf. (10a)). The term *aktar* adds to the meaning of *žabal ʿāli* (high mountain) what English *-est* adds to *high mountain* in the English counterpart (2a), indicating that *aktar* is the Arabic equivalent of *-est*. The term *aktar* is itself the superlative form of the adjective *ktīr* (much/many). It therefore has the same morphological composition as that attributed to *most* (namely *much/many+est*) by Bresnan (1973), Hackl (2009) and others.²

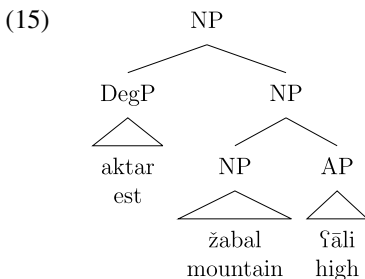
- (11) Nuha ṭlaḥ-it ʿala aktar žabal ʿāli.
 Nuha climbed-F on most mountain high
 ‘Nuha climbed the highest mountain.’

²The Arabic counterpart of the negative superlative *least* is *aqall*, which, like *least*, is formed from the superlative morpheme (in Arabic the template $aC_1C_2aC_3$) and the negative adjective *qalil* (little/few) (regular metathesis derives *aqall* from underlying */aqalil/*). All the distributional facts reported here for *aktar* apply to *aqall* as well; both may be separated from their scalar associate. In the case of *aqall*, this dissociation raises interesting issues for the proper analysis of the meaning of the superlative morpheme itself, which for reasons of space I cannot pursue here. I continue to refer to *aktar* as the superlative morpheme, though strictly speaking this is the template $aC_1C_2aC_3$ on which *aktar* is based.

A few additional examples follow. In each case, the a- and b-examples are synonymous. The parenthesized material favors the absolute reading, as in the English translations (Farkas and Kiss 2000).

- (12) a. Nuha štari-t aktar ktāb ġāli (bi-l-maħall).
Nuha bought-F most book expensive (in-the-store)
'Nuha bought the most expensive book (in the store).'
- b. Nuha štari-t aġla ktāb (bi-l-maħall).
Nuha bought-F expensivest book (in-the-store)
'Nuha bought the most expensive book (in the store).'
- (13) a. Fāṭmi bi-t-sūq aktar siyyāra sarīʿa (bi-s-sbāq).
Fatima PRES-F-drive most car fast (in-the-race)
'Fatima drives the fastest car (in the race).'
- b. Fāṭmi bi-t-sūq asraʿ siyyāra (bi-s-sbāq).
Fatima PRES-F-drive fastest car (in-the-race)
'Fatima drives the fastest car (in the race).'
- (14) a. Māhir b-yi-mlik aktar bayt kbīr (bi-ḍ-ḍīʿa).
Mahir PRES-Ø-own most house big (in-the-village)
'Mahir owns the biggest house (in the village).'
- b. Māhir b-yi-mlik akbar bayt (bi-ḍ-ḍīʿa).
Mahir PRES-Ø-own biggest house (in-the-village)
'Mahir owns the biggest house (in the village).'

The a-examples above mirror the word order posited for the logical form of the English (absolute) superlative diagrammed in (2b), where the superlative morpheme precedes a noun phrase containing an adjective in its canonical position vis a vis the head noun. This similarity implicates an analogous structure for Arabic, diagrammed schematically in (15). No definite article is found in either the a- or b-examples above. If a DP layer is present in these cases, it goes unpronounced, and I do not include it in the trees below. Since the canonical placement of the adjective is post-nominal in Arabic, the pre-nominal placement seen in the b-examples above appears to be derived by fronting the adjective to, or together with, the superlative morpheme *aktar*.



Like English, Arabic argument superlatives display both an absolute and a relative reading, regardless of whether *aktar* occurs alone at the NP edge or together with the associated adjective. Both construction types also display an upstairs de dicto reading in the context of an intensional operator. The examples in (16) have the same range

of meanings as the English counterpart in (5), including the upstairs de dicto reading that asserts that there is a particular height such that Nuha wants to climb a mountain that high, and no one else wants to climb a mountain that high.

- (16) a. Nuha bidd-a ti-ṭlaṭ ṭala aktar žabal ṭāli.
 Nuha want-F F-climb on most mountain high
 ‘Nuha wants to climb the highest mountain.’
 b. Nuha bidd-a ti-ṭlaṭ ṭala aṭla žabal.
 Nuha want-F F-climb on highest mountain
 ‘Nuha wants to climb the highest mountain.’

As mentioned above, the superlative NPs in the examples above and to follow, whether formed with *aktar* or the superlative adjective itself, do not bear the Arabic definite article *l-* seen in a definite, non-superlative phrase like the object in (17) (where *l-* assimilates to following *ž*). This assertion is only felicitous in a context in which *ž-žabal* (*the mountain*) has a unique, previously mentioned referent. There is no indefinite article in Arabic; indefiniteness is signified by the absence of the definite article. This means that the superlative NPs discussed above are morphologically indefinite. This fact is in line with the observations in (3) indicating that even absolute superlatives are semantically indefinite in English as well (and these data can be replicated in Arabic). Another reason to believe that Arabic superlatives are indefinite is discussed shortly.³

- (17) Nuha bidd-a ti-ṭlaṭ ṭala ž-žabal.
 Nuha want-F F-climb on the-mountain
 ‘Nuha wants to climb the mountain.’

The fact that the displacement posited for the absolute reading is visible in the surface structure in Syrian Arabic raises the question of how well the placement of *aktar* in general tracks the placement of *est* in the corresponding English logical forms posited by the movement analysis of relative readings, including the upstairs de dicto reading of examples like (16). That is, do the overt placement options for *aktar* correspond systematically to scope placement options for English *est*? If so, the phenomenon lends circumstantial support to the movement analysis of relative readings in English. The remainder of this article addresses this question. For reasons that will become clear, a definitive answer to the question of whether *aktar* can be displaced over *bidda* in (16) must await a discussion of the behavior of adverbial superlatives (Sect. 4) and certain constraints on surface displacement in Arabic (Sect. 5). The remainder of this section fleshes out the behavior of argument superlatives.

In the format [aktar [NP AP]], AP may be replaced by a relative clause if this relative clause contains a gradable term that may function as the scalar associate of *aktar*. For example, a degree verb such as *stāhal* (*be deserving*) or *staha* (*be embarrassed*) may contribute a scale to the interpretation of *aktar* in the construction in question, as

³Although the data in (3) indicate that superlatives do not carry a uniqueness presupposition, by virtue of their meaning superlatives can only hold of at most one entity, a property one might call “logical uniqueness”. This is unlike canonical indefinites (cf. *a mountain*) and may be related to the occurrence the definite article in English superlatives.

in the examples below. The predicate logical formulas below represent the readings shared by the Arabic example and its English translation.

- (18) a. L-ližni Ṣaṭi-t mukāfaʔa la-aktar mitsābiq (yalli)
 the-committee gave-F prize to-most contestant (who)
 b-yi-stāhil.
 PRES-Ø-be.deserving
 ‘The committee gave a prize to the contestant who was most deserving.’
- i. $\exists x$ [the committee gave a prize to x & $\exists d$ [x is a contestant & x was d -deserving & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a contestant & y was d -deserving]]]]
 - ii. $\exists d$ [the committee gave a prize to a contestant who was d -deserving & $\forall y$ [$y \neq$ the committee $\rightarrow \neg$ [y gave a prize to a contestant who was d -deserving]]]
- b. Nuha ṭammn-it aktar ṭālib (yalli) staḥa.
 Nuha reassured-F most student (who) was.embarrassed
 ‘Nuha reassured the student who was most embarrassed.’
- i. $\exists x$ [Nuha reassured x & $\exists d$ [x is a student & x was d -embarrassed & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a student & y was d -embarrassed]]]]
 - ii. $\exists d$ [Nuha reassured a student who was d -embarrassed & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y reassured a student who was d -embarrassed]]]

The salient reading of (18a) is that the committee gave a prize to a contestant who was more deserving than any other contestant, as the (i)-translation makes explicit. Example (18b) asserts most saliently that Nuha comforted the student who was more embarrassed than any other student. A less salient subject-oriented relative reading is available as well in which we compare the committee in (18a) to other prize-giving bodies, and Nuha in (18b) to other reassurers of embarrassed students, as the (ii)-translations make explicit. In both cases, the degree verb in the relative clause functions as the scalar associate of *aktar*. On the (i)-readings, *aktar* is interpreted in the position it occurs in the surface structure, where it compares contestants and students in (18a) and (18b) respectively. According to the movement account of the derivation of relative readings, the (ii)-readings require covert displacement of *aktar* to a higher position.

I note here in passing that the superlative may also occur within the relative clause in Arabic, in a structure similar in form to the English translations above. These cases are discussed in detail in Sect. 5. Note too that the fact that the relative pronoun *yalli* is optional in the superlative examples above and to follow is further evidence that the superlative construction is morphosyntactically indefinite in Arabic. This is because in Syrian Arabic, the relative pronoun *yalli* is optional whenever the head of the relative clause is indefinite, as illustrated in (19a) below, but obligatory when it is definite, as illustrated in (19b) (see Brustad 2000). If *aktar mitsābiq* (*most contestant*) in (18a) were definite, then *yalli* would be obligatory there, on analogy to (19b). This is the additional evidence for the indefiniteness of Arabic superlatives promised in Sect. 2.

- (19) a. Qrī-t ktāb (yalli) nṣāḥ-t-ni fī-h marra.
read-1S book (which) recommended-2S-me in-it once
'I read a book that you recommended to me once.'
- b. Qrī-t l-ktāb *(yalli) nṣāḥ-t-ni fī-h.
read-1S the-book *(which) recommended-2S-me in-it
'I read the book that you recommended to me.'

A non-degree verb in the relative clause may license *aktar* when it is interpreted pluractionally, where the scale it contributes measures either the number or duration of such events, as in (20). Example (20a) may be read to mean that Nuha kissed the boy who sang more than any other boy sang, and example (20b) that the teacher scolded the student who talked in class more than any other student talked in class. These are the readings represented in the (i)-translations. In these examples, *ḡanna* (*sing*) and *ḥaka* (*talk*) relate an agent to an amount of singing or talking, and this amount constitutes a scale over which degree abstraction is possible, making a degree relation available to *aktar* in such cases. Once again, a subject-oriented relative reading is available where we compare Nuha in (20a) to others who kissed boys who sang and assert that the boy she kissed sang more than the boys her alternatives kissed (the (ii)-translations below).

- (20) a. Nuha bās-it aktar ṣabb (yalli) ḡanna.
Nuha kissed-F most boy (who) sang
'Nuha kissed the boy who sang the most.'
- i. $\exists x$ [Nuha kissed x & $\exists d$ [x is a boy & x sang d -much & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a boy & y sang d -much]]]]
- ii. $\exists d$ [Nuha kissed a boy who sang d -much & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y kissed a boy who sang d -much]]]
- b. L-istāz baḥdal aktar ṭālib (yalli) ḥaka xlāl d-daris.
the-teacher scolded most student (who) talked during the-lesson
'The teacher scolded the student who talked the most in class.'
- i. $\exists x$ [the teacher scolded x & $\exists d$ [x is a student & x talked in class d -much & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a student & y talked in class d -much]]]]
- ii. $\exists d$ [the teacher scolded a student who talked in class d -much & $\forall y$ [$y \neq$ the teacher $\rightarrow \neg$ [y scolded a student who talked in class d -much]]]

A gradable adverb in the relative clause may license *aktar* as well, as the examples in (21) show. Since, as we have seen above, the verb phrase within the relative clause carries a degree argument associated with pluractionality, the sentences below are ambiguous depending on whether *aktar* associates with the gradable adverb or the pluractionality of the verb phrase. In the first case, (21a) asserts that Nuha praised the boy who sang the most in tune (the (i)-translation sketched there). In the second, it asserts that Nuha praised the boy who sang in tune the most, i.e., most often or on the most occasions. Having demonstrated the possibility of a pluractional associate for *aktar* in (20), I highlight here only the first reading mentioned above, as well as its

subject-oriented relative counterpart in the (ii)-translations below, where we compare Nuha with others in terms of how in tune the boy they praised sang.

- (21) a. Nuha madh-it aktar šabb (yalli) ġanna šaħħ.
 Nuha praised-F most boy (who) sang in.tune
 ‘Nuha praised the boy who sang most in tune.’
- i. $\exists x$ [Nuha praised x & $\exists d$ [x is a boy & x sang d -in-tune & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a boy & y sang d -in-tune]]]]
 - ii. $\exists d$ [Nuha praised a boy who sang d -in-tune & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y praised a boy who sang d -in-tune]]]
- b. L-istāz madaħ aktar řālib (yalli) ħaka bi-balāga.
 the-teacher praised most student (who) spoke with-eloquence
 ‘The teacher praised the student who spoke most eloquently.’
- i. $\exists x$ [the teacher praised x & $\exists d$ [x is a student & x spoke d -eloquently & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a student & y spoke d -eloquently]]]]
 - ii. $\exists d$ [the teacher praised a student who spoke d -eloquently & $\forall y$ [$y \neq$ the teacher $\rightarrow \neg$ [y praised a student who spoke d -eloquently]]]
- c. L-mudřir raffař aktar mwazzřif (yalli) ħall l-masřali kwayyis.
 the-boss promoted most employee (who) solved the-problem well
 ‘The boss promoted the employee who solved the problem best.’
- i. $\exists x$ [the boss promoted x & $\exists d$ [x is an employee & x solved the problem d -well & $\forall y$ [$y \neq x \rightarrow \neg$ [y is an employee & y solved the problem d -well]]]]
 - ii. $\exists d$ [the boss promoted an employee who solved the problem d -well & $\forall y$ [$y \neq$ the boss $\rightarrow \neg$ [y promoted an employee who solved the problem d -well]]]
- d. L-mudřir madaħ aktar řāmil (yalli) rakkab l-lōħa l-likřrūniyyi
 the-boss praised most worker (who) installed the-board the-electronic
 b-diqqa.
 with-care
 ‘The boss praised the worker who installed the circuit board the most carefully.’
- i. $\exists x$ [the boss praised x & $\exists d$ [x is a worker & x installed the circuit board d -carefully & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a worker & y installed the circuit board d -carefully]]]]
 - ii. $\exists d$ [the boss praised a worker who installed the circuit board d -carefully & $\forall y$ [$y \neq$ the boss $\rightarrow \neg$ [y praised a worker who installed the circuit board d -carefully]]]

Not only may a degree verb, a scalar adverb or pluractionality license *aktar*, but so may an indefinite plural or mass noun within the relative clause. For example, (22a) below may assert that Nuha caught the thief who stole more money than any other thief under consideration did (i). This observation indicates that plural and mass nouns take a scalar argument of quantity, as Gawron (1995) proposes, that *aktar* may associate with. I notate the degree argument as a prefix of the plural or mass noun

in the formulas below. That is, ‘*d*-flowers’ should be read ‘*d* number of flowers’ and ‘*d*-coffee’ should be read ‘*d* amount of coffee’. A subject-oriented relative reading is available that asserts that Nuha caught a thief who stole more money than any thief caught by anyone else (ii). Since these verbs are eventive, pluractionality still represents a possible scalar associate for *aktar* in these examples, where e.g. (22a) asserts that Nuha’s thief stole money on more occasions than anyone else did. Having discussed this reading in connection with the examples in (20), I ignore it here, except to demonstrate below that the quantity readings in (i) and (ii) are independent of pluractionality.

- (22) a. Nuha misk-it aktar harāmi (yalli) saraq maṣāri.
 Nuha caught-F most thief (who) stole money
 ‘Nuha caught the thief who stole the most money.’
 i. $\exists x$ [Nuha caught *x* & $\exists d$ [*x* is a thief & *x* stole *d*-money & $\forall y$ [*y* \neq *x* \rightarrow \neg [*y* is a thief & *y* stole *d*-money]]]]
 ii. $\exists d$ [Nuha caught a thief who stole *d*-money & $\forall y$ [*y* \neq Nuha \rightarrow \neg [*y* caught a thief who stole *d*-money]]]
- b. Nuha bās-it aktar šabb (yalli) ṣaṭā-ha warid.
 Nuha kissed-F most boy (who) gave-her flowers
 ‘Nuha kissed the boy who gave her the most flowers.’
 i. $\exists x$ [Nuha kissed *x* & $\exists d$ [*x* is a boy & *x* gave her *d*-flowers & $\forall y$ [*y* \neq *x* \rightarrow \neg [*y* is a boy & *y* gave her *d*-flowers]]]]
 ii. $\exists d$ [Nuha kissed a boy who gave her *d*-flowers & $\forall y$ [*y* \neq Nuha \rightarrow \neg [*y* kissed a boy who gave her *d*-flowers]]]
- c. Nuha haki-t maṣ aktar šabb (yalli) šarib qahwi.
 Nuha talked-F with most boy (who) drank coffee
 ‘Nuha talked with the boy who drank the most coffee.’
 i. $\exists x$ [Nuha talked with *x* & $\exists d$ [*x* is a boy & *x* drank *d*-coffee & $\forall y$ [*y* \neq *x* \rightarrow \neg [*y* is a boy & *y* drank *d*-coffee]]]]
 ii. $\exists d$ [Nuha talked with a boy who drank *d*-coffee & $\forall y$ [*y* \neq Nuha \rightarrow \neg [*y* talked with a boy who drank *d*-coffee]]]
- d. Nuha madh-it aktar ṭālib (yalli) qara kitub xlāl ṣ-ṣayf.
 Nuha praised-F most student (who) read books over-the-summer
 ‘Nuha praised the student who read the most books over the summer.’
 i. $\exists x$ [Nuha praised *x* & $\exists d$ [*x* is a student & *x* read *d*-books & $\forall y$ [*y* \neq *x* \rightarrow \neg [*y* is a student & *y* read *d*-books]]]]
 ii. $\exists d$ [Nuha praised a student who read *d*-books & $\forall y$ [*y* \neq Nuha \rightarrow \neg [*y* praised a student who read *d*-books]]]

Since a pluractional associate for *aktar* is available in the examples above, and since someone who, for example, stole money on the most occasions probably has stolen more money than anyone else, the reading where *aktar* associates with a plural noun phrase is potentially difficult to distinguish from the reading where it associates with pluractionality of the verb. But the difference is easy to detect in context of stative non-degree verbs, as in (23), since no pluractional associate is available there.

A mountain can have a lot of rivers, as (23a) asserts, but it cannot ‘have rivers a lot’. The fact that the predicate *have rivers* licenses *aktar* means that *aktar* is able to bind the plural term *anhār* (*rivers*) in this context. Also as before, a subject-oriented relative reading is available in these cases.

- (23) a. Nuha \textbackslash la \textbackslash -it \textbackslash ala aktar \textbackslash abal (yalli) fī-i anhār.
 Nuha climbed-F on most mountain (which) in-it rivers
 ‘Nuha climbed the mountain that has the most rivers.’
 i. $\exists x$ [Nuha climbed x & $\exists d$ [x is a mountain & x has d -rivers & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a mountain & y has d -rivers]]]]
 ii. $\exists d$ [Nuha climbed a mountain that has d -rivers & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y climbed a mountain that has d -rivers]]]
- b. Nuha zār-it aktar madīni (yalli) fī-ha nāḥhāt shāb.
 Nuha visited-F most city (which) in-it scrapers clouds
 ‘Nuha visited the city with the most sky scrapers.’
 i. $\exists x$ [Nuha visited x & $\exists d$ [x is a city & x has d -skyscrapers & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a city & y has d -skyscrapers]]]]
 ii. $\exists d$ [Nuha visited a city that has d -skyscrapers & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y visited a city that has d -skyscrapers]]]
- c. Nuha dżawwz-it min aktar zalami (yalli) b-yi-mlik aḥṣni.
 Nuha married-F of most guy (who) PRES- \emptyset -own horses
 ‘Nuha married the guy who owns the most horses.’
 i. $\exists x$ [Nuha married x & $\exists d$ [x is a guy & x owns d -horses & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a guy & y owns d -horses]]]]
 ii. $\exists d$ [Nuha married a guy who owns d -horses & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y married a guy who owns d -horses]]]

As expected, replacing the plural with a singular noun phrase renders the sentences above ungrammatical, since *aktar* then has no scalar associate, as the examples below show. These examples clarify that *aktar* may associate with a plural or mass noun phrase independently of the possibility of a pluractional reading of the verb phrase.

- (24) a. *Nuha \textbackslash la \textbackslash -it \textbackslash ala aktar \textbackslash abal (yalli) fī-i nahir.
 Nuha climbed-F on most mountain (which) in-it river
 (*‘Nuha climbed the mountain that has the most river.’)
- b. *Nuha zār-it aktar madīni (yalli) fī-ha nāḥhāt shāb.
 Nuha visited-F most city (which) in-it scraper clouds
 (*‘Nuha visited the city with the most sky scraper.’)
- c. *Nuha dżawwz-it aktar zalami (yalli) b-yi-mlik ḥṣān.
 Nuha married-F most man (who) PRES- \emptyset -own horse
 (*‘Nuha married the man who owns the most horse.’)

I point out lastly that the dependency between *aktar* and a scalar associate is not clause-bound, as (25) below shows, where *aktar* associates with the plural *maṣāri* (*money*) across the boundary of the complement clause of *qāl* (*say*). This reading is spelled out in (i) and its subject-oriented counterpart in (ii). The pluractionality of

the verbs *qāl* (*said*) and *saraq* (*stole*) are also possible associates of *aktar* in this example (not spelled out here). All other things being equal, *aktar* prefers to pick up a more local associate than a more distant one. As a result, the long-distance associate *mašāri* is not the most salient associate for *aktar* out of the blue. But if we know that the accountant said that Mahir stole 300 liras, Ahmed stole 400, and Sami stole 500, and that Nuha caught Sami, (25) sums up this situation naturally.

(25) Nuha misk-it aktar harāmi (yalli) qāl l-mhāsib Ğann-u innu
 Nuha caught-F most thief (who) said the-accountant about-him that
 saraq mašāri.

stole money

‘Nuha caught the thief who the accountant said stole the most money.’

- i. $\exists x$ [Nuha caught x & $\exists d$ [x is a thief & the accountant said that x stole d -money & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a thief and the accountant said that y stole d -money]]]]
- ii. $\exists d$ [Nuha caught a thief who the accountant said stole d -money & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y caught a thief who the accountant said stole d -money]]]]

In summary, adnominal *aktar* may associate with any scalar term in its c-command domain (subject to bounding conditions discussed in Sect. 5), as schematized in (26), where $XP = AP, AdvP, VP,$ or plural (or mass) NP. The dependency may cross a clause boundary as (25) shows. Note lastly that the English translations to all the examples above display each of the readings attributed to the Arabic there, including, again in the proper context, the long-distance example in (25). In English, the superlative morpheme must occur local to its scalar associate, either affixed to it in the form of *est* or adjacent to it in the form of *most*. But English and Arabic are interpretationally uniform.

(26) [NP aktar_d [NP ... XP_d ...]]

4 Adverbial superlatives

In this section, I describe the behavior of the adverbial counterpart to adnominal *aktar*, and show that it, too, may be displaced from its scalar associate in the surface structure. As an adverbial modifier, *aktar* occurs obligatorily in construct with the noun *šey*, meaning *thing*. The noun *šey* does not occur in other adverbs; it appears to be grammaticalized in the phrase *aktar šey* (literally *most thing*), illustrated in (27). I show below that *aktar šey* may be displaced from its scalar associate just like adnominal *aktar*, and demonstrate later that displacement of *aktar* and *aktar šey* are subject to the same bounding conditions. In light of these similarities, I proceed under the assumption that *aktar šey* is an adverbial allomorph of adnominal *aktar*, though the role and etymology of *šey* in the adverbial counterpart warrants further investigation.

A degree verb may function as the scalar associate of adverbial *aktar šey*, as the examples in (27) demonstrate. Only the subject-oriented relative reading is available here, which compares Nuha to alternatives in terms of how deserving they are.

- (27) a. Nuha stāhal-it aktar šey.
 Nuha was.deserving-F most thing
 ‘Nuha was the most deserving.’
 $\exists d$ [Nuha was *d*-deserving & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y was *d*-deserving]]]
- b. Nuha stahi-t aktar šey.
 Nuha was.embarrassed-F most thing
 ‘Nuha was the most embarrassed.’
 $\exists d$ [Nuha was *d*-embarrassed & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y was *d*-embarrassed]]]

Eventive verbs like *sing* or *talk* offer a pluractionality associate for *aktar šey*, as (28) shows. Example (28a) asserts, for example, that Nuha sang more often or longer than any one else sang. With eventive verbs such as those in (28), another reading arises in addition to the subject-oriented reading shown there. Example (28a), for example, may be construed to assert that Nuha sang more than she did anything else. That is, the verb may function as focus of comparison for *aktar šey*, rather than the subject. Arabic is like English in that, as Heim (1995) notes, anything that may bear focus may function as the external argument of the superlative morpheme in the semantic representation. Example (28b), for example, may be construed to assert that Nuha talked during the lesson more than she talked in other situations, where focus falls on the prepositional phrase *xlāl d-daris* (*during the lesson*). The availability of such readings falls out from the flexibility in the placement of focus in adverbial superlatives. I only add for clarification here that this flexibility does not extend to adnominal *aktar*, because the A' chain in the relative clause there itself licenses the superlative in those cases (Szabolcsi 1986; Farkas and Kiss 2000), preventing anything else from functioning as the focus of adnominal *aktar*. Since my aim here is to show that *aktar šey* may occur at a distance from its scalar associate, I list only subject-oriented readings below, which suffice to show this, noting that non-subject-oriented readings are available in Arabic as in English.

- (28) a. Nuha ġanni-t aktar šey.
 Nuha sang-F most thing
 ‘Nuha sang the most.’
 $\exists d$ [Nuha sang *d*-much & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y sang *d*-much]]]
- b. Nuha ħaki-t xlāl d-daris aktar šey.
 Nuha talked-F during the-lesson most thing
 ‘Nuha talked in class the most.’
 $\exists d$ [Nuha talked in class *d*-much & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y talked in class *d*-much]]]

Adverbial *aktar šey* displays a flexibility in placement that is typical of adverbs in Arabic. This phrase can precede the main verb (29a) or occur sentence initially if the subject inverts with the verb (29b). This optionality is systematic and applies to all the examples to follow.

- (29) a. Nuha aktar šey ġanni-t.
 Nuha most thing sang-F
 ‘Nuha sang the most.’ (= (28a))

- b. aktar šey ġanni-t Nuha.
 most thing sang-F Nuha
 ‘Nuha sang the most.’ (=28a))

A gradable predicate adjective may also function as the scalar associate of *aktar šey*, as in (30).

- (30) a. Nuha aktar šey zakiyy-i.
 Nuha most thing intelligent-F
 $\exists d$ [Nuha is *d*-intelligent & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [*y* is *d*-intelligent]]]
 b. Hād l-ktāb aktar šey ġāli.
 this the-book most thing expensive
 $\exists d$ [this book is *d*-expensive & $\forall y$ [$y \neq$ this book \rightarrow \neg [*y* is *d*-expensive]]]

The scale for adverbial *aktar šey* may also be provided by a gradable adverb, illustrated in (31). In these examples, I place *aktar šey* before the verb to emphasize that it need not appear adjacent to the adverbial scalar associate. The most salient interpretation of an example like (31a) is that Nuha’s singing was more in tune than anyone else’s was. Having demonstrated previously that verbs like *ġanna* (*sing*) may function as a pluractional associate of *aktar šey*, I do not repeat the relevant translations here. Also as before, I ignore a variety of non-subject oriented readings that are available in the adverbial superlative, for example, that (31a) may be construed to assert that Nuha sang in tune more than she did other things in tune (play the violin, etc.), or that she sang in tune more than she did other things (read the paper, wash the dishes).

- (31) a. Nuha aktar šey ġanni-t šaħħ.
 Nuha most thing sang-F in-tune
 ‘Nuha sang the most in tune.’
 $\exists d$ [Nuha sang *d*-in-tune & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [*y* sang *d*-in-tune]]]
 b. Nuha aktar šey ħaki-t bi-balāġa.
 Nuha most thing spoke-F with-eloquence
 ‘Nuha spoke the most eloquently.’
 $\exists d$ [Nuha spoke *d*-eloquently & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [*y* spoke *d*-eloquently]]]
 c. Nuha aktar šey ħall-it l-masʔali kwayyis.
 Nuha most thing solved-F the-problem well
 ‘Nuha solved the problem the best.’
 $\exists d$ [Nuha solved the problem *d*-well & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [*y* solve the problem *d*-well]]]
 d. Nuha aktar šey rakkb-it l-lōħa l-likrūniyyi bi-diqqa.
 Nuha most thing installed-F the-board the-electrical with-care
 ‘Nuha installed the circuit board the most carefully.’
 $\exists d$ [Nuha installed the circuit board *d*-carefully & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [*y* installed the circuit board *d*-carefully]]]

And as in the case of adnominal *aktar* discussed in Sect. 3, a plural or mass noun may provide *aktar šey* with a scale. Compare the examples in (32) below, where the plural provides a scale for adverbial *aktar šey*, with those in (22), where the plural in a relative clause provides a scale for adnominal *aktar*. This is how what Gawron (1995) calls ‘superlatives of quantity’ are formed in Syrian Arabic. The adverbial superlative *aktar šey* is used. The salient reading of e.g. (32a) is that Nuha stole more money than anyone else did, regardless of how many thefts she committed. This reading is logically independent of the pluractional reading, also available here, which asserts that Nuha stole money on more occasions than anyone else did.

- (32) a. Nuha aktar šey sarq-at mašāri.
 Nuha most thing stole-F money
 ‘Nuha stole the most money.’
 $\exists d$ [Nuha stole *d*-money & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [*y* stole *d*-money]]]
- b. māhir aktar šey ḡaṭa Nuha warid.
 mahir most thing gave Nuha flowers
 ‘Mahir gave Nuha the most flowers.’
 $\exists d$ [mahir gave Nuha *d*-flowers & $\forall y$ [$y \neq$ mahir \rightarrow \neg [*y* gave Nuha *d*-flowers]]]
- c. Nuha aktar šey šarb-it qahwi.
 Nuha most thing drank-F coffee
 ‘Nuha drank the most coffee.’
 $\exists d$ [Nuha drank *d*-coffee & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [*y* drank *d*-coffee]]]
- d. Nuha aktar šey qariyy-it kitub.
 Nuha most thing read-F books
 ‘Nuha read the most books.’
 $\exists d$ [Nuha read *d*-books & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [*y* read *d*-books]]]

As with adnominal *aktar*, the distinctiveness of the superlative of quantity reading from the pluractional reading is clarified by the stative examples in (33), since stative verbs like *malak* (own) in (33c) do not support a pluractional interpretation at all.

- (33) a. Hād ž-žabal aktar šey fī-i anhār.
 this the-mountain most thing in-it rivers
 ‘This mountain has the most rivers.’
 $\exists d$ [this mountain has *d*-rivers & $\forall y$ [$y \neq$ this mountain \rightarrow \neg [*y* has *d*-rivers]]]
- b. Hāy l-madīni aktar šey fī-ha nāṭhāt shāb.
 this the-city most thing in-it scrapers clouds
 ‘This city has the most skyscrapers.’
 $\exists d$ [this city has *d*-skyscrapers & $\forall y$ [$y \neq$ this city \rightarrow \neg [*y* has *d*-sky-scrapers]]]
- c. Nuha aktar šey b-ti-mlik aḥiṣni.
 Nuha most thing PRES-F-own horses
 ‘Nuha owns the most horses.’
 $\exists d$ [Nuha owns *d*-horses & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [*y* owns *d*-horses]]]

Also like adnominal *aktar*, the dependency between *aktar šey* and a scalar associate may stretch over a CP boundary, as in (34b) (cf. (25)). The superlative adverb *aktar šey* in (34b) may associate with the plural *aḥišni* (horses) in the subordinate clause. As in the corresponding argument superlative in (25), a context like that in (34a) is critical for priming the association with *aḥišni* (horses) over the more local potential associate *qāl* (said). In the context in (34a), for each of Mahir, Nuha and Marwan there is a number of horses they said Wael had, and the number Mahir said he had is the greatest.

- (34) a. Qāl Māhir innu wāyil ʕind-u tmin aḥišni, wa qāl-it Nuha innu ʕind-u
said Mahir that wael to-him eight horses, and said-F Nuha that to-him
sitti, wa qāl Marwān innu ʕind-u arbaʕa...
six and said Marwan that to-him four...
'Mahir said that Wael has eight horses, Nuha said he has six, and Marwan
said he has four...'
- b. Fa Mahir aktar šey qāl innu Wāyil ʕind-u aḥišni.
so Mahir most thing said that Wael to-him horses
'So Mahir said Wael had the most horses.'
 $\exists d$ [Mahir said Wael had d -horses & $\forall y$ [$y \neq$ Mahir \rightarrow \neg [y said Wael
had d -horses]]]

In summary, like adnominal *aktar*, adverbial *aktar šey* may associate with any scalar term in its c-command domain (again subject to conditions described in more detail below), as schematized in (35), where $XP = AP, AdvP, VP$, or plural (or mass) NP. The dependency may cross a clause boundary as (34) shows. Note again, as with adnominal *aktar*, that the English translations to the examples above display the same interpretations as their Arabic counterparts. They differ from Arabic again in that the superlative must occur local to its scalar associate in the surface structure in English.

- (35) [$_{VP}$ aktar šey $_d$ [$_{VP}$... XP $_d$...]]

5 Constraints on displacement of *aktar* (šey)

This section treats the nature of the dependency between *aktar* (šey) and its associate. A variety of observations point to the conclusion that the dependency is a movement relation. Further, constraints on the dependency between *aktar* (šey) and its scalar associate in Arabic largely parallel constraints on the availability of the corresponding readings in English, lending support to an analysis of superlative interpretation in English that parallels the surface syntactic displacement seen in Arabic. Section 5.1 shows that *aktar* (šey) is not licensed if a constituent containing its scalar associate is pronominalized, suggesting *aktar* (šey) originates local to the associate. Section 5.2 finds that the dependency is interrupted by the *wh*- and adjunct-islands that typically interrupt A' chains, effects that mirror constraints on the interpretation of the superlative in English. Section 5.3 finds that overt displacement of *aktar* (šey) in Arabic is constrained by Kennedy's Generalization, which also constrains the interpretation of the superlative in English. Section 5.4 finds that the dependency between *aktar* (šey)

and its scalar associate may not cross over an NP boundary, but that this constraint only constrains surface displacement. It does not hold at LF in either Arabic or English. Section 5.5 describes a locality restriction holding between the scalar term and the focus of comparison in some contexts. Lastly, Sect. 5.6 finds that the superlative cannot be interpreted lower than its surface position in Arabic. That is, the superlative is not subject to reconstruction. The absence of reconstruction is unexpected if the surface position of the superlative is derived by movement. Section 6 describes an analysis that reconciles these observations, in which *aktar* (*šey*) is itself base generated in its surface position, but its degree relation argument is derived by movement of a null operator from the position of the scalar associate. It is this operator that is subject to constraints on movement. The superlative does not reconstruct because it is not itself the element that undergoes movement. In light of this conclusion, references to ‘displacement’ in this section refer to the linear separation of *aktar* (*šey*) from its associate and are not intended to commit to any particular derivational implementation. That is the subject matter of Sect. 6.

The fact that *aktar* (*šey*) may not be separated from its associate by an NP boundary in the surface structure, as described in Sect. 5.4, means that we cannot demonstrate the existence of other constraints when the associate is within an NP, such as when it is an adjective, as in canonical quality superlatives, since here we confound the NP constraint with whatever other constraints are active. But quantity superlatives do not show the effect of this restriction in simple contexts, since the scalar associate in such cases is a plural NP itself, not a scalar term inside an NP. This allows us to circumvent the effect of NP barrierhood while investigating the effect of the other constraints discussed below. For this reason, the discussion in the subsections to follow focuses on quantity superlatives. Section 5.4 returns to this matter in more detail.

5.1 Pronominalization

If *aktar* (*šey*) stands in a movement relation to its scalar associate, then replacing a constituent containing the scalar associate with a pronoun should disrupt the association. Since the association requires base structure locality between the displaced element and its associate, *aktar* (*šey*) cannot be licensed if its associate is not present in the structure, even if it can be inferred through the reference of the pronoun. It so happens that neither CP nor VP is subject to pronominalization in Arabic, which limits the contexts in which we can test this prediction. However, Arabic has a pro-NP *wāhid* (*one*, feminine *waḥdi*) that makes it possible to test this prediction with adnominal *aktar*. First, like English *one*, *wāhid* may replace a constituent containing a bound pronoun, as (36) demonstrates. There, the phrase *waḥdi* is anteceded by the grammatically feminine NP *sūra min ḥālu* (*picture of himself*). At LF, *waḥdi* is interpreted as a copy of its antecedent. The anaphor *ḥālu* (*himself*) may be bound by its local antecedent *ma ḥada ġeirū* (*no one else*; *ḥada* is the negative polarity variant of *wāhid*) in the copy, meaning that no one other than Mahir found a picture of himself (the ‘sloppy’ reading). Or it may refer to Mahir and assert that no one other than Mahir found a picture of Mahir (the ‘strict’ reading). On the sloppy reading, the variable *himself* has a different index in the copy than it has in the antecedent (Ross 1967; Fiengo and May 1994).

- (36) Māhir lāqa šūra min hāl-u bi-malaff š-šurṭa, bas ma ḥada
 Mahir found picture from self-his in-file the-police, but no one
 ġeir-u lāqa waḥdi.
 other-him found one
 ‘Mahir found a picture of himself in the police file, but no one else found one.’

In light of the possibility of re-indexation, the ungrammaticality of the continuation in (37a) for (37) is unexpected. Example (37) introduces a set of boys who found shells on the beach as a potential antecedent for *wāḥid* in (37a). So (37a) should be synonymous with (37b), which has the phrase *šabb (yalli) lāqa šadfāt* (boy who found shells), which also denotes that set, where *wāḥid* occurs in (37a). The movement analysis of the distribution of *aktar* presents an explanation for the fact that (37a) is ungrammatical. For *aktar* to occur in (37a), it would have to have been displaced from a position local to its scalar associate. But its scalar associate is not present in the syntax, since it is in the constituent replaced by *wāḥid*. Consequently, *aktar* cannot be licensed. Variable re-indexing is possible in (36) because the relationship between an anaphor and its antecedent does not involve movement. The contrast between (36) and (37) therefore supports the claim that the relationship between *aktar* and its scalar associate involves movement.

- (37) Kill š-šbāb lāq-u šadfāt ʔa š-šatt...
 all the-boys found-P shells on the-beach
 ‘All the boys found shells on the beach...’
- a. *Wa Nuha bās-it aktar wāḥid.
 and Nuha kissed-F most one
 (lit. ‘And Nuha kissed the most one’, intended: the one who found the most shells.)
- b. Wa Nuha bās-it aktar šabb (yalli) lāqa šadfāt.
 and Nuha kissed-F most boy (who) found shells
 ‘And Nuha kissed the boy who found the most shells.’

5.2 Island conditions

If *aktar* (*šey*) stands in a movement dependency with its scalar associate, we expect this dependency to be subject to constraints on movement. Ross (1967) notes that adjunct clauses and interrogative clauses are ‘islands’ to movement. A term may not normally move from a position inside an island to a position outside the island. Consequently, we do not expect the dependency between *aktar* (*šey*) and its associate to cross over an adjunct or interrogative clause boundary. We have seen that the declarative complement clause in (25) is transparent to the relationship between adnominal *aktar* and its associate. Example (34b) shows the same for adverbial *aktar šey*. In contrast, the adjunct clauses in (38a) and (38b) block the dependency between *aktar* (*šey*) and its associate. For example, if Marwan’s mother cried because he stole 500 liras, and Muen’s mother cried because he stole 600 liras, and Khalid’s mother cried because he stole 700, we cannot say (38a) if Leyla is Khalid’s mother, nor (38b) if Nuha caught Khalid. This—ungrammatical—interpretation is spelled out in (ii). The

example in (38c) is provided as a control to (38b) to show that the relative clause itself is grammatical without *aktar*, so the problem in (38b) is the licensing of *aktar*, not the licensing of the relative pronoun itself. Another reading is available for (38a) and (38b), shared by the English translations there and spelled out under (i), where *aktar* (*šey*) associates with the pluractionality of the local verb *baka* (*cry*). But association of *aktar* (*šey*) with an associate inside the adjunct clause is not possible.

- (38) a. Leyla aktar šey baki-t li?annu ibn-a saraq mašāri.
 Leyla most thing cried-F because son-her stole money
 ‘Leyla cried the most because her son stole money.’
- i. $\exists d$ [Leyla cried *d*-much because her son stole money & $\forall y$ [$y \neq$ Leyla $\rightarrow \neg$ [y cried *d*-much because y ’s son stole money]]]
 - ii. * $\exists d$ [Leyla cried because her son stole *d*-money & $\forall y$ [$y \neq$ Leyla $\rightarrow \neg$ [y cried because y ’s son stole *d*-money]]]
- b. Nuha misk-it aktar harāmi (yalli) baki-t imm-u li?annu saraq
 Nuha caught-F most thief (who) cried-F mother-his because stole
 mašāri.
 money
 ‘Nuha caught the thief whose mother cried the most because he stole money.’
- i. $\exists x$ [Nuha caught x & $\exists d$ [x is a thief & x ’s mother cried *d*-much because x stole money & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a thief & y ’s mother cried *d*-much because y stole money]]]]]
 - ii. * $\exists x$ [Nuha caught x & $\exists d$ [x is a thief & x ’s mother cried because x stole *d*-money & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a thief & y ’s mother cried because y stole *d*-money]]]]]
- c. Nuha misk-it l-harāmi yalli baki-t imm-u li?annu saraq mašāri.
 Nuha caught-F the-thief who cried-F mother-his because stole money
 ‘Nuha caught the thief whose mother cried because he stole money.’

Similarly, the interrogative complement clauses in (39) block the dependency between *aktar* (*šey*) and its associate. If Khalid asked the accountant whether (or why) Mahir stole 500 liras, Marwan asked whether/why he stole 600, and Nuha asked whether/why he stole 700, we cannot describe this situation by saying (39a). The (ii)-reading of (39a) is ungrammatical. As expected, (39a) is grammatical when *aktar šey* associates with pluractionality of the verb *saʔal* (*ask*), a local associate (i). Similarly, if we asked the accountant whether Marwan stole 500 liras, whether Muen stole 600 and whether Khalid stole 700, and Nuha caught Khalid, we cannot describe this situation by saying (39b). Again, (39c) provides a control for (39b) and demonstrates the relatively unrestricted nature of ‘referential’ A’ chains in Arabic, as described by Aoun and Benmamoun (1998) and Aoun et al. (2010). Even so, non-referential chains in Arabic are strongly restricted by island conditions and the dependency between *aktar* (*šey*) and its associate patterns like a non-referential chain in failing to cross out of the wh-island, blocking the (ii)-reading of (39a) and (39b). Unexpectedly, the local (i)-reading is also ungrammatical in (39b), for reasons unrelated to the wh-island that I discuss fully in Sect. 5.5.

- (39) a. Nuha aktar šey saʔl-it l-mhāsib iza/leyš Māhir saraq
 Nuha most thing asked-F the-accountant whether/why Māhir stole
 mašāri.
 money
 ‘Nuha asked the accountant the most whether/why Mahir stole money.’
 i. $\exists d$ [Nuha asked the accountant d -much whether/why Mahir stole
 money & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y asked the accountant d -much
 whether/why Mahir stole money]]]
 ii. * $\exists d$ [Nuha asked the accountant whether/why Mahir stole d -money
 & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y asked the accountant whether/why Mahir
 stole d -money]]]
 b. Nuha misk-it aktar harāmi (yalli) saʔal-na l-mhāsib iza/leyš
 Nuha caught most thief (who) asked-1P the-accountant whether/why
 saraq mašāri.
 stole money
 (lit.: ‘Nuha caught the thief who we asked the accountant the most
 whether/why he stole money.’)
 i. * $\exists x$ [Nuha caught x & $\exists d$ [x is a thief & we asked the accoun-
 tant d -much whether/why x stole money & $\forall y$ [$y \neq x \rightarrow \neg$ [y is
 a thief & we asked the accountant d -much whether/why y stole
 money]]]]
 ii. * $\exists x$ [Nuha caught x & $\exists d$ [x is a thief & we asked the accountant
 whether/why x stole d -money & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a thief &
 we asked the accountant whether/why y stole d -much money]]]]
 c. Nuha misk-it l-harāmi yalli saʔal-na l-mhāsib iza/leyš saraq
 Nuha caught the-thief who asked-1P the-accountant whether/why stole
 mašāri.
 money
 ‘Nuha caught the thief who we asked the accountant whether/why he
 stole money.’

The observations above show that the dependency between *aktar* (*šey*) and its scalar associate may not cross over an island boundary, which is characteristic of movement chains. These observations therefore support the claim that the position of *aktar* (*šey*) in grammatical long distance displacement examples like (25) and (34b) is derived by displacement from a position local to the scalar associate. Not only do the islands illustrated above disrupt the dependency between *aktar* (*šey*) outside the island and an associate inside the island, they also disrupt LF movement of *aktar* (*šey*) from inside an island to a scope position outside the island, just as in English. In each of the examples below, *aktar šey* occurs in a syntactic island, and can be interpreted in that position, illustrated in the (i)-reading of each of the examples below. The (ii)-reading is not available though, where *aktar šey* has scope external to the island. Hence, (40a) may assert that Leyla cried because her son stole more money than anyone else did (i), but not that she cried because her son stole a specific amount of money d and other mothers cried because their sons stole specific amounts of money, and these amounts happen to be less than d (ii).

- (40) a. Leyla baki-t li?annu ibn-a saraq aktar şey maşāri.
Leyla cried-F because son-her stole most thing money
'Leyla cried because her son stole the most money.'
i. Leyla cried because $\exists d$ [her son stole d -money & $\forall y$ [$y \neq$ Leyla's son $\rightarrow \neg$ [y stole d -money]]]
ii. * $\exists d$ [Leyla cried because her son stole d -money & $\forall y$ [$y \neq$ Leyla $\rightarrow \neg$ [y cried because y 's son stole d -money]]]
- b. Nuha misk-it l-ḥarāmi yalli baki-t imm-u li?annu saraq aktar
Nuha caught-F the-thief who cried-F mother-his because stole most
şey maşāri.
thing money
'Nuha caught the thief whose mother cried because he stole the most money.'
i. $\exists x$ [Nuha caught x & x is a thief & x 's mother cried because $\exists d$ [x stole d -money & $\forall y$ [$y \neq x \rightarrow \neg$ [y stole d -money]]]
ii. * $\exists x$ [Nuha caught x & $\exists d$ [x is a thief & x 's mother cried because x stole d -money & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a thief & y 's mother cried because y stole d -money]]]
- (41) a. Nuha sa?l-it l-mḥāsib iza/leyş Māhir saraq aktar şey
Nuha asked-F the-accountant whether/why Māhir stole most thing
maşāri.
money
'Nuha asked the accountant whether/why Mahir stole the most money.'
i. Nuha asked the accountant whether/why $\exists d$ [Mahir stole d -money & $\forall y$ [$y \neq$ Mahir $\rightarrow \neg$ [y stole d -money]]]
ii. * $\exists d$ [Nuha asked the accountant whether/why Mahir stole d -money & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y asked the accountant whether/why Mahir stole d -money]]]
- b. Nuha misk-it l-ḥarāmi yalli sa?al-na l-mḥāsib iza/leyş saraq
Nuha caught the-thief who asked-1 P the-accountant whether/why stole
aktar şey maşāri.
most thing money
lit. 'Nuha caught the thief who we asked the accountant whether/why he stole the most money.'
i. $\exists x$ [Nuha caught x & x is a thief & we asked the accountant whether/why $\exists d$ [x stole d -money & $\forall y$ [$y \neq x \rightarrow \neg$ [y stole d -money]]]
ii. * $\exists x$ [Nuha caught x & $\exists d$ [x is a thief & we asked the accountant whether/why x stole d -money & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a thief & we asked the accountant whether/why y stole d -much money]]]

In English as well, the superlative *the most* inside the island in the translations to the examples above cannot be interpreted along the lines of the (ii)-readings stated there. In both English and Arabic, islands block LF movement of the superlative.

In Arabic, they block surface displacement as well. Displacement of the superlative appears to be uniformly restricted by island conditions in the two languages, whether overt (Arabic) or covert (Arabic and English).

5.3 Kennedy’s Generalization

Superlative displacement in both English and Arabic also obeys a condition that Heim (2001) calls ‘Kennedy’s Generalization’, after observations by Kennedy (1999). As Heim puts it, a degree operator cannot have scope over a quantifier that c-commands its associate. In (42a), *aktar šey* cannot bind the scalar associate *mašāri* (money) because of the intervening quantifier *kill ḥarāmi* (each thief). Consequently, the reading in (i) is possible, where *aktar šey* associates locally with *qālit* (said), but not the reading in (ii), where *aktar šey* associates long-distance with *mašāri* (money). In the ungrammatical LF (ii), the amount that Nuha attributed to the least successful thief is greater than the amount anyone else attributed to the least successful thief. I add ‘at least’ to the LFs below to help the reader decipher the rather odd reading that the (ii)-formulas express. I emphasize that these readings are unavailable in Arabic, not simply strange. Similarly, adnominal *aktar* is unable to bind the scalar associate *mašāri* in (42b). There is no possibility of interpreting (42b) as the assertion in (ii), which describes a situation in which Nuha interviewed a thief for whom it is the case that no accountant attributed a smaller theft to him than any accountant did to any other thief. In fact, (42b) is altogether ungrammatical because the other, local, reading, where *aktar* associates with the pluractionality of the verb *qālit* (said), as it may in (42a), is not available here either, for reasons described in Sect. 5.5 not related to Kennedy’s Generalization.

- (42) a. Nuha aktar šey qāl-it innu kill ḥarāmi saraq mašāri.
 Nuha most thing said-F that each thief stole money
 ‘Nuha said the most that each thief stole money.’
 - i. $\exists d$ [Nuha said at least *d*-much that each thief stole money & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y said at least *d*-much that each thief stole money]]]
 - ii. $*\exists d$ [Nuha said that each thief stole at least *d*-money & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y said that each thief stole at least *d*-money]]]
- b. $*\text{Nuha } \text{ḥaml-it } \text{muqābali } \text{maḥ } \text{aktar } \text{ḥarāmi } \text{(yalli) } \text{qāl } \text{kill}$
 Nuha did-F interview with most thief (who) said each
 mḥāsib innu saraq mašāri.
 accountant that stole money
 (‘Nuha interviewed the thief who each accountant said stole the most money.’)
 - i. $*\exists x$ [Nuha interviewed x & $\exists d$ [x is a thief & each accountant said at least *d*-much that x stole money & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a thief & each accountant said at least *d*-much that y stole money]]]]]
 - ii. $*\exists x$ [Nuha interviewed x & $\exists d$ [x is a thief & each accountant said that x stole at least *d*-money & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a thief & each accountant said that y stole at least *d*-money]]]]]

As with other islands discussed above, Kennedy's Generalization restricts LF displacement as well as overt displacement in Arabic. When *aktar šey* occurs in the domain of a quantifier, as in the examples below, it may not have scope over the quantifier. The quantifier blocks movement of the superlative to a position corresponding to its position in the examples in (42), just as the quantifier blocks the superlative in (42) from binding a scalar associate in the domain of the quantifier, whence the ungrammaticality of the (ii)-readings below. The in situ reading of *aktar šey* schematized in the (i)-reading of (43a) below is contradictory, since if one of the thieves stole the most money, the others can't have also stolen as much. But this contradictory reading is available for (43a); it is not ungrammatical. The contradiction does not arise in (43b), where on the (i) reading, the report that the accountants agree on who stole the most money is contentful.

- (43) a. # Nuha qāl-it innu kill harāmi saraq aktar šey mašāri.
 Nuha said-F that each thief stole most thing money
 #'Nuha said that each thief stole the most money.'
 i. # Nuha said that [$\forall x$ x is a thief $\rightarrow \exists d$ [x stole at least d -money & $\forall y$ [$y \neq x \rightarrow \neg$ [y stole at least d -money]]]]
 ii. * $\exists d$ [Nuha said that each thief stole at least d -money & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y said that each thief stole at least d -money]]]
- b. Nuha ŧaml-it muqābali maŧ l-harāmi yalli qāl kill mhāsib innu
 Nuha did-F interview with the-thief who said each accountant that
 saraq aktar šey mašāri.
 stole most thing money
 'Nuha interviewed the thief who each accountant said stole the most money.'
 i. $\exists x$ [Nuha interviewed x & x is a thief & each accountant said that $\exists d$ [x stole at least d -money & $\forall y$ [$y \neq x \rightarrow \neg$ [y stole at least d -money]]]]
 ii. * $\exists x$ [Nuha interviewed x & $\exists d$ [x is a thief & each accountant said that x stole at least d -money & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a thief & each accountant said that y stole at least d -money]]]]

Note that the examples in (43) are parallel to their English translations there, which also do not admit the (ii)-readings. The constraint at work here, originally observed independently as a restriction on the LF scope of degree operators in English, constrains both the surface displacement of Arabic *aktar (šey)* from its scalar associate (42), and covert LF displacement as well (43), in the latter case just as in English. This observation once again supports the parallel between Arabic and English seen with respect to other constraints described above. What is not a possible LF in English is not a possible surface structure in Arabic.

A reviewer of the present work points out that these observations are significant for the theory of intervention effects for syntactic dependencies. Beck (1996) demonstrates that quantifiers are intervenors for wh-movement at LF but not in the surface structure. That is, they interrupt covert but not overt wh-movement. As far as English goes, this claim subsumes Kennedy's Generalization, since on the movement approach superlative movement is a type of covert A' movement. In Arabic, though,

it seems overt displacement of the superlative over a quantifier is also blocked, which is unexpected if quantifiers only interrupt covert movement. Beck (2012) presents a focus-theoretic analysis of the intervention effect, according to which both wh-phrases and quantifiers are focus sensitive elements that interrupt the projection of focus-semantic values of lower constituents, though she notes the existence of a residue of cases that her analysis does not subsume. Consequently, Kennedy's Generalization could be one of those cases, the result of restrictions not related to focus projection. Or alternatively, the Arabic facts may be showing us that focus-intervention restricts both overt and covert movement in principle (as we would expect), but some unknown factor selectively facilitates overt wh-movement over a quantifier. A resolution to these issues will require further research.⁴

5.4 The NP Constraint

The data we have seen so far suggest that any scope position for the superlative in Arabic is also a possible surface position for either *aktar* or *aktar šey*, depending on whether the position is adnominal or adverbial. We have also seen that constraints that restrict covert scope displacement for the superlative, such as island conditions and Kennedy's Generalization, also restrict the overt displacement of *aktar* (*šey*). In light of this correspondence between the overt and covert displacement of *aktar* (*šey*), we expect the subject-oriented relative reading afforded to *aktar* in examples like (44a), which involve LF raising of *aktar* on the movement account, to have an overt counterpart with *aktar šey* in the matrix clause, like (44b) for (44a). This is, after all, what we see in the superlative of quantity in examples like (44c). However, (44b) is only grammatical on a pluractional reading (i), where it asserts that Nuha climbed a high mountain more often than anyone else did. The adjective *šāli* (*high*) is not accessible as a scalar associate in the configuration in (44b), though again, the plurality of the noun in (44c) is, as spelled out in (ii) (example (44c) also supports a pluractionality associate like the other examples, spelled out in (i); this reading is not relevant here).

- (44) a. Nuha tlaš-it šāla [NP aktar žabal šāli].
 Nuha climbed-F on most mountain high
 'Nuha climbed the highest mountain.'
- i. $\exists x$ [Nuha climbed x & $\exists d$ [x is a d -high mountain & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a d -high mountain]]]]
- ii. $\exists d$ [Nuha climbed a d -high mountain & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y climbed a d -high mountain]]]
- b. Nuha aktar šey tlaš-it šāla [NP žabal šāli].
 Nuha most thing climbed-F on mountain high
 'Nuha climbed a high mountain the most.'

⁴I note here without discussing the relevant examples that negation also interrupts the relation between *aktar* (*šey*) and its scalar associate. This is as expected, since the intervention effect of negation on non-referential chains is well documented cross linguistically (Cinque 1990; Rizzi 1990; Szabolcsi and Zwarts 1993).

- i. $\exists d$ [Nuha climbed a high mountain d -much & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y climbed a high mountain d -much]]]
- ii. $*\exists d$ [Nuha climbed a d -high mountain & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y climbed a d -high mountain]]]
- c. Nuha aktar šey tlaŋ-it ʕala [_{NP} žbāl].
Nuha most thing climbed-F on mountains
'Nuha climbed the most mountains.'
 - i. $\exists d$ [Nuha climbed mountains d -much & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y climbed mountains d -much]]]
 - ii. $\exists d$ [Nuha climbed d -mountains & $\forall y$ [$y \neq$ Nuha \rightarrow \neg [y climbed d -mountains]]]

In (44b), *aktar šey* is not able to bind the degree argument of the scalar adjective *ʕāli* (*high*), which is contained in the NP *žabal ʕāli* (*high mountain*). In (44c), *aktar šey* is able to bind the quantity argument of the plural noun *žbāl* (*mountains*). Insofar as the plural noun functions as the head of the NP that contains it and therefore projects its features to the phrasal level, the scalar associate of *aktar šey* in (44c) is the plural NP itself (on the relevant reading, that in (ii)). This plural NP is not itself contained in an NP. This pattern suggests that the dependency between *aktar šey* and its scalar associate may extend to, but not cross over, an NP category boundary in the surface structure, a restriction I refer to as the 'NP Constraint'. Adnominal *aktar* in (44a) is contained in the NP that contains its associate *ʕāli* (*high*), and therefore this dependency does not cross over an NP category boundary.⁵ If this is correct, the restriction in question applies only in the surface structure, since an LF where the superlative occurs in the position of *aktar šey* in (44b) but binds the adjective is available to (44a), since (44a) has a subject-oriented relative reading spelled out in (ii), which on the movement account is derived by movement of the superlative out of the NP.

Example (45a) confirms this generalization. Though *aktar šey* may bind a plural NP in principle, as in (44c), that NP may not occur within another NP, for example, within a relative clause that *aktar šey* is external to, as illustrated in (45a). The example is grammatical on a local reading of *aktar šey*, one of which compares Nuha with others in terms of how much interviewing they did, as paraphrased in the (i)-reading of (45a). But it is ungrammatical on a reading where it compares Nuha to other interviewers in terms of the number of mountains their interviewees climbed (the (ii)-reading). That is, *aktar šey* in (45a) cannot be construed as having originated within the NP headed by *mutasalliq* (*climber*) and therefore cannot be construed as having originated in a local relationship to the plural *žbāl* (*mountains*). Since the NP Constraint does not apply to covert movement, the counterparts in (45b) and (45c) display both a low reading corresponding to their surface structure (i) and a high reading derived by covert movement of *aktar (šey)* out of the relative clause (ii).

⁵This dependency crosses over the NP segment that *aktar* adjoins to containing *žabal ʕāli*, but *aktar* is dominated by another segment of this same category, and so is not external to the NP category in this configuration. See Kayne (1994) on the segment/category distinction.

- (45) a. Nuha aktar šey ʕaml-it muqābali maʕ [NP mutasalliq (yalli) ʕalaʕ
Nuha most thing did-F interview with climber (who) climbed
ʕala [NP žbāl]].
on mountains
'Nuha interviewed the most, a climber who climbed mountains.'
i. $\exists d$ [Nuha interviewed d -much a climber who climbed mountains &
 $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y interviewed d -much a climber who climbed
mountains]]]
ii. $*\exists d$ [Nuha interviewed a climber who climbed d -mountains &
 $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y interviewed a climber who climbed
 d -mountains]]]
- b. Nuha ʕaml-it muqābali maʕ [NP aktar mutasalliq (yalli) ʕalaʕ ʕala
Nuha did-F interview with most climber (who) climbed on
[NP žbāl]].
mountains
'Nuha interviewed the climber who climbed the most mountains.'
i. $\exists x$ [Nuha interviewed x & $\exists d$ [x is a climber & x climbed
 d -mountains & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a climber & y climbed
 d -mountains]]]]
ii. $\exists d$ [Nuha interviewed a climber who climbed d -mountains & $\forall y$ [y
 \neq Nuha $\rightarrow \neg$ [y interviewed a climber who climbed d -mountains]]]
- c. Nuha ʕaml-it muqābali maʕ [NP l-mutasalliq yalli ʕalaʕ aktar šey
Nuha did-F interview with the-climber who climbed most thing
ʕala [NP žbāl]].
on mountains
'Nuha interviewed the climber who climbed the most mountains.'
i. $\exists x$ [Nuha interviewed x & $\exists d$ [x is a climber & x climbed
 d -mountains & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a climber & y climbed
 d -mountains]]]]
ii. $\exists d$ [Nuha interviewed a climber who climbed d -mountains &
 $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y interviewed a climber who climbed d -
mountains]]]

The NP-Constraint is not sensitive to the category of the scalar associate. It blocks association of *aktar šey* with a degree verb (46a) and a gradable adverb (46b) as much as with a plural noun (45a)

- (46) a. Nuha aktar šey ʕaṭi-t mukāfaʕa la-[NP mitsābiq (yalli)
Nuha most thing gave-F prize to- contestant (who)
[VP b-yi-stāhil]].
PRES-Ø-be.deserving
'Nuha gave a prize the most to a contestant who was deserving.'
i. $\exists d$ [Nuha d -much gave a prize to a contestant who was deserving &
 $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y d -much gave a prize to a contestant who was
deserving]]]

- ii. * $\exists d$ [Nuha gave a prize to a contestant who was *d*-deserving & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y gave a prize to a contestant who was *d*-deserving]]]
- b. Nuha aktar šey waqqf-it [NP šūfeyr (yalli) sāq [AdvP bi-surfa]].
 Nuha most thing stopped-F driver (who) drove with-speed
 ‘Nuha pulled over the most, a driver who drove fast.’
- i. $\exists d$ [Nuha *d*-much pulled over a driver who drove fast & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y *d*-much pulled over a driver who drove fast]]]
- ii. * $\exists d$ [Nuha pulled over a driver who drove *d*-fast & $\forall y$ [$y \neq$ Nuha $\rightarrow \neg$ [y pulled over a driver who drove *d*-fast]]]

The ungrammatical readings of the sentences above, including (44b), share the structure schematized in (47), in which an NP category boundary intervenes between *aktar šey* and its scalar associate. As mentioned above, this constraint only applies to overt displacement of *aktar šey* from its scalar associate. The configuration that (45a) displays on the surface is identical to the configuration that derives the relative (ii)-reading of (45b) and (45c) at LF. Therefore, covert displacement of *aktar (šey)* may cross over an NP boundary, but overt displacement may not. Arabic is subject to constraints on overt displacement that do not apply to covert displacement. In this respect, Arabic resembles English to some extent, in that covert displacement is freer than overt displacement. The term *šey* is in parentheses because the same constraint applies to adnominal *aktar*, as described below.

- (47) The NP Constraint (applies in surface structure only):
 *[… aktar_d (šey) … [NP … XP_d …]]

Like adverbial *aktar šey*, adnominal *aktar* may not be separated from its scalar associate by an NP boundary, and once again this constraint only applies to surface displacement. NP is transparent to LF displacement. For example, adnominal *aktar* may not bind the degree argument of the adjective *šāli* (*high*) in the phrase *šabal šāli* (*high mountain*) in (48a), blocking any reading where *aktar* associates with *šāli* such as that in (ii). The only readings available are readings where *aktar* has a local associate, such as the quantity argument of the verb phrase *šamlit muqābali* (*did an interview*), as spelled out in (i). Example (48b) is parallel to (48a). In both cases, an NP boundary blocks association of *aktar* with an adjective inside the NP.

- (48) a. Nuha šaml-it muqābali maš aktar mutasalliq (yalli) ṭalaš ṭala [NP
 Nuha did-F interview with most climber (who) climbed on
 šabal [AP šāli]].
 mountain high
 ‘Nuha interviewed the climber who climbed a high mountain the most.’
- i. $\exists x$ [Nuha interviewed x & $\exists d$ [x is a climber & x *d*-much climbed a high mountain & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a climber & y *d*-much climbed a high mountain]]]]]
- ii. * $\exists x$ [Nuha interviewed x & $\exists d$ [x is a climber & x climbed a *d*-high mountain & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a climber & y climbed a *d*-high mountain]]]]]

- b. Nuha madh-it aktar ṭālib (yalli) qara [NP ktāb [AP ṭawīl]] xīlāl
 Nuha praised-F most student (who) read book long over
 ṣ-ṣayf.
 the-summer
 ‘Nuha praised the student who read a long book the most over the summer.’
- i. $\exists x$ [Nuha praised x & $\exists d$ [x is a student & x d -much read a long book & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a student & y d -much read a long book]]]]
- ii. * $\exists x$ [Nuha praised x & $\exists d$ [x is a student & x read a d -long book & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a student & y read a d -long book]]]]

Accordingly, *aktar* cannot associate with the plural *nāḥāt shāb* (*skyscrapers*) in a relative clause that *aktar* is itself external to (49). The term *aktar* may only have a local reading illustrated in (i), but no reading where it compares individuals in terms of quantities of skyscrapers, as in (ii). Similar examples can be constructed that illustrate the inability of adnominal *aktar* to bind other kinds of scalar associates (degree verbs, gradable adverbs) inside a secondarily embedded relative clause. However, it turns out that (49) and similar examples are subject to an independently observable constraint that in these cases subsumes the NP Constraint, described in the following section.

- (49) Nuha ṣaml-it muqābali maḥ aktar ṣahafi (yalli) zār [NP madīni
 Nuha did-F interview with most journalist (who) visited city
 (yalli) fī-ha [NP nāḥāt shāb]].
 (which) to-it scrapers clouds
 ‘Nuha interviewed the journalist who visited the most, a city that has skyscrapers.’
- i. $\exists x$ [Nuha interviewed x & $\exists d$ [x is a journalist & x d -much visited a city that has skyscrapers & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a journalist & y d -much visited a city that has skyscrapers]]]]
- ii. * $\exists x$ [Nuha interviewed x & $\exists d$ [x is a journalist & x visited a city that has d -skyscrapers & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a journalist & y visited a city that has d -skyscrapers]]]]

I conclude this discussion of the NP Constraint with two cross-linguistic remarks. Firstly, English vacuously obeys the NP Constraint, since it obeys a much more restrictive constraint on the surface distribution of the superlative. The English superlative morpheme must appear affixed to (in the form of *est*) or adjacent to (in the form of *most*) its scalar associate. The NP Constraint might therefore also be active in English, but not observable. If so, Arabic and English differ only in that the superlative may be displaced from its associate in the surface structure in Arabic, while the English superlative cannot be displaced in the surface structure at all. At LF they are entirely uniform. Secondly, Aihara (2009) observes that the Japanese superlative morpheme *ichiban* may be displaced from its scalar associate, as (50) illustrates. The term *ichiban* may occur either before or after the VP-adjunct *kinoo* (*yesterday*), and

receives a relative or absolute interpretation accordingly. This placement optionality mimics the flexibility in placement seen for Arabic *aktar šey*. However, the occurrence of *ichiban* before the adverb in (50) is the equivalent of a structure that is actually ungrammatical in Arabic on account of the NP Constraint (cf. (44b)). Arabic adverbial *aktar šey* cannot bind an associate inside an NP, as *ichiban* may in (50). It appears therefore either that the NP Constraint is not universal, or perhaps that Japanese DP/NP structure differs from Arabic in ways that obviate the NP Constraint in Japanese. A more careful comparison of Japanese and Arabic will be required to resolve this issue.

- (50) John-ga <ichiban> kinoo <ichiban> takai yama-ni nobot-ta.
 John-NOM <most> yesterday <most> high mountain-to climb-PAST
 ‘John climbed the highest mountain yesterday.’

5.5 The Clausemate Requirement

A reviewer of the present work points out that (25), repeated in (51a) below, is similar to (51b), but yet the two sentences do not equally allow the indexing shown there. As discussed in Sect. 3, (51a) holds true if the accountant said how much money each thief stole, and for some thief, the amount of money the accountant said he stole is greater than the amounts the accountant said the other thieves stole, and Nuha caught this thief (a subject-oriented relative reading is also available, but not relevant to the issue at hand). This reading corresponds to the surface structure in (51a). No analogous reading is available for (51b). This sentence cannot be read to compare the accountant with alternatives in terms of how much money they said that Marwan stole. A local reading is available for (51b) that compares the accountant with alternatives in terms of how often they said that Marwan stole money, that is, where *aktar* binds the quantity argument of the verb *qāl* (*said*) (not shown).

- (51) a. Nuha misk-it aktar_d harāmi_x (yalli) qāl l-mhāsib ḡann-u [CP
 Nuha caught-F most_d thief_x (who) said the-accountant about-him
 innu *x* saraq *d*-maṣāri].
 that *x* stole *d*-money
 ‘Nuha caught the thief who the accountant said stole the most money.’
 i. $\exists x$ [Nuha caught *x* & $\exists d$ [*x* is a thief & [the accountant said that *x*
 stole *d*-money] & $\forall y$ [*y* \neq *x* \rightarrow \neg [*y* is a thief & the accountant said
 that *y* stole *d*-money]]]]
- b. Nuha hannī-t aktar_d mhāsib_x (yalli) *x* qāl [CP innu
 Nuha congratulated-F most_d accountant_x (who) *x* said that
 Marwān saraq *d*-maṣāri].
 Marwān stole *d*-money
 ‘Nuha congratulated the accountant who said the most that Marwan stole
 money.’
 i. $*\exists x$ [Nuha congratulated *x* & $\exists d$ [*x* is an accountant & [*x* said
 Marwan stole *d*-money] & $\forall y$ [*y* \neq *x* \rightarrow \neg [*y* is an accountant &
y said Marwan stole *d*-money]]]]

The reviewer who notes this contrast points out that (51a) and (51b) differ in the distribution of the individual and degree variables x and d . In (51a), the nominal restriction of *aktar* (namely *harāmi* (thief)) binds a variable in the same minimal clause as the variable that *aktar* binds, the quantity argument of *mašāri* (money). This clause is the bracketed CP in (51a). In (51b), the variable that *aktar* binds is in a different minimal clause than the variable that *aktar*'s nominal restriction *mhāsib* (accountant) binds. This appears to be the offending fact about (51b) that blocks the association of *aktar* with *mašāri*.

The restriction at work here, then, is that adnominal *aktar* and its nominal restriction must bind a variable in the same minimal clause. I refer to this as the 'Clausemate Requirement'. This constraint also applies to (49), which I introduced as an instance of the NP Constraint. On the grammatical reading mentioned there, where (49) asserts that the interviewee visited cities with skyscrapers more than anyone else visited cities with skyscrapers, the head of the relative clause originates in the same minimal clause as the scalar associate *zār* (visit), which licenses this reading. On the ungrammatical reading, the head of the relative clause originates in a separate minimal clause as the associate of *aktar*. However, it does not appear that the Clausemate Requirement subsumes the NP Constraint in general, for reasons discussed below.

As the reviewer who notices the contrast in (51) also points out, the constraint does not apply to adverbial *aktar šey* in (34b), repeated in (52) below. This example has a reading where *aktar šey* associates with *aḥišni* (horses) and compares Mahir with others in terms of the degree relation $\lambda d \lambda x x \text{ said that } [Wael \text{ has } d\text{-horses}]$. Here, the degree variable d is in a different minimal clause than the individual variable x , but the result is grammatical.

- (52) Māhir aktar šey qāl innu wāyil ʿind-u aḥišni.
 Mahir most thing said that wael to-him horses
 'Mahir said Wael had the most horses.'

This could be taken to mean that the Clausemate Requirement only applies to adnominal *aktar*, not adverbial *aktar šey*. But it appears instead that the Clausemate Requirement only applies in relative clauses, which configurationally distinguishes (52) from (51b). In (51b), *aktar* binds a degree variable in a relative clause. The Clausemate Requirement requires that the head of this relative clause bind a variable in the same minimal clause that the degree variable occurs in. No relative clause occurs in (52). That the relative clause is the critical factor is confirmed by the observation that when *aktar šey* occurs in a relative clause, the possibility of covert raising to a higher scope position is restricted by the Clausemate Requirement. Example (53) is parallel to (51b) except that adnominal *aktar* in the latter is replaced by *aktar šey* in a position local to its associate within the relative clause. Like the counterpart example in (51b), no reading is available here that compares the head of the relative clause (the accountant in (53)) to alternatives in terms of the amount of money they said that Marwan stole (ii). On the movement account, such a reading requires movement of *aktar šey* to a position corresponding to the position of adnominal *aktar* in the corresponding example in (51b). The Clausemate Requirement blocks this covert movement just as it blocks the corresponding examples with overt movement.

- (53) Nuha hannī-t l-mḥāsib_x yalli x qāl [CP innu Marwān aktar Nuha congratulated-F the-accountant_x who x said that Marwān most şey_d saraq *d*-maṣāri].
 thing_d stole *d*-money
 ‘Nuha congratulated the accountant who said that Marwan stole the most money.’
- i. $\exists x$ [Nuha congratulated x & x is an accountant & x said that $\exists d$ [Marwan stole d -money & $\forall y$ [$y \neq$ Marwan $\rightarrow \neg$ [y stole d -money]]]]
 - ii. * $\exists x$ [Nuha congratulated x & $\exists d$ [x is an accountant & [x said Marwan stole d -money] & $\forall y$ [$y \neq x \rightarrow \neg$ [y is an accountant & y said Marwan stole d -money]]]]]

In light of these observations, the correct formulation of the Clausemate Requirement appears to be that in (54).

- (54) Clausemate Requirement:
 The configuration $\lambda d \lambda x \dots [\text{Rel Cl } \dots x \dots d \dots]$ is only grammatical when x and d occur in the same minimal clause.

Example (53) demonstrates another aspect of the Clausemate Requirement that critically distinguishes it from the NP Constraint. Like the other constraints on movement discussed in Sect. 5.2, the Clausemate Requirement applies both in the surface structure, as in (51b), as well as at LF, as in (53); it restricts both overt and covert displacement. We have seen that the NP Constraint, in contrast, only applies in the surface structure; it does not restrict covert displacement. It therefore does not appear to be possible to reduce the NP Constraint to the Clausemate Requirement.

The Clausemate Requirement also holds in English. The English translation to (51a) is like Arabic in allowing a ‘high’ reading of the superlative that compares thieves in terms of how much money the accountant said they stole. And the English translation to (53) is also like its Arabic counterpart in failing to display a reading that compares accountants in terms of how much money they said Marwan stole. The unavailability of this reading in (53) is reflected in the ungrammaticality of the corresponding surface placement of *aktar* in (51b) (with associate *maṣāri* (money)). Here again, therefore, English and Arabic are identical in terms of the availability of scope readings for the superlative, which are reflected in surface placement options in Arabic (modulo the NP Constraint).⁶

⁶Szabolcsi (1986) claims that English sentences like the translation to (52) are ungrammatical on the relevant reading (where we compare Mahir with others in terms of the number of horses they said Wael has) and concludes that the individual and degree variables over which the degree relation in superlatives is abstracted must occur in the same minimal clause, not just in relative clauses but everywhere. Arabic sentences like (52) violate this stronger version of the Clausemate Requirement but yet are grammatical, and as I reported above, my impression is that the English translations are also grammatical. As I mentioned in Sects. 3 and 4, however, the relevant reading is a subtle judgment that is heavily dependent on a proper priming context in both languages, which reflects Szabolcsi’s generalization to a certain extent. The fact that there is no subtlety to the judgments in (51b) or (53) for either Arabic or English makes it clear that the Clausemate Requirement stated in (54) holds unequivocally in relative clauses in both languages. The extent to which something like it is active outside of relative clauses in English appears to require further investigation.

5.6 Reconstruction

The facts described above suggest that *aktar* (*šey*) stands in a movement relation with a position local to its scalar associate in Arabic. The evidence reviewed in this section indicates that *aktar* (*šey*) may have scope at or higher than its surface position (subject to constraints on displacement), but not lower than its surface position. This observation casts doubt on the most obvious implementation of the movement analysis for Arabic—that *aktar* (*šey*) itself undergoes movement—and suggests instead that *aktar* (*šey*) is base generated in its surface position, while its relation to its scalar associate is derived by movement of a null abstraction operator. It remains evident that *aktar* (*šey*) may undergo LF movement from its surface position.

Operator-variable dependencies formed by movement, particularly A'-movement, are typically characterized by the possibility of interpreting the operator as if it were in the position of the variable, that is, as if it had never moved, a phenomenon termed 'reconstruction' by Chomsky (1977), Barss (1986) and others. If the surface position of *aktar* (*šey*) is derived by movement, we expect the chain so derived to show reconstruction effects. This expectation is not borne out, requiring a reinterpretation of what moves in this construction, as I describe in more detail below and in Sect. 6.

Consider the context sketched in (55), where each teacher said that his student memorized so-and-so many verses of the Quran, but also claimed explicitly that his student memorized more verses than anyone else's student.⁷

- (55)
- Prof. Ahmad said that his student memorized 200 verses of the Quran, and also that no one else's student memorized that many.
 - Prof. Rashid said that his student memorized 300 verses of the Quran, and also that no one else's student memorized that many.
 - Prof. Fareed said that his student memorized 400 verses of the Quran, and also that no one else's student memorized that many.

On the surface scope reading of (56), spelled out in (i) below, *aktar šey* is interpreted as part of the semantic content of the subordinate clause, that is, as part of what the teacher in question said. Since in the context in (55), each teacher asserted that his respective student memorized more verses than any other student, the assertion in (i) is true, of Ahmad and the other teachers as well. As in previous examples, a high reading of *aktar šey* in (56) is also available, spelled out in (ii), which asserts that Ahmad said that his student memorized a certain number of verses, and, possibly unbeknownst to Ahmad, this just happens to be more than what the other teachers said their students memorized. Only Fareed meets this condition in the context in (55), meaning that (56) is false on this reading (ii) in this context.

- (56) L-istāz Aḥmad qāl innu ṭālb-u ḥafaz aktar šey āyāt
 the-professor Ahmad said that student-his memorized most thing verses
 qur?āniyyi.
 quranic

⁷This section owes a great deal to an anonymous reviewer, who suggested changes to the contexts I presented to my consultants that excluded confounding factors and substantially improved the meaningfulness of the results.

‘Professor Ahmad said that his student memorized the most verses of the Quran.’

- i. Professor Ahmad said that $\exists d$ [his student memorized d -verses & $\forall y$ [$y \neq$ Professor Ahmad’s student $\rightarrow \neg$ [y memorized d -verses]]]
- ii. $\exists d$ [Professor Ahmad said that his student memorized d -verses & $\forall y$ [$y \neq$ Professor Ahmad $\rightarrow \neg$ [y said that y ’s student memorized d -verses]]]

Reading (ii) described for (56), where we compare professors in terms of how many verses they claimed their students memorized, is also available for (57), where it corresponds to the surface scope reading of *aktar šey*, where *aktar šey* occurs in the matrix clause. If *aktar šey* has moved to this surface position in (57) from a position local to the associate within the subordinate clause—more or less the position it occurs in (56)—then we expect reconstruction to derive the reading in (i), where *aktar šey* is interpreted in the subordinate clause, as part of what the teacher in question said. This is the reading corresponding to the surface placement of *aktar šey* in (56), which we observed was true in the context in (55), since Ahmad asserted that his student memorized more verses than anyone else (as did the other teachers). Consequently, if reconstruction is available, then (57) has a reading which is true in the context in (55). This judgement should be relatively easy to make, since the surface scope reading is false in this context, since the number of verses that Ahmad claimed his student memorized did not in fact exceed the number of verses the other teachers claimed their students memorized; reconstruction is the only way of making (57) true in the context in (55). Crucially, however, native speakers do not judge (57) to be true in this context. They explicitly reject a reading corresponding to the salient reading of (56), where Ahmad asserts that his own student memorized more verses than the other teachers’ students. This judgment means that a ‘low’ reading of *aktar šey* corresponding to the logical form in (i) is not available as a possible interpretation of (57). Reconstruction is not possible.

(57) L-istāz aḥmad aktar šey qāl innu ṭālb-u ḥafaz āyāt
 The-professor Ahmad most thing said that student-his memorized verses
 qurʔāniyyi.
 quranic
 ‘Professor Ahmad said that his student memorized the most verses of the
 Quran.’

- i. * Professor Ahmad said that $\exists d$ [his student *memorized d -verses & $\forall y$ [$y \neq$ Professor Ahmad’s student $\rightarrow \neg$ [y memorized d -verses]]]
- ii. $\exists d$ [Professor Ahmad said that his student memorized d -verses & $\forall y$ [$y \neq$ Professor Ahmad $\rightarrow \neg$ [y said that y ’s student memorized d -verses]]]

The absence of reconstruction can also be observed in examples similar to Heim’s illustration of the upstairs de dicto reading of the superlative (5). Consider in this connection the context in (58), where Nuha wants to climb four mountains but also wants no one else to climb as many mountains, that is, she wants to beat the others

by climbing four mountains. Mona and Layla want to climb six and eight mountains respectively but have no desires about the other climbers.

- (58)
- Nuha wants: Nuha climbs 4 mountains and no one else climbs 4 mountains.
 - Mona wants: Mona climbs 6 mountains.
 - Layla wants: Layla climbs 8 mountains.

In (59), *aktar šey* occurs after the modal verb *bidda* (*want*). This ‘low’ placement in (59) allows both a ‘low’ reading (i) where it asserts that Nuha wants to beat the others at mountain climbing, which is true in the context in (58), and a ‘high’ reading (ii) where it asserts that the number of mountains Nuha wants to climb exceeds the number of mountains the other climbers want to climb, which is false in the context in (58).

- (59) Nuha bidd-a aktar šey ti-ṭlaṭ ṭala žbāl.
Nuha want-F most thing F-climb on mountains
‘Nuha wants to climb the most mountains.’
- i. Nuha wants $\exists d$ [Nuha climbs d -mountains and $\forall x$ [$x \neq$ Nuha \rightarrow \neg [x climbs d -mountains]]]
 - ii. $\exists d$ [[Nuha wants [Nuha climbs d -mountains]] and $\forall x$ [$x \neq$ Nuha \rightarrow \neg [x wants [x climbs d -mountains]]]]

In (60), *aktar šey* occurs before the modal verb *bidda* (*want*). This ‘high’ placement of *aktar šey* allows the ‘high’ reading in (ii), where we compare Nuha with other climbers in terms of how many mountains they want to climb. This interpretation of (60) is false in the context in (58), since the number of mountains Nuha wants to climb does not exceed the number of mountains that the other climbers want to climb. On the other hand, the ‘low’ reading spelled out in (i) makes a true assertion in the context in (58), namely that Nuha wants to beat the others at mountain climbing. However, the sentence in (60) is judged false in this context, meaning that the true assertion in (i) is not available as a possible interpretation of (60). The false assertion in (ii) is the only possible interpretation of (60). That is, reconstruction of *aktar šey* to a lower position is not possible.

- (60) Nuha aktar šey bidd-a ti-ṭlaṭ ṭala žbāl.
Nuha most thing want-F F-climb on mountains
‘Nuha wants to climb the most mountains.’
- i. * Nuha wants $\exists d$ [Nuha climbs d -mountains and $\forall x$ [$x \neq$ Nuha \rightarrow \neg [x climbs d -mountains]]]
 - ii. $\exists d$ [[Nuha wants [Nuha climbs d -mountains]] and $\forall x$ [$x \neq$ Nuha \rightarrow \neg [x wants [x climbs d -mountains]]]]

Like adverbial *aktar šey*, adnominal *aktar* also fails to reconstruct. If Ahmad interviewed Nuha in the context in (58), (61a) is false. Since reconstruction of *aktar* to a

position within the *want*-clause would derive the true assertion in (i), reconstruction appears to not be available in (61a). In contrast, the low placement of *aktar šey* in (61b) is true under these circumstances, though the higher reading is also available, as expected, albeit false in the context in (58). As expected, a subject-oriented relative reading is available to *aktar (šey)* in both cases, where we compare Ahmad with other interviewees in terms of the number of mountains their respective interviewees want to climb (not shown).

- (61) a. Aḥmad ʕamal muqābali maʕ aktar mitšār-k-i (yalli) bidd-a ti-ṭlaʕ
 Ahmad did interview with most participant-F (who) want-F F-climb
 ʕala žbāl.
 on mountains
 ‘Ahmad interviewed the participant who wants to climb the most mountains.’
- i. * $\exists x$ [Ahmad interviewed x & x is a participant & x wants $\exists d$ [x climbs d -mountains & $\forall y$ [$y \neq x \rightarrow \neg$ [y climbs d -mountains]]]]
- ii. $\exists x$ [Ahmad interviewed x & $\exists d$ [x is a participant & x wants [x climbs d -mountains]] & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a participant & y wants [y climbs d -mountains]]]]]
- b. Aḥmad ʕamal muqābali maʕ l-mitšār-k-i yalli bidd-a aktar šey
 Ahmad did interview with the-participant-F who want-F most thing
 ti-ṭlaʕ ʕala žbāl.
 F-climb on mountains
 ‘Ahmad interviewed the participant who wants to climb the most mountains.’
- i. $\exists x$ [Ahmad interviewed x & x is a participant & x wants $\exists d$ [x climbs d -mountains & $\forall y$ [$y \neq x \rightarrow \neg$ [y climbs d -mountains]]]]
- ii. $\exists x$ [Ahmad interviewed x & $\exists d$ [x is a participant & x wants [x climbs d -mountains]] & $\forall y$ [$y \neq x \rightarrow \neg$ [y is a participant & y wants [y climbs d -mountains]]]]]

These observations implicate the generalization that *aktar (šey)* has scope at or above its surface position. This fact represents a conundrum for the movement account. The dependency between *aktar (šey)* and its scalar associate is configurationally constrained and thwarted by pronominalization of a site containing the associate. This much implicates a derivational view of the surface distribution of *aktar (šey)*. On the other hand, if the derivational view is correct, we expect the chain derived by movement to show reconstruction effects, but the discussion above indicates that the chains headed by *aktar (šey)* do not reconstruct. One possible conclusion is that we are dealing with a type of movement chain that does not reconstruct. While this is conceivable, I attempt in the following section to construct an analysis that explains the failure of reconstruction for this dependency.

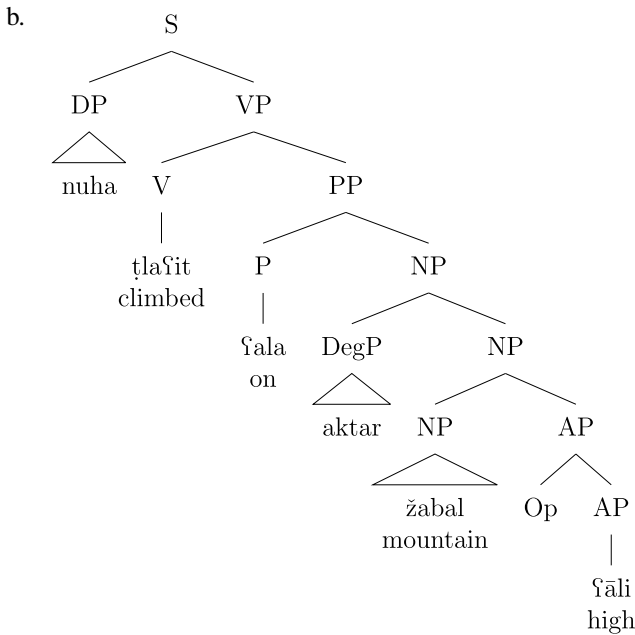
6 Analysis

The Arabic superlative *aktar* (*šey*) makes the same semantic contribution to the contexts it occurs in as English *est*. I attribute the meaning of *est* in (1b) to *aktar* (*šey*) accordingly in (62). It has the same meaning in its adverbial as in its adnominal function.

$$(62) \quad \llbracket \text{aktar } (\text{šey}) \rrbracket = \lambda R \lambda x \exists d [R(x, d) \ \& \ \forall x' [x' \neq x \rightarrow \neg[R(x', d)]]]$$

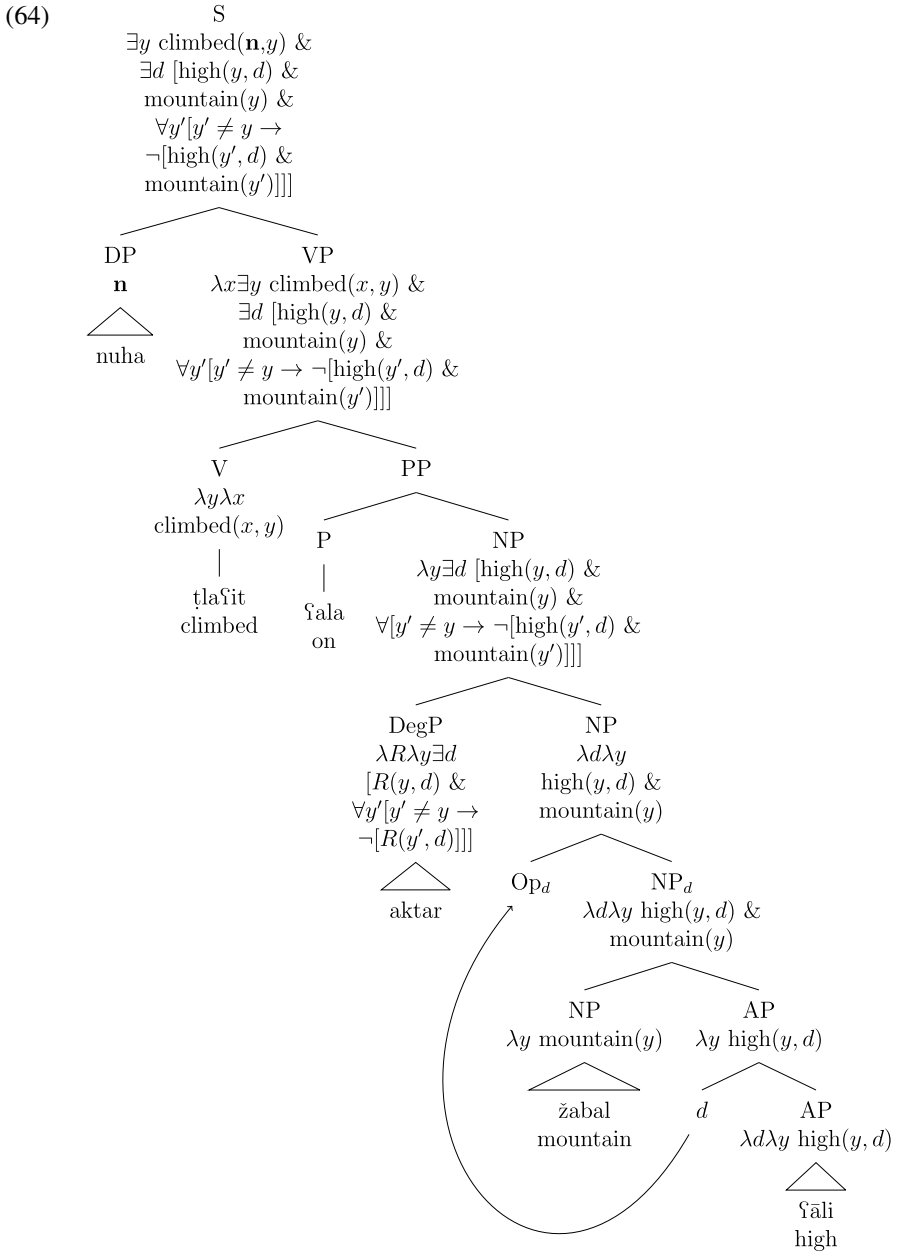
Like *est*, *aktar* (*šey*) combines with a degree relation. I propose that *aktar* (*šey*) is base generated in its surface position in Arabic, but that the degree relation it composes with at LF is generated by movement of a null operator which functions as a kind of relative pronoun for degrees. On this view, the construction in which *aktar* concatenates with an NP containing a scalar adjective, as in (44a), repeated in (63a) below, has the base structure in (63b). Here, *aktar* is base generated adjoined to the NP *žabal* *šāli*. The operator Op is base generated in the position of the degree argument of the scalar adjective *šāli* (*high*).

- (63) a. Nuha tlašit-it šāla aktar_d žabal šāli_d.
 Nuha climbed-F on most mountain high
 ‘Nuha climbed the highest mountain.’



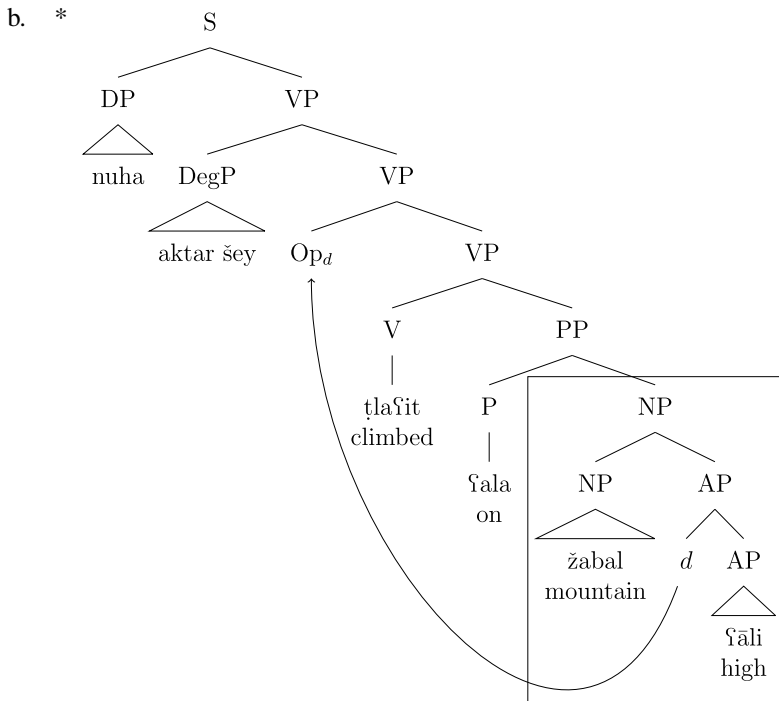
In the surface structure for (63a), shown in (64), Op moves to a position directly subjacent to *aktar*. Copying of the index of Op onto its sister results in predicate abstraction over the trace of the operator, as described for movement of *est* in Sect. 2.

Because the null operator itself is vacuous, the interpretation of its sister is carried up to their parent node, as shown in (64). The remainder of the tree composes as discussed in Sect. 2, deriving the absolute reading of the superlative in this case. I assume the preposition *ʕala* (*on*) is vacuous.



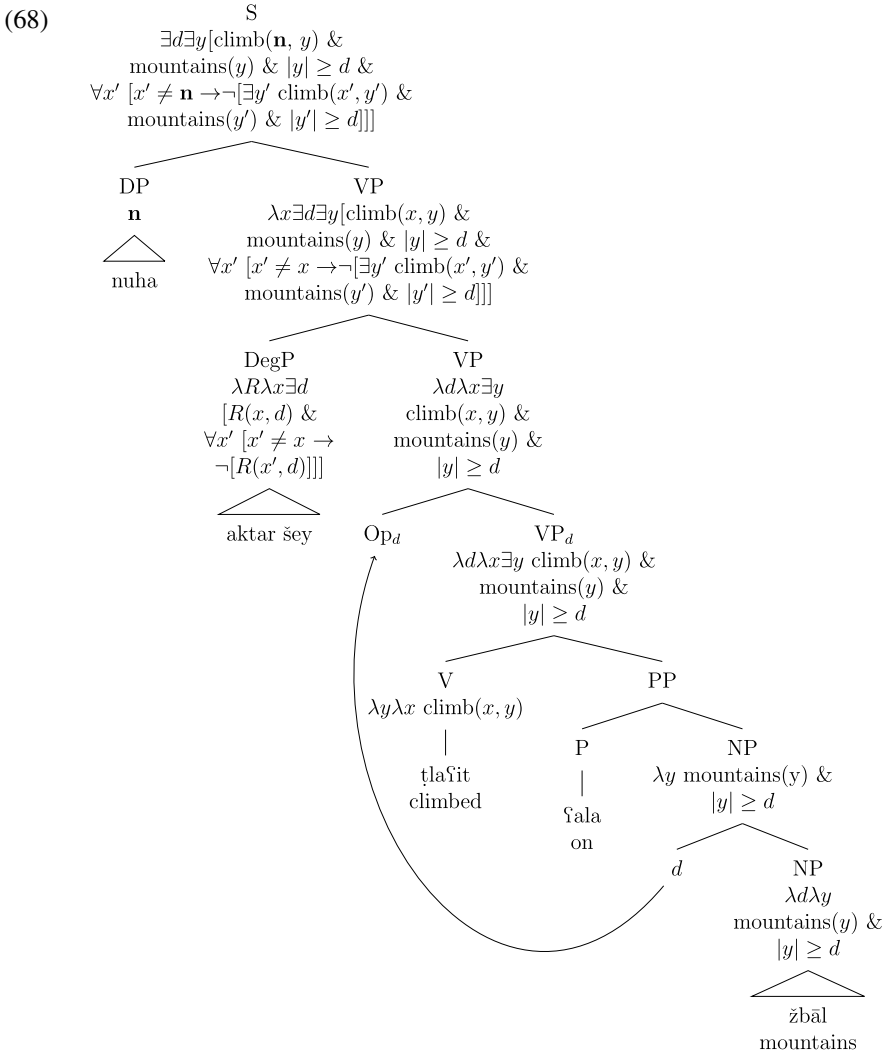
erate adverbial *aktar šey* in the position of *aktar* in (65), as in (44b), repeated in (66a) below, it cannot associate with the scalar adjective *ʕāli* (*high*) in this configuration. As discussed in Sect. 5.4, the NP Constraint prevents Op from moving out of the NP category containing it in the base structure, to derive the degree relation *aktar šey* needs at the VP level, schematized in (66b), where the boxed constituent is the island (this structure is illicit).

- (66) a. * Nuha aktar šey_d ʕlaʕ-it ʕala žabal ʕāli_d.
 Nuha most thing climbed-F on mountain high



On the other hand, Op may originate as an adjunct of NP itself when the NP is plural and therefore functions as a degree predicate, as shown in (44c), repeated in (67) below. In this case, movement of Op to *aktar šey* does not cross over the NP category, but merely one NP segment. The resulting structure is legitimate and results in the quantity superlative use of *aktar šey*, diagrammed in (68).

- (67) Nuha aktar šey_d ʕlaʕ-it ʕala žbāl_d.
 Nuha most thing climbed-F on mountains
 ‘Nuha climbed the most mountains.’



This analysis explains the impossibility of reconstruction of *aktar* (*šey*) to a position local to its scalar associate, as discussed in Sect. 5.6, by virtue of the fact that *aktar* (*šey*) itself does not move, but rather a null operator *Op* base generated local to the scalar associate. While *Op* itself moves subject to constraints on movement, reconstruction of *Op* to its base position yields an uninterpretable structure. Movement of *Op* derives the degree relation argument of *aktar šey*, so returning *Op* to its base position, wherever that may be, deprives *aktar šey* of that argument, rendering the structure semantically uncomposable. This analysis explains why the relation between *aktar* (*šey*) and its scalar associate displays properties of a movement dependency, and at the same time it makes sense of the fact that the relation does not show reconstruction effects.

Other examples presented in this article are derived on analogy to those illustrated above. The superlative morpheme *aktar* (*šey*) is base generated in its surface position,

while a null operator is generated in the degree argument slot of its scalar associate. Overt movement of this null operator derives a degree relation that *aktar* (*šey*) then composes with. Further covert movement of *aktar* (*šey*) derives yet higher readings of the superlative.

7 Conclusion

The present study reveals that the superlative morpheme may occur at a distance from its scalar associate in Syrian Arabic, subject to the same constraints that have been posited independently to constrain covert scope displacement of the superlative in English. Arabic is somewhat English-like in that overt displacement is more constrained than covert displacement, in that overt displacement may not cross over an NP boundary, though covert displacement may. Apart from this restriction, LF positions for the superlative in English correspond to surface positions for *aktar šey* in Arabic. Both the possibility of displacement and the constraints on displacement (except for the NP Constraint) are uniform between the two languages. Parallels between the surface distribution of the Arabic superlative and the scope options for the English superlative lend support to the movement analysis of the range of interpretations available to superlative constructions. The striking uniformity documented here between unrelated languages lends credibility to the role of a universal grammatical core of linguistic knowledge in constraining typological variation in human language.

Acknowledgements I gratefully acknowledge the contribution of the primary Arabic native speaker consultants for this work Mahfoud Alibrahim, Fadi Alkhoury and Maria El-Fadel, from Mharde, Syria. Many others provided judgments, comments and feedback as well, including Tamara Abu-Hamdeh, Karim Bousalem, Haro Haro, Reem Khamis-Dakwar and Tamim Nashed. Thanks go as well to audiences at the 6th International Arabic Linguistics Symposium in Ifrane, Morocco and the First International Conference on Linguistics in Petra, Jordan. I am also deeply grateful for the patience and thoroughness of three anonymous reviewers, whose detailed and highly constructive commentary greatly improved this work. This research was financially supported by the Austrian Science Fund, grant #M1397-G23. All errors are my own.

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References

- Aihara, Masahiko. 2009. The scope of -est: Evidence from Japanese. *Natural Language Semantics* 17: 341–367.
- Aoun, Joseph, and Elabbas Benmamoun. 1998. Minimality, reconstruction, and PF movement. *Linguistic Inquiry* 29: 569–597.
- Aoun, Joseph, Elabbas Benmamoun, and Lina Choueiri. 2010. *The syntax of Arabic*. Cambridge: Cambridge University Press.
- Barss, Andrew. 1986. Chains and anaphoric dependence: On reconstruction and its implications. Doctoral dissertation, Massachusetts Institute of Technology.
- Beck, Sigrid. 1996. Quantified structures as barriers for LF movement. *Natural Language Semantics* 4: 1–56.

- Beck, Sigrid. 2012. DegP scope revisited. *Natural Language Semantics* 20: 227–272.
- Bresnan, Joan. 1973. Syntax of the comparative clause construction in English. *Linguistic Inquiry* 4: 275–343.
- Brustad, Kristen. 2000. *The syntax of spoken Arabic: A comparative study of Moroccan, Egyptian, Syrian and Kuwaiti dialects*. Washington: Georgetown University Press.
- Chomsky, Noam. 1977. On wh-movement. In *Formal syntax*, eds. Peter Culicover, Thomas Wasow, and Adrian Akmajian. New York: Academic Press.
- Chung, Sandra, and William Ladusaw. 2004. *Restriction and saturation*. Cambridge: MIT Press.
- Cinque, Guglielmo. 1990. *Types of A'-dependencies*. Cambridge: MIT Press.
- Coppock, Elizabeth, and David Beaver. 2014. A superlative argument for a minimal theory of definiteness. In *Semantics and Linguistic Theory (SALT) XIV*, eds. Todd Snider, Sarah D'Antonio, and Mia Weigand, 177–196. Washington: Linguistic Society of America.
- Coppock, Elizabeth, and David Beaver. 2015. Definiteness and determinacy. *Linguistics and Philosophy* 38: 377–435.
- Cresswell, Max. 1976. The semantics of degree. In *Montague grammar*, ed. Barbara Partee, 261–292. New York: Academic Press.
- Diesing, Molly. 1992. *Indefinites*. Cambridge: MIT Press.
- Farkas, Donka F., and Katalin E. Kiss. 2000. On the comparative and absolute readings of superlatives. *Natural Language and Linguistic Theory* 18: 417–455.
- Fiengo, Robert, and Robert May. 1994. *Indices and identity*. Cambridge: MIT Press.
- Gawron, Jean Mark. 1995. Comparatives, superlatives, and resolution. *Linguistics and Philosophy* 18: 333–380.
- Gutiérrez-Rexach, Javier. 2006. Superlative quantifiers and the dynamics of context-dependence. In *Where semantics meets pragmatics*, eds. Klaus von Stechow and Ken Turner, 237–266. Oxford: Elsevier.
- Hackl, Martin. 2009. On the grammar and processing of proportional quantifiers: Most vs. more than half. *Natural Language Semantics* 17: 63–98.
- Heim, Irene. 1983. File change semantics and the familiarity theory of definiteness. In *Meaning, use, and interpretation of language*, eds. Rainer Bäuerle, Christoph Schwarze, and Arnim von Stechow, 164–189. Berlin: de Gruyter.
- Heim, Irene. 1985. Notes on comparatives and related matters. Ms., University of Texas, Austin.
- Heim, Irene. 1995. Notes on superlatives. Ms., University of Texas, Austin.
- Heim, Irene. 2001. Degree operators and scope. In *Audiatur vox sapientiae. A festschrift for Arnim von Stechow*, eds. Caroline Féry and Wolfgang Sternefeld, 214–239. Berlin: Akademie Verlag.
- Kamp, Hans. 1984. A theory of truth and semantic representation. In *Truth, interpretation and information*, eds. Jeroen Groenendijk, Theo Janssen, and Martin Stokhof, 1–41. Dordrecht: Foris.
- Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge: MIT Press.
- Kennedy, Christopher. 1999. *Projecting the adjective: The syntax and semantics of gradability and comparison*. New York: Garland.
- Krasikova, Sveta. 2012. Definiteness in superlatives. In *Logic, language and meaning*, eds. Maria Aloni, Vadim Kimmelman, Floris Roelofsen, Galit Sassoon, Katrin Schulz, and Matthijs Westera, 411–420. Berlin: Springer.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase structure and the lexicon*, eds. Johan Rooryck and Laurie Zaring, 109–137. Dordrecht: Kluwer Academic.
- May, Robert. 1977. The grammar of quantification. Doctoral dissertation, Massachusetts Institute of Technology.
- May, Robert. 1985. *Logical form: Its structure and derivation*. Cambridge: MIT Press.
- Noyer, Rolfe. 1992. Features, positions and affixes in autonomous morphological structure. Doctoral dissertation, MIT, Cambridge, MA.
- Rizzi, Luigi. 1990. *Relativized minimality*. Cambridge: MIT Press.
- Ross, John Robert. 1964. A partial grammar of English superlatives. Master's thesis, University of Pennsylvania.
- Ross, John Robert. 1967. Constraints on variables in syntax. Doctoral dissertation, MIT, Cambridge, MA.
- Rullmann, Hotze. 1995. Maximality in the semantics of wh-constructions. Doctoral dissertation, University of Massachusetts at Amherst.
- Seuren, Pieter. 1973. The comparative. In *Generative grammar in Europe*, eds. Ferenc Kiefer and Nicholas Ruwet, 528–564. Dordrecht: Reidel.
- Sharvit, Yael, and Penka Staveva. 2002. Superlative expressions, context, and focus. *Linguistics and Philosophy* 25: 453–504.

- Stechow, Arnim von. 1984. Comparing semantic theories of comparison. *Journal of Semantics* 3: 1–77.
- Szabolcsi, Anna. 1986. Comparative superlatives. In *MIT working papers in linguistics*, ed. Naoki Fukui. Vol. 8, 245–265. Cambridge: MIT Press.
- Szabolcsi, Anna, and Frans Zwarts. 1993. Weak islands and an algebraic semantics for scope taking. *Natural Language Semantics* 1: 235–284.
- Teodorescu, Viorica Alexandra. 2009. Modification in the noun phrase: The syntax, semantics, and pragmatics of adjectives and superlatives. Doctoral dissertation, University of Texas, Austin, Austin, Texas.
- Yoseph, Jean. 2012. *Der arabische Dialekt von Mḥarde (Zentralsyrien)*. Wiesbaden: Harrasowitz Verlag.